Strategic Planning & Policy Committee Public Agenda 7 September 2021

Audio Visual Meeting

Chairperson
SC O'Regan

Members
His Worship the Mayor JB Mylchreest, EM Andree-Wiltens, EH Barnes, AW Brown, LE Brown, PTJ Coles, RDB Gordon, ML Gower, MJ Pettit, EM Stolwyk, CS St Pierre, M Tauroa (Te Kanohi Representative), BS Thomas, GRP Webber

07 September 2021 09:00 AM - 09:29 AM

OPEN WORKSHOPS:
Waipa Cemeteries Capacity Study (45 minutes) - Tofeeq Ahmed
Community Spatial Plan update (60 minutes) - Kirsty Downey and David Totman
Kihikihi Urban Development Plan (30 minutes) - Justine Kennedy

PUBLIC EXCLUDED WORKSHOP:
Designating land for public infrastructure in growth cells (30 minutes) - Richard Bax and John Miles


STRATEGIC PLANNING
AND POLICY
COMMITTEE AGENDA
Waipa
DISTRICT COUNCIL

APOLOGIES

DISCLOSURE OF MEMBERS' INTERESTS

Members are reminded to declare and stand aside from decision making when a conflict arises between their role as an elected member and any private or other external interest they may have.

LATE ITEMS

Items not on the agenda for the meeting require a resolution under section 46A of the Local Government Official Information and Meetings Act 1987 stating the reasons why the item was not on the agenda and why it cannot be dealt with at a subsequent meeting on the basis of a full agenda item. It is important to note that late items can only be dealt with when special circumstances exist and not as a means of avoiding or frustrating the requirements in the Act relating to notice, agendas, agenda format and content.

CONFIRMATION OF ORDER OF MEETING

Recommendation

That the Strategic Planning and Policy Committee confirm the order of the meeting.

STRATEGIC PLANNING AND POLICY COMMITTEE REPORT

Waipā DISTRICT COUNCIL

To:	The Chairperson and Members of the Strategic Planning and Policy Committee
From:	Governance
Subject:	**CONFIRMATION OF MINUTES**
Meeting Date:	7 September 2021

1 EXECUTIVE SUMMARY

To confirm the open minutes of the Strategic Planning and Policy Committee meeting held on 3 August 2021.

2 RECOMMENDATION

That the open minutes of the Strategic Planning and Policy Committee meeting held on 3 August 2021, having been circulated, be taken as read and confirmed as a true and correct record of that meeting.

3 ATTACHMENTS

Strategic Planning and Policy Minutes – 3 August 2021

STRATEGIC PLANNING AND POLICY COMMITTEE MINUTES

Waipa DISTRICT COUNCIL

Time:	9.00am
Date:	Tuesday 3 August 2021
Meeting:	Council Chambers, Waipā District Council, 101 Bank Street, Te Awamutu

PRESENT

Chairperson

SC O'Regan

Members

His Worship the Mayor JB Mylchreest, EM Andree-Wiltens, EH Barnes, AW Brown, LE Brown, PTJ Coles, RDB Gordon, ML Gower, MJ Pettit (left the meeting 12.56pm), EM Stolwyk, CS St Pierre, BS Thomas, GRP Webber

1 APOLOGIES

There were no apologies

2 DISCLOSURE OF MEMBERS' INTERESTS

There were no disclosures

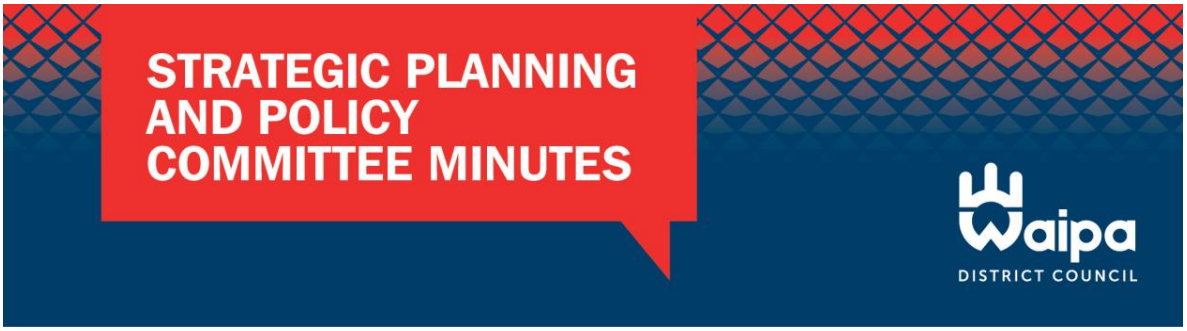
3 LATE ITEMS

There were no late items

4 CONFIRMATION OF ORDER OF MEETING

RESOLVED
2/21/84
That the Strategic Planning and Policy Committee confirm the order of the meeting.

Councillor Lou Brown/Councillor Bruce Thomas



5 CONFIRMATION OF MINUTES

RESOLVED
2/21/85
That the open minutes of the Strategic Planning and Policy Committee meeting held on 1 June 2021, having been circulated, be taken as read and confirmed as a true and correct record of that meeting subject to corrections to Item 2 being Te Awamutu Memorial Park and other minor typographical errors.

Councillor Gordon /Councillor Andrew Brown

6 CONFIRMATION OF MINUTES

RESOLVED
2/21/86
That the open minutes of the Strategic Planning and Policy Committee Extraordinary meeting held on 15 June 2021, having been circulated, be taken as read and confirmed as a true and correct record of that meeting.

Councillor Andrew Brown /Councillor Andree-Wiltens

7 DRAFT WAIPĀ DISTRICT COUNCIL NAMING POLICY CONSULTATION AND HEARINGS REPORT

Strategic Projects Driver, Graham Pollard briefed the Strategic Planning and Policy Committee on the Draft Waipā District Council Naming Policy Consultation and Hearings Report and introduced the individual submitters to the Committee.

A total of 17 submissions were received, and 3 submitters requested to present their submissions in person.

Submitter Dan Armstrong spoke to his submission.
Submitter Robina Watson spoke to her submission.
Submitter Ruth Strawbridge spoke to her submission.

After a general discussion the original recommendation b) was amended to capture the points raised by committee members.

[Hearing adjourned at 9.43am]
[Deliberations for hearing reconvened at 10.48am]

RESOLVED
2/21/87
That the Strategic Planning and Policy Committee:

a) ***RECEIVE*** *the report* Draft Waipā District Council Naming Policy Consultation and Hearings Report *(document number 10639144) of Graham Pollard, Strategic Projects Driver; and*

b) ***RECEIVE, CONSIDER, HEAR*** *and* ***DETERMINE*** *pursuant to section 83 of the Local Government Act 2002, submissions for the draft Waipa District Council Naming Policy in accordance with the staff responses attached to Appendix 1 (Draft Naming Policy Summarised Submissions - document number 10642922) subject to staff responses being amended to reflect that for Section 36(e) of the draft policy the wording "any other reason Council agrees to be appropriate" may include but is not limited to: the history of a locality, feedback from a community, and /or a past application made to Council to rename a public place; and*

c) ***ADOPT*** *the draft Waipā District Council Naming Policy (document number 10097549, attached as Appendix 3) subject to any identified amendments following determination under b) to be effective from 1 September 2021.*

Councillor St Pierre / Councillor Stolwyk

8 DRAFT WAIPĀ SMOKEFREE AND VAPEFREE POLICY CONSULTATION AND HEARINGS REPORT

Strategic Projects Driver, Graham Pollard spoke to the Draft Waipā District Smokefree and Vapefree Policy Consultation and Hearings Report and introduced the individual submitters to the Strategic Planning and Policy Committee.

A total of 41 submissions were received with 2 submitters presenting their submissions in person.

Submitter Trudi Jay spoke to her submission.
Submitter John McDonnell, Deputy Principal of Cambridge High School spoke to his submission.

After general discussion the original recommendation c) was amended to capture the concerns raised by committee members to include road corridors adjacent to education providers.

[Hearing adjourned at 10.16am]
[Deliberations for hearing reconvened at 10.53am]

RESOLVED
2/21/88
That the Strategic Planning and Policy Committee:

a) ***RECEIVE*** *the report* Draft Waipā District Smokefree and Vapefree Policy Consultation and Hearings Report *(document number 10639139) of Graham Pollard, Strategic Projects Driver; and*

b) ***RECEIVE, CONSIDER, HEAR*** *and* ***DETERMINE*** *submissions for the draft Waipā District Smokefree and Vapefree Policy (Original Submissions received - document number 10639065 and attached as Appendix 1); and*

c) ***ADOPT*** *the draft Waipā District Smokefree and Vapefree Policy (document number 10556239 attached as Appendix 2), subject to redefining 'public places' to include road corridors immediately adjacent to education providers for implementation from 1 September 2021.*

Councillor Pettit / Councillor Coles

9 DRAFT WAIPĀ DISTRICT WASTEWATER AND TRADE WASTE BYLAW 2021 CONSULTATION AND HEARINGS REPORT

Strategic Projects Driver, Graham Pollard presented the draft Waipā District Wastewater and Trade Waste Bylaw 2021 Consultation and Hearings Report and introduced the submitters to the Strategic Planning and Policy Committee.

A total of 6 submissions were received, with 1 submitter presenting their submission via Zoom to the committee.

Submitter (via Zoom) Bruce Holland, NZ Trade and Industrial Waters Forum representative spoke to his submission.

[Hearing adjourned at 10.25am]
[Deliberations for hearing reconvened at 11.21am]

RESOLVED
2/21/89
That the Strategic Planning and Policy Committee:

a) ***RECEIVE*** *the report Draft Waipā District Wastewater and Trade Waste Bylaw Consultation and Hearings Report (document number 10657441) of Graham Pollard, Strategic Projects Driver; and*

b) ***RECEIVE, CONSIDER, HEAR*** *and* ***DETERMINE*** *submissions for the draft Waipā District Wastewater and Trade Waste Bylaw (as set out in Original Submissions received - document number 10657755 attached as Appendix 1; and the Summary of Submissions with Staff Comments - document number 10656666 attached as Appendix 2); and*

c) ***RECOMMEND*** *that Council adopts the draft Waipā District Wastewater and Trade Waste Bylaw (document number 10553518 attached as Appendix 3), subject to any amendments following determination under b).*

Councillor Andrew Brown /Councillor Lou Brown

10 SUBMISSION ON THE NATURAL AND BUILT ENVIRONMENTS BILL - EXPOSURE DRAFT

[Item 10 taken after item 15]

Principal Policy Advisor, David Totman took the report as read and presented the Natural and Built Environments (NBA) - Exposure Draft and Key aspects of Waipā's draft submission to the committee.

Mr Totman advised that the NBA exposure draft Bill marks the first step in the Government's repeal and replacement of the RMA (Resource Management Act 1991) with three new pieces of legislation: a Natural and Built Environments Act, a Strategic Planning Act, and a Managed Retreat and Climate Change Adaptation Act.

The Government released the NBA exposure draft Bill on 29 June for public comment with deadline for submissions in this early consultation being 4 August 2021.

RESOLVED
2/21/93
That

a) *The report of David Totman, Principal Policy Advisor, and the attached draft Waipā District Council submission (document 10664042 attached as Appendix 1) be received;*

b) *The Strategic Planning and Policy Committee approve the Council's submission on the Natural and Built Environments Act exposure draft Bill (document 10664042 attached as Appendix 1), subject to any amendments requested by the Committee.*

Councillor Lou Brown / Councillor St Pierre

11 COUNCIL SUBMISSION ON GPS-HUD DISCUSSION DOCUMENT

Principal Policy Advisor, David Totman presented for the Committee's information the Waipā District Council Submission on the Ministry of Housing and Urban Development's discussion document on a proposed Government Policy Statement on Housing and Urban Development (GPS-HUD).

The Ministry consulted on its discussion document from 14 June 2021 to 30 July 2021.

The discussion document sets out the Government's intention for the GPS-HUD to provide a long term vision for housing and urban development in New Zealand. It's stated aim is to ensure that investment streams, regulatory interventions and policies are aligned across agencies and entities to deliver and enable changes at pace and scale across New Zealand.

RESOLVED
2/21/94
That the Council submission on the Government Policy Statement on Housing and Urban Development report (document number 10664174 attached as Appendix 1) of David Totman Principal Policy Advisor be received.

Councillor Andrew Brown/Councillor Roger Gordon

12 COMMUNITY SERVICES QUARTERLY REPORT TO 30 JUNE 2021

(Item 12 was taken before items 10 and 11)

Manager Community Services, Sally Sheedy provided a summary of the Community Services Quarterly Report to the committee.

Ms Sheedy noted an increase in vandalism across the local parks and facilities including significant vandalism to the Bulmers Landing toilets.

A highlight was the mural created by local students at the Te Awamutu library.

RESOLVED
2/21/90
That

a) The Community Services Quarterly Report to 31 June 2021 (document number 10646276) of Sally Sheedy, Manager Community Services, be received.

Chairperson O'Regan/Councillor Coles

13 QUARTERLY DISTRICT GROWTH REPORT

[Item 13 taken before items 10 and 11]

Group Manager District Growth and Regulatory Services, Wayne Allen and Manager Strategy, Kirsty Downey presented the report.

The purpose of this report was to provide the Committee with a quarterly update on matters relating to growth in the Waipā District. This included matters arising at national, regional, sub-regional and district levels.

Mr Allen and Ms Downey answered questions from the Committee.

RESOLVED
2/21/91
That the report titled 'Quarterly District Growth Report' (document number 10648875) of Wayne Allan, Group Manager District Growth and Regulatory Services, be received.

Chairperson O'Regan/ Councillor Stolwyk

14 UPDATE ON COVID-19 RECOVERY

[Mike Pettit left the meeting at 12.56pm]

[Item 14 was taken after item 11]

Community Advisors Gina Scott and Corren Ngerengere took their report as read.

The report provided an update on COVID-19 Recovery initiatives and other activities in progress across the organisation that support recovery of the District.

Both Ms Scott and Ms Ngerengere discussed the areas they remain focused on whilst developing a clearer understanding of community needs and opportunities.

A robust discussion was had on the future use of CCTV's cameras across the district to ensure communities felt safer with the increase of crime since COVID-19.

RESOLVED
2/21/95
That
a) The report titled 'Update on COVID-19 Recovery' (document number 10662284) of Gina Scott, Community Advisor be received.

Councillor Andrew Brown/Councillor Andree-Wiltens

15 CIVIL DEFENCE EMERGENCY MANAGEMENT QUARTERLY REPORT

[Item 15 reported before item 10,11 and 14]

The Civil Defence Emergency Manager Quarterly Report was presented by Group Manager District Growth and Regulatory Services Wayne Allan.

The purpose of the report was to provide the Committee with a quarterly update on matters relating to civil defence emergency management (CDEM) in the Waipā District. This included matters arising at national, regional and district levels including emergency management activities under the shared service arrangement between Waipā, Ōtorohanga and Waitomo district councils.

It was noted that Mr Simes had been deployed to the West Coast flooding emergency with the return of Emergency Management Co-ordinator Civil Defence Mrs Cathie Shaw who had also been deployed there.

Mrs Shaw provided a brief summary of the situation and the work being done on the West Coast after the flooding event by Civil Defence.

RESOLVED
2/21/92
That the report titled 'Civil Defence Emergency Manager Quarterly Report' (document number 10648897) of David Simes, Emergency Management Operations Manager, be received.

Councillor Pettit /Councillor Lou Brown

16 RESOLUTION TO EXCLUDE THE PUBLIC

RESOLVED
2/21/96
THAT the public be excluded from the following parts of the proceedings of this meeting.
The general subject of the matter to be considered while the public is excluded, the reason for passing this resolution in relation to each matter, and the specific grounds under section 48(1) of the Local Government Official Information and Meetings Act 1987 for the passing of this resolution are as follows:

General subject of each matter to be considered	Reason for passing this resolution in relation to each matter	Ground(s) under section 48(1) for the passing of this resolution
17. Confirmation of Public Excluded Minutes *18. District Plan Work Programme*	*Good reason to withhold exists under section 7 Local Government Official Information and Meetings Act 1987*	*Section 48(1)(a)*

This resolution is made in reliance on section 48(1)(a) of the Local Government Official Information and Meetings Act 1987 and the particular interest or interests protected by Section 6 or Section 7 of that Act, or Sections 6, 7 or 9 of the Official Information Act 1982, as the case may be, which would be prejudiced by the holding of the whole or relevant part of the proceedings of the meeting in public, are as follows:

Item No.	Section	Interest
17	*Section 7(2)(i)*	*To enable the Council to carry on, without prejudice or disadvantage, negotiations (including commercial and industrial negotiations)*

17,18	*Section 7(2)(j)*	*To prevent the disclosure or use of official information for improper gain or advantage*

Chairperson O'Regan / Councillor Andrew Brown

The meeting closed at 1.54pm.

CONFIRMED AS A TRUE AND CORRECT RECORD

CHAIRPERSON: .....

DATE: .....

STRATEGIC PLANNING AND POLICY COMMITTEE REPORT

Waipā DISTRICT COUNCIL

To:	The Chairperson and Members of the Strategic Planning and Policy Committee
From:	Principal Policy Advisor
Subject:	**Waipā 2021 Housing and Business Capacity Assessment (HBA) findings**
Meeting Date:	7 September 2021

1 EXECUTIVE SUMMARY

The purpose of this report is to provide elected members with a summary of the key findings of the Waipā 2021 Housing and Business Capacity Assessment (HBA). The assessment must be done every three years as a requirement of the National Policy Statement for Urban Development (NPS-UD) for all high growth councils in New Zealand, including the Future Proof partner councils.

The 2021 HBA findings were discussed at an elected member workshop session on 10 August 2021.

The 2021 HBA comprises two findings reports, a Housing Development Capacity Report (refer to Appendix 1 [document number 10671710] and a Business Development Capacity Report (refer to Appendix 2 [document number 10671809]

2 RECOMMENDATIONS

That

a) The report titled 'Waipā 2021 Housing and Business Capacity Assessment Findings' (document number 10676585) of David Totman Principal Policy Advisor be received.

3 KEY FINDINGS OF THE REPORTS

Housing Development Capacity Report

The report finds that Waipā has sufficient development capacity in the short (1-3years), medium (3-10years) and long term (10-30years).

In terms of price sufficiency though, there are projected shortfalls of capacity in the mid to lower price bands, with most supply projected to be in the mid to higher price bands. That is above $700,000 in Cambridge in the short term and above $600,000 for Te Awamutu and Kihikihi in the short term also.

The main conclusion is that while there is an availability of commercially workable and realisable development capacity, there is expected to be a continuing shortage of affordable housing in Waipā, and across the whole Future Proof sub-region.

Business Development Capacity Report
The report finds that overall, Waipā has sufficient land and floorspace capacity for all business sectors (retail, commercial and industrial) in the short, medium, and long terms.

The report finds that there is a good alignment between developer requirements and where appropriately zoned land is found.

There are however, projected long term tight margins in capacity for industrial land for Cambridge, Te Awamutu and Kihikihi. The Council will need to be particularly vigilant in terms of monitoring the uptake of industrial land to ensure that sufficient supply is provided.

4 CONCLUSIONS

A key challenge from the findings of the housing capacity report, is how to better deliver a wider variety of housing types and costs to meet the community needs of Waipā. As the findings report concludes, making a variety of housing types easier for the housing development sector to deliver, provides the opportunity for lower cost housing, but does not guarantee that affordable housing will result.

One of the key findings of the Business Development Capacity Assessment report is that while there is an overall sufficiency of capacity, this capacity becomes tight in both towns in the long term. The report recommends that the Council should monitor the trends in the uptake of business land so that feasible land and floorspace supply meets the needs of the district's growing and changing economy.

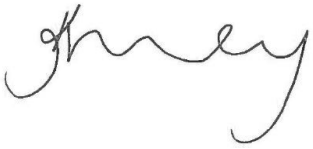
5 OPTIONS AND ASSESSMENT

Decision making
The Future Proof councils employed Market Economics to undertake the 2021 assessment. This assessment is the second development capacity assessment completed and follows the first assessment done in 2017.

Financial/risk considerations

These assessments are a requirement of the National Policy Statement for Urban Development (NPS-UD) for all high growth councils in New Zealand, including the Future Proof partner councils.

David Totman
PRINCIPAL POLICY ADVISOR



Approved by Kirsty Downey
MANAGER STRATEGY

SUPPORTING INFORMATION: ASSESSMENT OF PROPOSAL

1 Statutory and policy requirements

Legal and regulatory considerations

Local Government Act 2002
s.10 Purpose of Local Government
The Housing and Business Future Proof Strategy assists the partner territorial councils to better collaborate on urban settlement planning and major infrastructure planning.

Consultation and Engagement
Key aspects of the findings are incorporated into the draft Future Proof Strategy which will be consulted on using the special consultative procedure.

Council policy or strategy
The findings of the Housing and Business Capacity Assessment are used to inform Waipā's planning for the future development of our towns through updates to our Waipa 2050 Growth Strategy, Infrastructure Strategy and Long Term Plan.

APPENDIX 1 – 2021 HOUSING DEVELOPMENT CAPACITY ASSESSMENT REPORT FUTURE PROOF PARTNERS

(Document number 10671710)

NPS-UD Housing Development Capacity Assessment

Future Proof Partners

5 July 2021 – final

m.e consulting

NPS-UD Housing Development Capacity Assessment

Future Proof Partners

Prepared for

Future Proof Partners (Hamilton City Council, Waikato District Council and Waipā District Council)

Document reference: HMCC.20/Report/210705_ME_HDCA_final.docs

Date of this version: 05 July 2021

Report author(s): Susan Fairgray

Director approval: Greg Akehurst (05/07/2021)

www.me.co.nz

Executive Summary

Context

This report is the Housing Development Capacity Assessment 2021 ("the HBA") for the Future Proof Partners Area ("FPP area"). The FPP area is formed by Hamilton City as the main urban area, together with the surrounding Waikato and Waipā districts. The requirement for this three yearly report is set out in the National Policy Statement for Urban Development 2020[1] ("NPS-UD"). The report complies with the requirement for Tier 1 territorial authorities to assess the demand for housing land in urban environments, and the development capacity that is sufficient to meet that demand in its district in the short, medium and long term.

An HBA is an assessment of the demand for housing land in urban environments, and the development capacity that is sufficient to meet that demand in the short, medium and long term. In accordance with the NPS-UD, an urban environment means any area of land that is, or is intended to be, predominantly urban in character, and that is, or is intended to be, part of a housing and labour market of at least 10,000 people. This definition allows areas identified[2] or zoned for future urban development to be included in the defined urban environment. It also allows discrete locations of urban land that have a functional relationship with each other in terms of a housing and labour market to be part of the urban environment, even when they are not contiguous.

The following tables (Table 8-1 to Table 8-3) provide a summary of the key quantitative sections of the HBA technical assessment. A conceptual overview of each of the areas of assessment and their key conclusions is contained within the sub-sections below. Further detail on the technical assessment and the levels of demand, capacity and sufficiency by urban location and dwelling value band is contained within the full report.

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

[2] I.e. in a growth strategy, spatial plan or FDS.

Table 8-1: Future Proof Area Summary of Demand, Capacity and Sufficiency Assessment: Short-Term

SHORT-TERM (2020-2023)				Current Prices Scenario			
AREA	Additional Demand + Margin[1]	Plan Enabled Capacity[2]	Infrastructure Served Capacity[3]	Commercially Feasible Capacity[4]	Reasonably Realised Capacity[5]	Sufficiency[6] Net	Sufficiency[6] %
HAMILTON CITY							
Greenfield	4,200	22,300	3,100	2,600	2,500	90	100%
Infill/Intensification		108,300	108,300	16,300	1,800		
Total[7]	**4,200**	**130,600**	**111,500**	**18,800**	**4,300**	**90**	**100%**
WAIKATO DISTRICT							
Tuakau	200	3,200	2,000	700	70	-500	83%
Pokeno	400						
Te Kauwhata	200	700	500	100	10	-600	91%
Huntly	300	2,400	1,400	200	20		
Ngaruawahia	300	1,900	1,500	500	50		
Taupiri	-	500	400	300	30		
Raglan	300	2,900	1,400	700	70	-200	89%
Smaller settlements							
Horotiu	30	700	500				
Meremere	20						
Ohinewai	-						
Te Kowhai	-						
Rest of District - Non-Urban	500						
Total[7]	**2,200**	**12,300**	**7,700**	**2,600**	**300**	**-1,400**	**88%**
WAIPA DISTRICT							
Cambridge	700	10,600	5,700	3,400	2,400	1,700	121%
Te Awamutu	400	7,800	5,400	2,800	2,000	1,400	122%
Kihikihi	200	600	600	300	70		
Minor Urban							
Karapiro	- 10	1,400	1,400				
Ngahinapouri	-						
Ohaupo	-						
Pirongia	40						
Rukuhia	-						
Rest of District - Non-Urban	60						
Total[7]	**1,300**	**20,400**	**13,100**	**6,500**	**4,400**	**3,200**	**122%**
TOTAL FUTURE PROOF[7]	**7,800**	**163,300**	**132,300**	**28,000**	**9,000**	**1,900**	**1312%**

Source: M.E NPS-UD Housing Demand and Capacity Assessment: Future Proof Area, 2021.

[1]'Demand + margin' refers to demand based on the University of Waikato April 2021 projection (high-series) and an additional margin of feasible capacity, over and above the projected demand, of at least 20% in the short and medium term, and 15% in the long term.

[2]'Plan enabled capacity' refers to the total capacity enabled by zoning within the relevent district plan (operative (short to long-term) or proposed (medium to long-term)) or spatial strategy planning document (long-term).

[3]'Infrastructure serviced capacity' refers to capacity that is served by infrastructure at each assessment point in time. For brownfield development, this includes 'infill' and 'redevelopment' capacity.

[4]'Commercially feasible capacity' refers to whether (plan enabled and infrastructure served) capacity is commercially feasible for profit-driven commercial developers to construct.

[5]'Reasonably realised capacity' refers to capacity that is reasonably expected to be realised – an estimation of the share of commercially feasible, infrastructure served capacity that is reasonably expected to be realised – the amount of feasible capacity is reduced to reflect the level and scale of development which is more likely to be delivered by the market. The assessment recognises that the nature and type of development delivered may not achieve the densities (and therefore capacity) that are enabled by the Plan.

[6]'Sufficiency' compares total capacity with demand plus margin. Red text indicates insufficient capacity.

[7]Totals of commercially feasible and reasonably realised capacity include only the assessed urban areas. The sufficiency assessment totals reflect the assessment across the urban areas where the commercial feasibility of capacity has been assessed.

Table 8-2: Future Proof Area Summary of Demand, Capacity and Sufficiency Assessment: Medium-Term

MEDIUM-TERM (2020-2030)				Current Prices Scenario			
AREA	Additional Demand + Margin[1]	Plan Enabled Capacity[2]	Infrastructure Served Capacity[3]	Commercially Feasible Capacity[4]	Reasonably Realised Capacity[5]	Sufficiency[6] Net	Sufficiency[6] %
HAMILTON CITY							
Greenfield	14,300	22,300	8,700	7,400	7,600	3,700	105%
Infill/Intensification		108,300	108,300	16,300	10,500		
Total[7]	**14,300**	**130,600**	**117,100**	**23,600**	**18,000**	**3,700**	**105%**
WAIKATO DISTRICT							
Tuakau	600	11,300	7,900	5,800	4,800	3,100	171%
Pokeno	1,100						
Te Kauwhata	600	5,200	4,500	3,400	2,900	1,900	124%
Huntly	1,000	2,900	1,500	300	60		
Ngaruawahia	500	3,200	2,300	1,300	800		
Taupiri	50	700	700	600	300		
Raglan	800	3,000	2,300	1,600	1,000	200	108%
Smaller settlements							
Horotiu	90	1,200	1,000				
Meremere	30						
Ohinewai	10						
Te Kowhai	60						
Rest of District - Non-Urban	2,000						
Total[7]	**6,900**	**27,600**	**20,200**	**13,100**	**9,900**	**5,200**	**135%**
WAIPA DISTRICT							
Cambridge	2,300	10,600	6,100	3,800	2,900	600	106%
Te Awamutu	900	7,800	5,400	2,800	2,100	800	112%
Kihikihi	400	600	600	300	80		
Minor Urban							
Karapiro	- 10	1,400	1,400				
Ngahinapouri	10						
Ohaupo	20						
Pirongia	80						
Rukuhia	10						
Rest of District - Non-Urban	400						
Total[7]	**4,100**	**20,400**	**13,600**	**6,900**	**5,100**	**1,400**	**109%**
TOTAL FUTURE PROOF[7]	**25,300**	**178,600**	**150,900**	**43,600**	**33,000**	**10,300**	**518%**

Source: M.E NPS-UD Housing Demand and Capacity Assessment: Future Proof Area, 2021.

[1] 'Demand + margin' refers to demand based on the University of Waikato April 2021 projection (high-series) and an additional margin of feasible capacity, over and above the projected demand, of at least 20% in the short and medium term, and 15% in the long term.

[2] 'Plan enabled capacity' refers to the total capacity enabled by zoning within the relevent district plan (operative (short to long-term) or proposed (medium to long-term)) or spatial strategy planning document (long-term).

[3] 'Infrastructure serviced capacity' refers to capacity that is served by infrastructure at each assessment point in time. For brownfield development, this includes 'infill' and 'redevelopment' capacity.

[4] 'Commercially feasible capacity' refers to whether (plan enabled and infrastructure served) capacity is commercially feasible for profit-driven commercial developers to construct.

[5] 'Reasonably realised capacity' refers to capacity that is reasonably expected to be realised – an estimation of the share of commercially feasible, infrastructure served capacity that is reasonably expected to be realised – the amount of feasible capacity is reduced to reflect the level and scale of development which is more likely to be delivered by the market. The assessment recognises that the nature and type of development delivered may not achieve the densities (and therefore capacity) that are enabled by the Plan.

[6] 'Sufficiency' compares total capacity with demand plus margin. Red text indicates insufficient capacity.

[7] Totals of commercially feasible and reasonably realised capacity include only the assessed urban areas. The sufficiency assessment totals reflect the assessment across the urban areas where the commercial feasibility of capacity has been assessed.

Table 8-3: Future Proof Area Summary of Demand, Capacity and Sufficiency Assessment: Long-Term

LONG-TERM (2020-2050)				Current Prices Scenario				Growth Scenario 1				Growth Scenario 2			
AREA	Additional Demand + Margin[1]	Plan Enabled Capacity[2]	Infrastructure Served Capacity[3]	Commercially Feasible Capacity[4]	Reasonably Realised Capacity[5]	Sufficiency[6] Net	%	Commercially Feasible Capacity[4]	Reasonably Realised Capacity[5]	Sufficiency[6] Net	%	Commercially Feasible Capacity[4]	Reasonably Realised Capacity[5]	Sufficiency[6] Net	%
HAMILTON CITY															
Greenfield	43,100	22,300	21,000	14,100	14,600	-12,300	88%	14,900	15,200	1,800	102%	15,500	15,700	3,100	103%
Infill/Intensification		108,300	108,300	16,300	16,300			42,800	29,600			74,000	30,500		
Total[7]	**43,100**	**130,600**	**129,300**	**30,400**	**30,800**	**-12,300**	**88%**	**57,700**	**44,900**	**1,800**	**102%**	**89,600**	**46,200**	**3,100**	**103%**
WAIKATO DISTRICT															
Tuakau	900	18,800	14,800	11,500	9,900	6,800	219%	13,600	11,800	8,600	251%	14,200	12,100	9,000	257%
Pokeno	2,200														
Te Kauwhata	2,000	6,900	6,700	6,000	5,300	4,400	141%	6,400	5,600	8,300	176%	6,600	5,700	8,900	181%
Huntly	1,900	6,900	5,600	600	200			3,700	3,100			4,300	3,400		
Ngaruawahia	700	4,800	4,200	2,500	1,900			3,400	2,500			3,800	2,700		
Taupiri	500	2,700	2,700	2,600	2,100			2,700	2,200			2,700	2,200		
Raglan	2,000	6,300	3,900	3,300	2,700	700	118%	3,400	2,700	700	119%	3,600	2,800	800	121%
Smaller settlements															
Horotiu	100	5,300	5,100												
Meremere	40														
Ohinewai	700														
Te Kowhai	90														
Rest of District - Non-Urban	7,000														
Total[7]	**18,100**	**51,800**	**43,100**	**26,400**	**22,100**	**11,900**	**158%**	**33,100**	**27,800**	**17,600**	**186%**	**35,300**	**28,900**	**18,700**	**191%**
WAIPA DISTRICT															
Cambridge	6,000	10,600	8,900	6,400	5,900	-100	99%	6,900	6,300	300	102%	7,500	6,800	800	106%
Te Awamutu	2,800	7,800	7,800	4,000	3,700	500	105%	6,300	5,700	2,600	128%	6,700	6,100	3,000	132%
Kihikihi	600	600	600	300	100			400	200			500	200		
Minor Urban															
Karapiro	10	1,400	1,400												
Ngahinapouri	20														
Ohaupo	40														
Pirongia	100														
Rukuhia	50														
Rest of District - Non-Urban	1,300														
Total[7]	**10,900**	**20,400**	**18,700**	**10,800**	**9,700**	**300**	**101%**	**13,600**	**12,200**	**2,800**	**113%**	**14,800**	**13,100**	**3,700**	**117%**
TOTAL FUTURE PROOF[7]	**72,200**	**202,800**	**191,200**	**67,600**	**62,600**	**-50**	**234%**	**104,400**	**84,900**	**22,200**	**270%**	**139,700**	**88,200**	**25,500**	**275%**

Source: M.E NPS-UD Housing Demand and Capacity Assessment: Future Proof Area, 2021.

[1] 'Demand + margin' refers to demand based on the University of Waikato April 2021 projection (high-series) and an additional margin of feasible capacity, over and above the projected demand, of at least 20% in the short and medium term, and 15% in the long term.

[2] 'Plan enabled capacity' refers to the total capacity enabled by zoning within the relevent district plan (operative (short to long-term) or proposed (medium to long-term)) or spatial strategy planning document (long-term).

[3] 'Infrastructure serviced capacity' refers to capacity that is served by infrastructure at each assessment point in time. For brownfield development, this includes 'infill' and 'redevelopment' capacity.

[4] 'Commercially feasible capacity' refers to whether (plan enabled and infrastructure served) capacity is commercially feasible for profit-driven commercial developers to construct.

[5] 'Reasonably realised capacity' refers to capacity that is reasonably expected to be realised – an estimation of the share of commercially feasible, infrastructure served capacity that is reasonably expected to be realised – the amount of feasible capacity is reduced to reflect the level and scale of development which is more likely to be delivered by the market. The assessment recognises that the nature and type of development delivered may not achieve the densities (and therefore capacity) that are enabled by the Plan.

[6] 'Sufficiency' compares total capacity with demand plus margin. Red text indicates insufficient capacity.

[7] Totals of commercially feasible and reasonably realised capacity include only the assessed urban areas. The sufficiency assessment totals reflect the assessment across the urban areas where the commercial feasibility of capacity has been assessed.

Demand for Urban Dwellings

The FPP area is expected to experience high levels of growth. The number of households across the total FPP area are projected to increase by 57% in the long-term. Greater urbanisation is anticipated across the area, with the largest share of urban growth occurring in Hamilton City as the main urban centre. Substantial increases in the size of a number of the other main urban centres within the surrounding districts are also expected to occur, resulting in faster growth in these areas and greater rates of urbanisation. Overall, the demand for urban dwellings is projected to increase by around two-thirds in the long-term. This equates to demand for an additional 55,600 urban dwellings across the FPP area (+63,900 urban dwellings with a margin).

The largest growth in demand for urban dwellings is projected to occur within Hamilton City, the FPP area's main urban centre. There is a projected demand for an additional 3,500 urban dwellings in the short-term (to 2023), or an additional 4,200 dwellings once a margin is applied. In the medium-term there is a demand for an additional 11,900 dwellings (+14,300 dwellings with a margin), and an additional 37,500 dwellings in the long-term (+43,100 dwellings with a margin).

Significant growth in the demand for urban dwellings is projected to occur within the Waikato district, with sizeable expansion of its main urban centres. In the short-term, there is projected demand for an addition

1,400 urban dwellings (+1,700 with a margin), in the medium-term, an additional 4,000 dwellings (+4,800 with a margin), and an additional 9,700 urban dwellings (+11,200 with a margin).

A high share of the projected growth within Waipā District is for urban dwellings, with significant expansion of the main urban centres of Cambridge and Te Awamutu/Kihikihi. In the short-term, there is projected demand for an addition 1,100 urban dwellings (+1,300 with a margin), in the medium-term, an additional 3,100 dwellings (+3,700 with a margin), and an additional 8,400 urban dwellings (+9,600 with a margin).

Council's will play a key role in responding to these growth challenges to provide for growth in a way that achieves a well-functioning urban environment. The NPS-UD assessment is undertaken to understand whether planning and infrastructure decisions by local authorities provide for sufficient capacity for the anticipated growth and their effect on the operation of the local housing market. A detailed assessment on the housing market capacity and demand of the FPP area has been undertaken within this report.

Urban Residential Capacity and Sufficiency Assessment

The capacity assessment has found there are some capacity shortfalls projected to occur within the short-term across the Waikato District's main urban areas. While there are feasible development options of intensification within the existing urban areas, there are no areas where infrastructure is currently in place to enable greenfield development, which forms the dominant pattern of urban development across the district. Hamilton City has a small projected capacity surplus in the short-term, but has a large range of feasible development options, beyond those projected to be taken up, for intensification within the existing urban area. All other urban areas have projected surpluses of capacity within the short-term.

Substantial infrastructure will be supplied in the medium-term across much of the greenfield zoned land both within Hamilton City and around the main urban centres of the surrounding districts. The Waikato District PDP also provides for significant geographic expansions of the zoned greenfield area. Hamilton City also contains a large number of feasible development options within the existing urban area. There are projected capacity surpluses in the medium-term across all main urban areas.

In the long-term, there are only projected shortfalls in capacity, at the total level, under the current prices scenario where it is assumed that no further development options will become feasible over the next 30 years. At the total level, there are projected capacity surpluses across all urban areas in the long-term within the growth scenario where further development options are modelled to become feasible through time. The assessment finds that there is a very large planned expansion of greenfield infrastructure within the Waikato District's urban areas relative to demand in the long-term. This results in sizeable capacity surpluses. Additional greenfield infrastructure is also planned for Hamilton City and Waipā District's urban areas providing for large areas of feasible development options, together with a large amount of feasible development options within the existing urban area. In most locations, there are large amounts of feasible development options beyond the amount of development that is likely to be taken up by demand.

Although there are capacity surpluses projected at the total market level, the assessment has found that there are projected shortfalls in capacity within different parts (value bands) of the market. Shortfalls typically occur within the lower to mid value bands of the market as the feasible development options tend to be concentrated into the mid to higher dwelling value bands. This is partly offset by movement within the housing market where a large share of the new dwelling capacity is likely to be occupied by existing

households moving upward within the market, consequently freeing up capacity within the lower value parts of the existing stock.

The shortfalls in capacity within the lower dwelling value bands are generally projected to increase through time. This occurs as a result of gradual rises in price through time, but is partly offset by corresponding increases in household incomes. This results in some decreases in housing affordability, within household income bands, across the FPP area within the long-term, beyond the medium-term.

Impact of Planning

The assessment has found that the FPP area planning decisions may have some impact on affordability within the local housing market, but that there are large impacts from non-planning factors. The capacity feasibility assessment shows that only small increases in price (relative to actual trends observed within the market) are required for an increased range of zoned areas and development options to become feasible. It has also found that there are a large amount of zoned *feasible* development options available beyond the scale of demand within most urban areas. This suggests that there is unlikely to be a constraint, in the long-term, associated with the level of zoned (and infrastructure-served) opportunity available to the market. It is noted, however, that the assessment was advised not to apply any infrastructure constraints within Hamilton City's existing urban area.

The assessment has found that the adverse planning effects on the market may instead be related to a combination of specific provisions around the type and location of development options. There are likely to be some limitations on the range of development options provided by the market as a result of the types of development provided by the planning provisions together with the propensity of the market to take up the range of development options provided.

Within Waikato District, there is only limited opportunity for higher density developments provided for by the planning provisions. Although there are some decreases in the minimum site size requirements in the long-term, most of the planning provisions are focussed around providing for standalone dwellings on individual sites. There are very limited provisions for the development of higher density typologies (by way of smaller per dwelling land area requirements with the construction of a different typology) across much of the general urban residential area. We understand there are some options for Medium Density Residential Zone development (beyond the smaller areas in Waikato 2070) considered during the PDP process, however, these are not included within this assessment.

There are significant opportunities for urban intensification through higher density development within Hamilton City, particularly within the existing urban area. The ODP provides for smaller per dwelling site size requirements for higher density typologies across nearly all of the suburban residential area, and has large plan-enabled potential for higher density apartment development across the City Centre. However, the assessment has applied limited uptake of these higher density typologies within the greenfield areas based on the supplied development yield information. The assessment has found that although there is large plan enabled capacity within the City Centre, there is limited projected market take-up of this capacity due to market preference factors.

There is some indication that the market may provide smaller lot sizes for standalone dwellings at the urban edge if planning requirements for minimum lot sizes were removed. The predominant existing requirement for 400m^2 per dwelling is currently being achieved in some greenfield areas, with smaller lot sizes being

delivered in other similar urban economies for standalone dwellings. However, although removal of this requirement may reduce the standalone dwelling costs, it may reduce the incentive to instead construct higher density (cheaper) typologies which currently have a smaller minimum lot size requirement. This may impact upon the overall value profile of dwellings delivered by the market.

The assessment finds that there is no indication of a constraint for greenfield development within Hamilton City. There is a sizeable amount of infrastructure-served zoned opportunity relative to long-term demand, taking into account the geographic patterns of development across Hamilton City. Most of the greenfield areas are projected to be feasible to develop and are likely to form reasonably expected to be realised capacity.

Within Waipā District's urban areas, there are very limited options for higher density dwelling typologies. The planning framework provides for only very limited opportunity to develop higher density typologies with smaller per unit site area requirements. The assessment finds that these planning provisions have some impact on the affordability of dwellings within Waipā as it is focused on standalone dwellings on larger sites, which are concentrated into the mid to higher dwelling value bands. However, standalone dwellings on larger sites still form a large market preference for developers as they reflect strong patterns of demand within the market, including the exogenous retirement market demand.

The findings from the sufficiency assessment are also reflected in the information obtained from the developer survey. There was a mixed response from developers on the effect of local planning decisions in relation to the zoned land and infrastructure provision. Most developers recognised these as necessary and fundamental components provided by Council's that enabled development to occur. However, only a sub-set of developers, mainly within the Waikato District, considered that there were currently constraints within the market in relation to their supply. This reflects the capacity assessment where there is currently no infrastructure supplied for further development of greenfield areas. However, other developers considered that an oversupply of zoned opportunity and infrastructure could adversely affect the feasibility of development options through the inability to achieve sufficient prices. Many developers considered that current planning provisions did not adequately reflect emerging trends within the market for higher density development options, particularly within the Waikato and Waipā districts.

Other aspects of the planning process, beyond zoned land and infrastructure provision, were reported by developers to impact on the feasibility of development. These related to the transaction costs, resource consenting timeframes and uncertainty of planning decision outcomes. The latter aspects were particularly identified within the Waikato District.

Developers also identified the effects of non-planning factors on the feasible of development and dwelling prices. These included the wider national and global financial and market conditions, construction sector costs and the patterns of demand. These were reported to have a direct and substantial influence on the feasibility of development.

The impact of wider economic conditions is also suggested by the analysis of the urban development dashboard indicators. These showed the alignment of the greater Hamilton area with housing price movements on a national scale. The assessment also found the changes to the ratio of costs to prices occurring through time within Hamilton, which is an important driver of the feasibility of urban intensification processes.

Our approach has highlighted the importance of disentangling the planning effects on the market from this wider set of influences. We consider whether the local planning decisions provide for sufficient capacity, and then the additional level of scope available to the market to operate within these parameters. It then assesses the changes in the market within the context of a wider set of indicators.

There are important aspects of the FPP area's housing market to consider in relation to how well the demand for housing from different groups within the market is met. Māori are an important group to consider within the FPP area that may face different outcomes in the local housing market. The HBA has found that Māori have lower rates of home ownership within the FPP area than households overall, and these are projected to continue into the future. The underlying patterns of Māori household demand suggest they are likely to experience lower levels of housing affordability. On average, Māori households have larger household sizes and lower income profiles. These patterns are likely to translate into demand for larger dwellings in the lower dwelling value bands, which differ to the positive correlations generally between dwelling price and size.

Contents

Figures

Tables

1 Introduction

1.1 Context and Objectives

This report is the Housing Development Capacity Assessment 2021 ("the HBA") for the Future Proof Partners Area ("FPP area"). The FPP area is formed by Hamilton City as the main urban area, together with the surrounding Waikato and Waipā districts. The requirement for this three yearly report is set out in the National Policy Statement for Urban Development 2020[3] ("NPS-UD"). The report complies with the requirement for Tier 1 territorial authorities to assess the demand for housing land in urban environments, and the development capacity that is sufficient to meet that demand in its district in the short, medium and long term.

An HBA is an assessment of the demand for housing land in urban environments, and the development capacity that is sufficient to meet that demand in the short, medium and long term. In accordance with the NPS-UD, an urban environment means any area of land that is, or is intended to be, predominantly urban in character, and that is, or is intended to be, part of a housing and labour market of at least 10,000 people. This definition allows areas identified[4] or zoned for future urban development to be included in the defined urban environment. It also allows discrete locations of urban land that have a functional relationship with each other in terms of a housing and labour market to be part of the urban environment, even when they are not contiguous.

Hamilton City forms the main urban centre within the FPP urban area. The surrounding districts also contain a number of other smaller urban areas that together form the FPP urban area. Most of the FPP urban area is located within New Zealand's 'golden triangle' – bound by Auckland, Tauranga and Hamilton – and is currently experiencing significant growth, including growth pressures from surrounding regions. The FPPs need to respond to the growth challenges to ensure there is sufficient capacity that is well located and configured to manage the growth and achieve a well-functioning urban environment.

The objectives of this report[5] are to:

- Provide robust information on the demand and supply and capacity of housing land;
- Quantify the development capacity that is sufficient to meet expected demand for housing land in the short, medium and long term;
- Provide information on the impact of planning and infrastructure decisions on that demand and supply; and
- Provide information to inform RMA planning documents, future development strategies and long-term plans.

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

[4] I.e. in a growth strategy, spatial plan or FDS.

[5] As set out in clause 3.20 of the NPS-UD.

1.2 Scope and Structure

This report has been prepared to meet the NPS-UD requirements of the HBA for the FPP area as a tier 1 urban environment. It contains an assessment of the demand and capacity for dwellings and across the different parts of the FPP urban area. These are then compared together within a sufficiency assessment to determine the sufficiency of planning capacity to meet future dwelling demand growth across the FPP urban area. As a further requirement under the NPS-UD, an analysis on the impact of the planning decisions and the provision of infrastructure on the affordability and competitiveness of the local housing market has been undertaken.

The following is a list of the key areas of assessment and where they are contained within the report:

- Section 2 sets out the spatial framework for analysis across the FPP area. It establishes the urban area within the FPP area and identifies the key locations for assessment.
- The analysis of current and future dwelling demand across each of the main urban areas is contained in Section 3.
- Section 4 contains the residential dwelling capacity assessment across each of the FPP urban areas.
- The sufficiency of capacity is assessed in Section 5.
- Section 6 contains an assessment of the impact of planning. It includes an overview of our approach to understanding the effects of local planning decisions on the housing market (Section 6.2), an analysis of changes in future housing affordability (Section 6.3), the findings from the developer sector survey (Section 6.4), an analysis of the Māori housing market (Section 6.5) and an analysis of the Ministry for the Environment Urban Development Dashboard Indicators (Section 6.6).

2 Spatial Framework

Establishing a spatial framework for analysis is an important initial stage of the assessment. It establishes the appropriate areas for modelling capacity under each approach based on the predominant mechanisms of dwelling growth in each area. The framework forms the basis for the initial allocation of demand for different development pathways, and therefore assessment. The capacity within each type of location is also correspondingly assessed against the share of demand within each location identified within the framework.

This section sets out the spatial classification approach and the types of assessment that are applied to different parts of the spatial classification. It then identifies the spatial classifications applied to each of the Future Proof Partners jurisdictional areas.

2.1 Development Approach

Figure 2-1 contains a framework that categorises the broad divisions by type of location within a territorial jurisdictional area. The relative size of each component will differ by each city or district, with the intent of the framework to identify the presence of different location types.

An urban economy containing a main urban centre such as Hamilton City is likely to comprise nearly all major urban area, with a small share of demand for peri-urban areas. The NPS-UD, in many areas, also requires assessment across contiguous surrounding districts where these are defined as part of the urban environment of a major urban location (refer NPS-UD section 1.4). In contrast, these surrounding districts typically contain a range of urban areas at different urban scales (e.g. major urban vs. minor urban), smaller urban settlements and localities, and a substantial portion of land as rural or peri-urban where it abuts a major urban area.

Figure 2-1: Spatial Framework Classification of Locations

Broad Location Type	NON-URBAN		URBAN	

Location Type, Description, Zone Types	RURAL
	• Agricultural/horticultural land uses.
	• Demand for dwellings to support agricultural/horticultural land uses.
	• Some rural lifestyle dwelling demand.
	• Mainly rural zones.
	• Some rural residential/lifestyle zones.
		SEMI-RURAL/ PERI-URBAN
		• Some agricultural/horticulturalland uses.
		• Mainly lifestyle dwelling demand.
		• Some demand for dwellings to support agricultural/horticultural land uses.
		• Mainly rural residential/lifestyle zones.
		• Some rural zones.
			MINOR URBAN
			• Smaller urban settlements and localities.
			• Typically smaller service centres for surrounding rural areas.
			• Predominantly endogenous dwelling demand due to community ties.
			• Only minor operation of profit-driven commercial developer sector in delivery of dwellings.
			• Urban residential and village zones (current and future).
			• Rural residential/lifestyle zones (current and future).
				MAJOR URBAN
				• Larger urban areas: larger urban settlements up to major cities.
				• Higher urban amenity. Households seeking an urban location due to social and economic factors and the amenity and function of the urban environment.
				• Significant operation of profit-driven commercial developer sector in delivery of dwellings – may account for dominant share of dwelling delivery.
				  • Greenfield subdivisions.
				  • Infill development/redevelopment.
				  • House and land packages.
				  • House only packages (land bought by occupier households separately).
				• Predominantly main urban residential zones (current and future).
				• Commercial zones with residential provisions (current and future).
				• Some lifestyle zones (current and future).

Assessment Approach	Outside Scope of Assessment		Focus on Plan Enabled and Infrastructure Serviced Capacity	Plan Enabled, Infrastructure Serviced and Commercial Feasibility Assessment

The first part of our assessment delineates the districts into the types of location in Figure 2-1. This is predominantly based on the nature of the land use, any existing or future zoning, and the overall scale and function of the urban area and its location relative to other major urban locations that influence the dwelling market in the area.

As the outset, rural and peri-urban land that contains no current or future urban zoning is excluded from the assessment. These non-urban uses fall outside the scope of the NPS-UD. This includes land that is used for dwellings that support agricultural land uses, other rural-based dwellings, and non-urban rural lifestyle properties. It is important however that this classification, in relation to lifestyle properties, is not undertaken only on a zoning basis. This is because the zoning structure in some districts is relatively narrow, with zones that allow lifestyle properties also forming parts of the urban area of different centres. Consequently, the delineation between rural and rural lifestyle and urban uses needs to allow for the inclusion of lifestyle zones into urban areas where they function together with the main urban zone as an urban settlement. This classification of urban centres in the FPP districts is set out later in this section.

It is also important to correspondingly exclude the share of future demand that is associated with dwelling growth in the non-urban areas (including peri-urban areas). This is estimated through a combination of approaches, which are set out in the demand section methodology.

Once non-urban capacity and demand have been excluded from the assessment, the remaining areas include the urban locations. The spatial assessment firstly identifies areas classified as major urban locations. These are urban areas that are typically substantive and function as the main urban centres for the surrounding areas. Households often seek a location in these centres due to a combination of social ties, and economic reasons together with the amenity and urban function provided by a main urban location.

The profit-driven dwelling development sector is able to operate at a significant scale within these main urban locations and is likely to account for the dominant share of dwelling stock delivery within these markets. This often includes the delivery of house and land packages, particularly in greenfield areas, as well as the delivery of dwelling only options (where the household purchases a section then commissions a developer to construct a dwelling). These areas form the appropriate locations to apply the commercial feasibility modelling.

Main urban areas are disaggregated into *types* of location as appropriate. Different parts of the urban area are classified in relation to the characteristics of their dwelling market, accessibility and amenity of their location. This is particularly important within the larger urban cities, such as Hamilton, which contain significant variation in the dwelling market across their urban structure. The modelling approach enables flexibility for the dwelling market where households are able to seek a dwelling across multiple similar areas within the urban market. The 2020 assessment predominantly applies the same spatial categorisations for Hamilton that were established within the 2017/2018 assessment.

The spatial framework also identifies other, smaller urban locations that occur across the districts. These include minor urban settlements, and smaller localities where growth predominantly occurs in these locations due to demand for a particular location (e.g. community ties) or the availability of space, with only a minor share of dwellings likely to be delivered by the profit-driven commercial developer sector.

The minor role of the commercial developer pathway in these smaller urban locations mean that feasibility modelling does not form an appropriate assessment tool in these areas. However, it is still important to understand the ability of these minor urban locations to cater for future demand growth. Therefore, the analysis will assess the sufficiency of plan enabled capacity (including the required level of infrastructure servicing) in these locations.

The following section shows the spatial classification of locations for each of the jurisdictional areas of the Future Proof Partners.

2.2 Waikato District Spatial Framework

A spatial framework was developed for Waikato District to identify and classify the district's urban areas into locations for assessment. The spatial framework is summarised in Table 2-1 where nodes of urban activity have been classified as either main urban areas or settlements. The main urban centres are listed in the upper section of the table and form the areas where both plan enabled and commercially feasible capacity is modelled.

Table 2-1: Waikato District Spatial Framework and Existing Household Structure

LOCATION	2018 Households			Assessment Approach
MAIN URBAN	**Urban Zone**	**Non-Urban/Other**	**Total**	
Huntly	2,600	70	**2,700**	Commercial Feasibility Modelling + Plan Enabled and Infrastructure Capacity
Ngaruawahia	1,900	30	**1,900**	
Pokeno	760	50	**820**	
Raglan	1,300	10	**1,300**	
Taupiri	220	10	**230**	
Te Kauwhata	630	-	**630**	
Tuakau	1,500	-	**1,500**	
TOTAL	**8,900**	**180**	**9,000**	
SETTLEMENTS	**Urban Zone**	**Non-Urban/Other**	**Total**	
Horotiu	140	-	**140**	Plan Enabled, Infrastructure Capacity
Meremere	170	-	**170**	
Ohinewai	10	30	**40**	
Te Kowhai	160	50	**200**	
Eureka	-	40	**40**	Rural-based settlements - no capacity assessment, allocation of share of demand.
Glen Afton-Pukemiro	140	-	**140**	
Glen Massey	70	30	**100**	
Gordonton	30	10	**40**	
Mangatangi	-	20	**20**	
Maramarua	-	20	**20**	
Matangi	70	20	**90**	
Mercer	-	50	**50**	
Naike	-	20	**20**	
Ngarunui Beach	60	120	**180**	
Onewhero	-	80	**80**	
Orini	10	10	**20**	
Otaua	-	30	**30**	
Port Waikato	-	210	**210**	
Pukekawa	-	40	**40**	
Rangiriri	20	-	**20**	
Tauwhare	-	100	**100**	
Te Akau	30	-	**30**	
Waikowai	40	20	**60**	
Whatawhata	60	20	**80**	
Whitikahu	20	20	**30**	
TOTAL	**1,000**	**910**	**1,900**	
Non-Urban	**Urban Zone**	**Non-Urban/Other**	**Total**	
Non-Urban Total	**-**	**14,800**	**14,800**	Rural demand - no capacity assessment, allocation of share of demand.
TOTAL DISTRICT	**Urban Zone**	**Non-Urban/Other**	**Total**	
TOTAL	**9,900**	**15,900**	**25,800**	

Source: M.E 2021 Future Proof Partner's NPS-UD Housing Capacity and Demand Assessment.

The remaining areas are classified as settlements. The largest of these that are urban (Horotiu, Meremere, Te Kowhai, and Ohinewai – included, as requested) will be assessed for plan-enabled capacity. The remaining settlements are typically smaller rural settlements that fall outside the scope of the NPS-UD. No capacity assessment is undertaken across these smaller settlements.

Table 2-1 also shows the existing structure of the district's (2018) households by location. It shows the number of households in each area that fall within the existing urban extent of the settlement vs. those on non-urban zones[6] within the location area[7]. This allocation forms the base structure in the model to take account of urban vs. non-urban demand.

The spatial extent of each location is defined by the existing and future District Plan zoning structures[8]. The residential urban zoned area in each location forms the area of assessment. The assessment has been undertaken on the main urban residential zones where properties are intended to have an urban character[9] of development. These zones typically have minimum site sizes of up to 1,000m^2 and are served by main infrastructure. Rural lifestyle or countryside living zones excluded from the assessment as they are not urban in nature and their development does not form part of the demand for an urban location within the district's main urban areas.

Table 2-2 displays the zones assessed for capacity in the short (2020-2023), medium (2024-2030) and long-terms (2031-2050). The Operative District Plan (ODP) forms the zoning framework for the short-term. The Residential, New Residential and Living zones define the spatial extent of the capacity assessment in the ODP. The assessed areas expand outward in some locations in the medium and long-terms as the zoned residential area is expanded. The Proposed District Plan (PDP) is used to assess medium-term capacity. The Residential and Rangitahi Peninsula zones form the areas for assessment.

In the long-term, the assessed area is defined by a combination of the PDP zoning structure and the urban expansion and zoned areas contained within the Waikato 2070 strategy document (W2070)[10]. The W2070 zoning layer (Residential, Medium Density Residential and Low Density Residential) is applied in the first instance. Any residential areas that are zoned under the PDP, and are not covered by the W2070, are also included. The PDP zoning rules are applied to the PDP areas where W2070 is absent.

[6] For example, lifestyle zone properties within the existing urban edge, or residential properties on industrial land, etc.

[7] Lifestyle properties surrounding the main urban areas are included within the 'Non-Urban' row of the table.

[8] Zoning files were supplied by Waikato District Council.

[9] Urban character is determined either through zone objectives or minimum lot sizes that reflect an urban density of development.

[10] Waikato District Council, 2020. *Waikato 2070 Waikato District Council Growth & Economic Development Strategy,* adopted by Waikato District Council 19 May 2020.

Table 2-2: Waikato District Residential Capacity Assessment Zones

AREA TYPE	AREA NAME	ASSESSMENT APPROACH	PLANNING ZONE FRAMEWORK AND ZONES ASSESSED		
			Operative District Plan	Proposed District Plan	Waikato 2070
MAIN URBAN	Huntly Ngaruawahia Pokeno Raglan Taupiri Te Kauwhata Tuakau	Commercial Feasibility Modelling + Plan Enabled and Infrastructure Capacity	Residential, Residential 2, New Residential, Living, Living - Rangitahi, Living Te Kauwhata West, Living Te Kauwhata Ecological	Residential, Rangitahi Peninsula	Residential, Medium Density Residential, Low Density Residential
SETTLEMENTS	Horotiu Meremere Ohinewai Te Kowhai	Plan Enabled, Infrastructure Capacity	New Residential, Living	Residential	Residential, Low Density Residential
	Eureka Glen Afton-Pukemiro Glen Massey Gordonton Mangatangi Maramarua Matangi Mercer Naike Ngarunui Beach Onewhero Orini Otaua Port Waikato Pukekawa Rangiriri Tauwhare Te Akau Waikowai Whatawhata Whitikahu	Rural-base settlements - no capacity assessment, allocation of share of demand	New Residential, Living, Village, Country Living	Residential, Village, Country Living	
Non-Urban		Non-Urban demand - no capacity assessment, allocation of share of demand	Village, Country Living, Rural Residential, Rural, Other	Village, Country Living, Rural, Other	

Source: M.E 2020 FPP NPS-UD HBA.

2.3 Hamilton City Spatial Framework

The full extent of the Hamilton City territorial area has been included within the urban capacity assessment due to the comprehensive coverage of current and future urban areas. The territorial area has been assessed using a two-tiered spatial framework. The spatial framework is displayed geographically in Figure 2-2.

The first stage of the framework classifies the area to form either part of the existing urban area or greenfield areas of future urban expansion. The existing urban area has been defined through the current location of the urban edge. This has expanded outward in some areas (particularly Rototuna) since the 2017/2018 NPS-UDC assessment. The remainder of the area has been classified as greenfield areas.

The residential component of the existing urban area has then been classified into five types of areas – Level 1 to Level 5. These largely correspond with the value and type of development in the area, with Level 1 containing the lowest value areas, and Level 5, the highest value areas. The spatial classification uses the

same areas as in the 2017/2018 assessment, with new areas of urban expansion classified consistently with the framework.

The greenfield areas are divided by broad location. The four structure plan areas (Rotokauri, Rototuna, Ruakura and Peacocke) identified in the ODP are included, with Ruakura further disaggregated into Ruakura North and Ruakura South. In addition, greenfield areas in Te Rapa North and Temple View have been added. Although the Te Rapa North area does not contain residential zoning, future residential greenfield capacity has been identified through a private plan change.

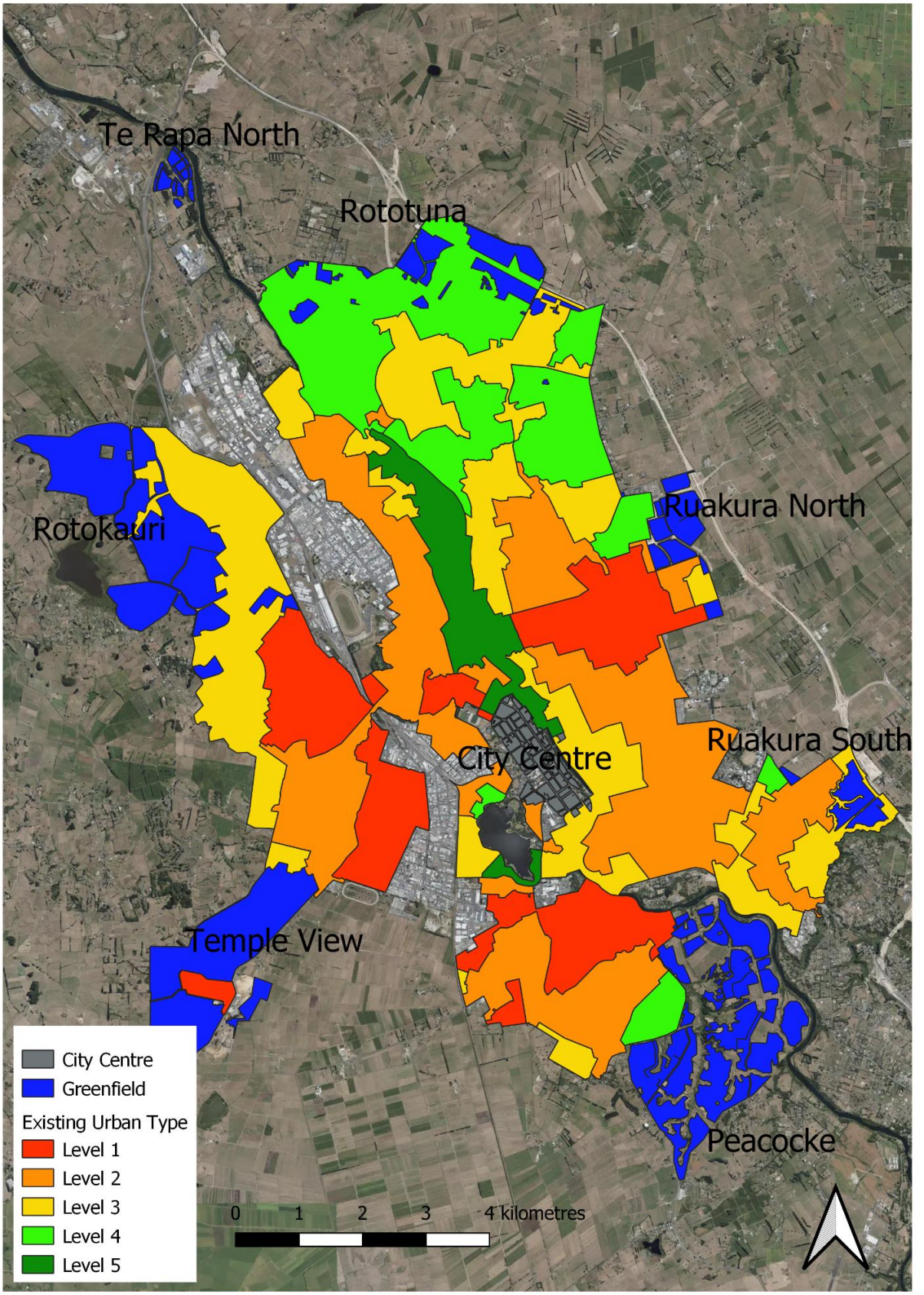
The spatial framework forms the areas of capacity reporting for Hamilton City. This is an improvement from the 2017/2018 NPS-UDC assessment. Reporting by type of location within the city provides an overview of the capacity levels by type of location. This is more relevant to assess the sufficiency of capacity where households typically seek to locate within a certain *type* of area within the city (which generally corresponds with dwelling value profiles). It enables the assessment to examine the sufficiency of development options for dwelling demand for types of location.

Within the greenfield areas, the capacity assessment has been undertaken across all of the residential areas included within the greenfield areas in Figure 2-2. The plan enabled capacity for these areas uses the underlying ODP zones, while the developer information and structure plan yields are captured within the reasonably expected to be realised (RER) capacity calculations.

The following zones are assessed for residential capacity within the existing urban area:

- General Residential Zone
- Residential Intensification Zone
- Special Residential Zone
- Special Heritage Zone
- City Centre Zone

Figure 2-2: Hamilton City Spatial Framework for Residential Capacity Assessment



2.4 Waipā District Spatial Framework

A spatial framework was developed for Waipā District to identify and classify the district's urban areas into locations for assessment. The spatial framework is summarised in Table 2-3 where nodes of urban activity have been classified as either main urban areas or minor urban areas/settlements. The main urban centres are listed in the upper half of the table and form the areas where both plan enabled and commercially feasible capacity is modelled. These include the district's largest urban centres of Cambridge, Te Awamutu and Kihikihi. They are the predominant areas within the district that have any significant operation of the commercial profit-driven residential development sector.

Table 2-3: Waipā District Spatial Framework and Existing Household Structure

LOCATION	2018 Households by Zone						Assessment Approach
MAJOR URBAN	**Residential**	**Deferred Residential**			**Other Zone**	**TOTAL**	
Cambridge	6,800	160	-	-	-	**7,000**	Commercial Feasibility Modelling + Plan Enabled and Infrastructure Capacity
Kihikihi	810	-	-	-	-	**810**	
Te Awamutu	4,700	40	-	-	70	**4,800**	
TOTAL	**12,300**	**200**	**-**	**-**	**70**	**12,600**	
MINOR URBAN/SETTLEMENTS	**Residential**	**Deferred Residential**	**Large Lot**	**Deferred Large Lot**	**Other Zone**	**TOTAL**	
Karapiro	60	-	90	10	-	**160**	Plan Enabled, Infrastructure Capacity
Ngahinapouri	-	-	70	10	-	**80**	
Ohaupo	-	-	170	40	40	**250**	
Pirongia	-	-	450	-	-	**450**	
Rukuhia	-	-	50	10	10	**70**	
Maungakawa	-	-	70	-	-	**70**	Rural demand - no capacity assessment, allocation of share of demand.
Hautapu	-	-	-	-	-	-	
Rotongata Settlements	-	-	30	-	-	**30**	
Te Pahu	-	-	10	-	20	**30**	
Tokanui	-	-	20	-	-	**20**	
Te Miro	-	-	30	-	-	**30**	
TOTAL	**60**	**-**	**990**	**80**	**70**	**1,200**	
NON-URBAN			**Large Lot**	**Deferred Large Lot**	**Rural**	**TOTAL**	
Non-Urban Total	0	0	590	60	5,700	**6,400**	Rural demand - no capacity assessment, allocation of share of demand.
TOTAL DISTRICT	**Residential**	**Deferred Residential**	**Large Lot**	**Deferred Large Lot**	**Other Zone/Rural**	**TOTAL**	
TOTAL	**12,400**	**200**	**1,600**	**130**	**5,900**	**20,200**	

Source: M.E 2021 Future Proof Partner's NPS-UD Housing Capacity and Demand Assessment.

The remaining urban areas are classified as minor urban areas or urban settlements. The largest of these (Karāpiro, Ngāhinapōuri, Ōhaupō, Pirongia and Rukuhia) will be assessed for plan-enabled capacity. The remaining settlements are typically smaller rural settlements, largely in the more remote southern parts of the district, that fall outside the scope of the NPS-UD. No capacity assessment is undertaken across these smaller settlements.

Table 2-3 also shows the existing structure of the district's (2018) households by location and zone type. It shows the number of households in each area that fall within the existing urban extent of the settlement vs. those on non-urban zones[11] within the location area[12]. This forms the base structure in the model to take account of urban vs. non-urban demand.

[11] For example, lifestyle zone properties within the existing urban edge, or residential properties on industrial land, etc.

[12] Lifestyle properties surrounding the main urban areas are included within the 'Non-Urban' row of the table.

The spatial extent of each location is defined by the existing District Plan zoning structures[13]. The residential urban zoned area in each location forms the area of assessment. Within the main urban areas, the assessment has been undertaken on the main urban residential zones where properties are intended to have an urban character of development. These include the Residential and Deferred Residential Zones.

Lifestyle properties around the edges of these main urban areas have been excluded from the assessment as they are not urban in nature and their development does not form part of the demand for an urban location within the district's main urban areas. Many of these typically occur on the Large Lot and Deferred Large Lot Residential Zones, which result in a distinct difference in the density and nature of development around the edges of these main urban areas where the Residential Zone defines the urbanised area.

In contrast, the minor urban areas/settlements do not contain any Residential zoning and are instead typically made up of concentrations of dwellings within the Large Lot Residential Zone. As such, the plan enabled assessment across these smaller areas includes capacity within these centres on the Large Lot Residential and Deferred Large Lot Residential zones.

The existing ODP forms the zoning layer that is used to assess the district's capacity across the short, medium and long-term. Waipā District Council does not have a PDP or long-term spatial plan, so the assessment consequently applies the ODP as the spatial zoning framework across all three time periods.

The ODP includes the additional urban growth cells around the edges of the district's main urban centres (Cambridge, Te Awamutu and Kihikihi). These were part of Plan Change 7, that became operative on 14 March 2019, and provided significant areas of additional greenfield capacity to the ODP. This is an important update to the 2017 NPS-UDC capacity assessment where the growth cells were not included due to the timing of the plan change in relation to the NPS-UDC policy requirements.

[13] Zoning files were supplied by Waipā District Council.

3 Urban Residential Dwelling Demand

3.1 Introduction

The demand for urban dwellings has been established for each of the FPP areas in the short, medium and long-term. The total FPP area dwelling demand is projected to grow by 57% over the long-term. Greater urbanisation is projected to occur across the main urban areas of the Waipā and, particularly, Waikato districts, meaning the total FPP urban dwelling demand is projected to increase by nearly two-thirds (65%) over the long-term. This equates to demand for an additional 55,600 urban dwellings across the FPP area (+63,900 urban dwellings with a margin).

This section contains our assessment of future demand for urban dwellings for each of the FPP areas. It begins with a brief summary of our approach to identifying urban demand as this process is an important improvement on the previous NPS-UDC assessment and therefore produces different results. The urban dwelling demand in the short, medium and long-term is then provided for each of the FPP areas.

3.2 Approach

The demand assessment estimates the demand for urban dwellings in the short, medium and long-term. The Waikato and Waipā districts contain a mixture of urban and non-urban demand, with a number of key urban settlements in otherwise largely rural districts. In an improvement on the 2017 NPS-UDC Housing Capacity and Demand Assessment (HCDA), it specifically estimates the urban component of the Waikato and Waipā district's demand. This is defined by the demand for an urban location within the main urban zones as set out in the spatial framework. Non-urban demand includes demand for a rural or lifestyle property location as these areas do not form part of the urban environment.

As an initial input, Waikato and Waipā District council's have provided M.E with household growth projections by sub-area[14] across each of the districts. These are the NIDEA projections prepared by WISE at the University of Waikato. The NIDEA projections are a newer projection series than the Statistics New Zealand projection series, which are based on 2013 Census data. M.E have been requested by Future Proof to use the NIDEA High Series household projections as an agreed input to the HBA.

The Demand Model converts the household growth projections within each spatial area to dwelling demand. Many of these areas contain both core urban zoned (current and future) areas, as well as large tracts of non-urban land. The model allocates the demand for each of these areas (which is provided as a total) into the urban vs. non-urban components. The process is set out in the following paragraphs.

The spatial framework GIS analysis establishes the base structure of existing dwellings across urban, lifestyle and rural areas within each location. This provides the existing split between urban and non-urban households. The model then assumes that the non-urban component will grow at a slower rate than the urban component. This reflects the increased urban growth within the districts, and ensures a conservative

[14] These have been supplied at the Statistical Area 2 (SA2) level for total households.

analysis when the sufficiency of capacity is assessed in each location. The balance of growth (i.e. the component not allocated to non-urban demand) in each area then gets allocated to urban demand.

The effect of this process is to allow some growth in the existing non-urban (rural and lifestyle) dwelling base, while allowing the growth projections to reflect the faster growth of the main urban centres. It allocates the growth to reflect the anticipated increase in size of these centres.

The resulting urban growth outputs are then used within the dwelling demand model for each district to calculate the type of dwelling demand by location. Further technical information on the dwelling demand modelling process is contained in the previous NPS-UDC HDCA. The dwelling demand outputs of this process for each FPP area are contained in the following sections.

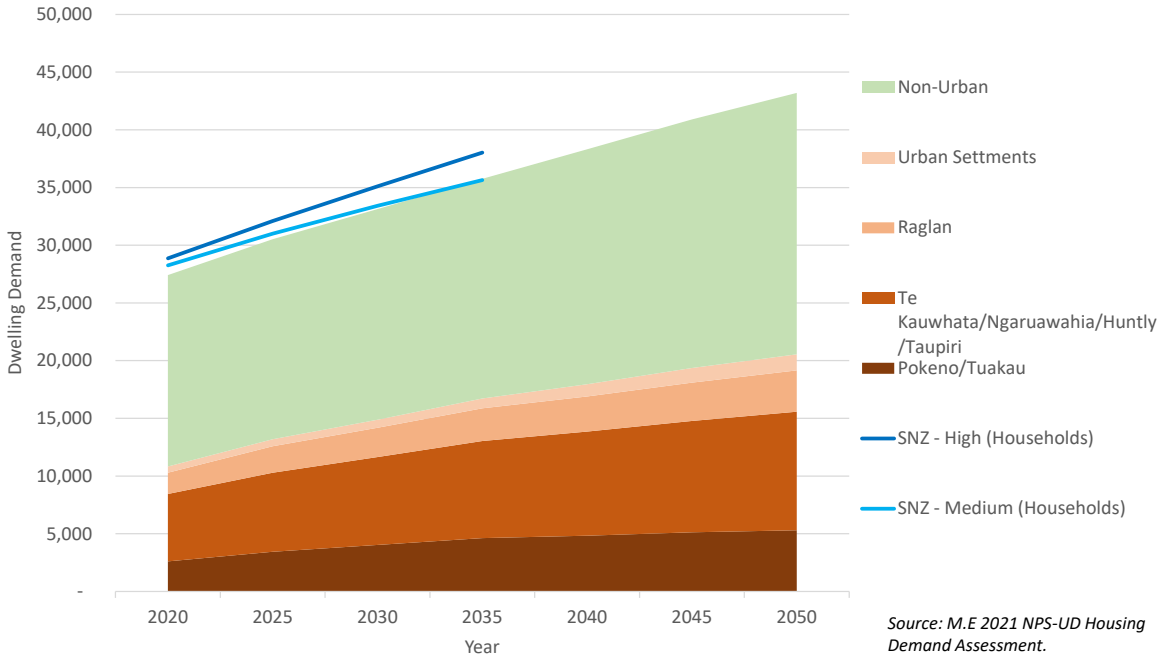
3.3 Waikato District Dwelling Demand

Waikato District has an estimated total demand (i.e. urban and non-urban) for 27,400 dwellings in 2020. The district is projected to experience strong growth, particularly in the main urban areas. This includes growth pressure from Auckland as Auckland's southern urban edge expands outward, increasing dwelling demand in the northern Waikato District urban areas.

The projected growth in dwelling demand within the district is shown in Figure 3-1. Demand is projected to increase by between half and two-thirds – an additional 15,800 dwellings over the long-term, to reach an estimated 43,200 dwellings. The district is projected to become increasingly urbanised, with nearly two-thirds (62%) of the long-term growth occurring within the urban areas. In total, the district is projected to have demand for an additional 9,700 urban dwellings over the long-term. This growth is spread across several of the main urban areas within the district.

M.E have been requested by Future Proof to use the High Series household projections as an agreed input to the HBA. The FPP-supplied NIDEA Waikato District projected households are below the medium-series Statistics New Zealand projected households in the short-term and around the medium-series projected households in the medium-term. However, the projected net change in households is between that of the medium and high series Statistics New Zealand as the FPP projections are from a lower starting point (with a growth rate between that of the Statistics New Zealand medium and high series projections).

Figure 3-1: Waikato District Projected Dwelling Demand, 2020-2050



Source: M.E 2021 NPS-UD Housing Demand Assessment.

Table 3-1 shows the dwelling demand across the district across the short, medium and long-term. It shows the urban component of demand[15] by location across the time periods. The locations include the main urban areas established within the spatial framework, as well as the settlements. A row for non-urban dwelling demand is also included which captures demand for rural and lifestyle dwellings.

The first part of the table provides an estimate of the projected total dwelling demand, including for existing households at each assessment point in time. The middle section of the table shows the net change in dwelling demand in the short, medium and long-term, calculated from the total projected demand in the first part of the table. The final section of the table shows the net change in dwelling demand with the relevant (15%-20%) margin[16] added. The following sub-sections summarise the key aspects of the dwelling demand projections.

[15] Lifestyle dwelling demand surrounding the urban areas is captured in the 'Non-Urban' row of the table.

[16] The NPS-UD requires a margin of 20% to be applied to the net increase in dwelling demand in the short and medium-term, and a 15% margin applied to the net increase in demand in the long-term. Capacity is compared to the demand plus the margin during the sufficiency assessment.

Table 3-1: Waikato District Projected Urban Dwelling Demand by Location: 2020-2050

AREA	Dwelling Demand				Change in Demand			Change in Demand + Margin		
	2020	2023	2030	2050	Short-Term: 2020-2023	Medium-Term: 2020-2030	Long-Term: 2020-2050	Short-Term: 2020-2023 (20% margin)	Medium-Term: 2020-2030 (20% margin)	Long-Term: 2020-2050 (15% margin)
Main Urban Areas										
Pokeno	990	1,300	1,900	2,900	310	960	1,900	380	1,100	2,200
Tuakau	1,600	1,800	2,100	2,400	190	470	790	230	570	900
Te Kauwhata	720	850	1,200	2,400	130	500	1,700	160	600	2,000
Ngaruawahia	2,100	2,300	2,500	2,700	210	420	630	250	500	720
Huntly	2,800	3,100	3,600	4,500	260	800	1,700	310	960	1,900
Taupiri	250	250	290	650	-	40	400	-	50	460
Raglan	1,800	2,100	2,500	3,600	260	690	1,700	310	830	2,000
Total Main Urban Areas	*10,300*	*11,700*	*14,200*	*19,200*	*1,400*	*3,900*	*8,900*	*1,600*	*4,700*	*10,200*
Settlements	-	-	-	-	0	0	0	-	-	-
Meremere	180	200	200	220	10	20	30	20	30	40
Ohinewai	40	40	40	680	-	10	640	-	10	740
Te Kowhai	160	160	210	240	-	50	80	-	60	90
Horotiu	160	190	230	260	30	70	100	30	90	110
Total Settlements	*540*	*580*	*690*	*1,400*	*40*	*150*	*850*	*50*	*180*	*980*
TOTAL URBAN	**10,800**	**12,200**	**14,900**	**20,600**	**1,400**	**4,000**	**9,700**	**1,700**	**4,800**	**11,200**
Non-Urban	16,600	17,000	18,300	22,600	440	1,700	6,100	530	2,000	7,000
TOTAL	**27,400**	**29,300**	**33,100**	**43,200**	**1,900**	**5,700**	**15,800**	**2,200**	**6,900**	**18,100**

Source: M.E 2021 NPS-UD Housing Demand Assessment.

Household composition and income are key household characteristics that have an important effect on the value and types of dwellings demanded. The current (2020) and projected future (2050) household characteristics are shown in Table 3-2 and Table 3-3 for the urban households in Waikato District. The top third of the table shows the current distribution of households by household type and income. The middle third shows the percentage distribution across each category. The lower third of the table shows the relative concentration within each income band across the different household composition groups. Values greater than 1 indicate a higher share of households within that group fall into a particular income category than dwellings overall.

The tables show that around half (52%) of Waikato District's urban households are 1-2 person households. This is projected to increase to over half (57%) of household by 2050, accounting for nearly two-thirds 63% of the growth in households. A share of this will occur as retirement demand, with existing household olds decreasing in size as children leave home and form new households.

Higher relative proportions of the lower income households are smaller (1 person) households or single parent families. Larger family households and couples tend to be over-represented in the mid to higher household income bands.

Table 3-2: Waikato District Urban Households by Household Composition and Income, 2020

Household Type	Household Income							
	<$30,000	$30-50,000	$50-70,000	$70-100,000	$100-120,000	$120-150,000	$150,000+	Total
One Person household	1,100	400	300	200	50	20	30	**2,200**
Couple household	200	600	500	600	500	400	700	**3,400**
2 Parents 1-2 children	50	100	200	500	400	400	800	**2,400**
2 Parents 3+ children	20	40	90	200	100	100	300	**800**
1 Parent Family	400	300	200	200	100	40	50	**1,400**
Multi-family household	-	10	30	50	40	60	200	**400**
Non-family household	20	40	50	50	30	10	20	**200**
Total Households	**1,800**	**1,600**	**1,400**	**1,800**	**1,200**	**1,000**	**2,100**	**10,800**
One Person household	10.2%	4.1%	3.1%	1.9%	0.5%	0.2%	0.3%	**20.2%**
Couple household	1.8%	5.1%	4.2%	5.8%	4.4%	3.7%	6.4%	**31.4%**
2 Parents 1-2 children	0.4%	1.1%	1.9%	4.2%	3.2%	3.3%	7.5%	**21.7%**
2 Parents 3+ children	0.2%	0.3%	0.8%	1.5%	1.2%	1.1%	2.5%	**7.7%**
1 Parent Family	3.9%	3.2%	2.2%	2.1%	0.9%	0.4%	0.5%	**13.1%**
Multi-family household	0.0%	0.1%	0.2%	0.4%	0.4%	0.5%	2.1%	**3.7%**
Non-family household	0.2%	0.4%	0.5%	0.5%	0.3%	0.1%	0.2%	**2.2%**
Total Households	**16.7%**	**14.3%**	**12.9%**	**16.3%**	**10.9%**	**9.3%**	**19.5%**	**100.0%**
Relative Concentration								
One Person household	**3.02**	**1.42**	**1.17**	0.57	0.21	0.09	0.08	
Couple household	0.34	**1.14**	**1.04**	**1.13**	**1.29**	**1.27**	**1.04**	
2 Parents 1-2 children	0.12	0.35	0.68	**1.18**	**1.37**	**1.64**	**1.78**	
2 Parents 3+ children	0.14	0.31	0.84	**1.20**	**1.43**	**1.53**	**1.69**	
1 Parent Family	**1.77**	**1.71**	**1.28**	0.98	0.65	0.30	0.18	
Multi-family household	0.03	0.12	0.49	0.71	0.90	**1.57**	**2.84**	
Non-family household	0.57	**1.28**	**1.78**	**1.28**	**1.15**	0.62	0.51	

Source: ME Housing Demand Model 2021.

Table 3-3: Waikato District Urban Households by Household Composition and Income, 2050

Household Type	Household Income							
	<$30,000	$30-50,000	$50-70,000	$70-100,000	$100-120,000	$120-150,000	$150,000+	Total
One Person household	2,900	900	600	300	80	30	50	**4,800**
Couple household	500	1,500	1,000	1,200	800	700	1,200	**6,900**
2 Parents 1-2 children	70	200	300	800	600	600	1,300	**3,800**
2 Parents 3+ children	30	60	200	300	200	200	400	**1,400**
1 Parent Family	700	600	400	400	200	60	80	**2,500**
Multi-family household	-	10	50	90	70	100	400	**700**
Non-family household	40	90	100	80	50	20	30	**400**
Total Households	**4,200**	**3,400**	**2,600**	**3,100**	**2,000**	**1,700**	**3,500**	**20,600**
One Person household	13.9%	4.4%	2.8%	1.7%	0.4%	0.1%	0.2%	**23.6%**
Couple household	2.2%	7.3%	4.8%	5.7%	4.1%	3.5%	5.9%	**33.6%**
2 Parents 1-2 children	0.3%	0.9%	1.6%	3.8%	2.8%	2.8%	6.3%	**18.7%**
2 Parents 3+ children	0.1%	0.3%	0.7%	1.3%	1.0%	0.9%	2.1%	**6.6%**
1 Parent Family	3.5%	3.1%	2.0%	1.8%	0.9%	0.3%	0.4%	**12.1%**
Multi-family household	0.0%	0.0%	0.2%	0.4%	0.3%	0.5%	1.8%	**3.4%**
Non-family household	0.2%	0.4%	0.5%	0.4%	0.2%	0.1%	0.1%	**2.0%**
Total Households	**20.4%**	**16.6%**	**12.7%**	**15.2%**	**9.8%**	**8.3%**	**17.1%**	**100.0%**
Relative Concentration								
One Person household	**2.89**	**1.13**	0.93	0.47	0.17	0.08	0.06	
Couple household	0.33	**1.32**	**1.13**	**1.12**	**1.24**	**1.25**	**1.03**	
2 Parents 1-2 children	0.09	0.31	0.69	**1.33**	**1.53**	**1.83**	**1.98**	
2 Parents 3+ children	0.11	0.27	0.89	**1.28**	**1.61**	**1.72**	**1.89**	
1 Parent Family	**1.44**	**1.55**	**1.30**	**1.00**	0.76	0.30	0.19	
Multi-family household	-	0.09	0.58	0.87	**1.05**	**1.78**	**3.10**	
Non-family household	-	**1.33**	**1.92**	**1.28**	**1.25**	0.59	0.43	

Source: ME Housing Demand Model 2021.

3.3.1 Current Dwelling Demand: 2020

The district currently has an estimated demand for around 27,400 dwellings. Approximately 40% of the demand is for urban dwellings. This equates to an estimated demand for around 10,800 urban dwellings across the main urban areas and settlements. Nearly all (95%) of the urban demand occurs within the main urban areas (that are subject to the feasibility assessment), with a smaller share (540 dwellings) in the smaller urban settlements.

With an estimated demand for approximately 2,800 urban dwellings, Huntly is currently the district's largest urban area, account for around one-quarter (26%) of the district's urban dwelling demand. Together with Te Kauwhata, Ngāruawāhia and Taupiri, over half of the district's urban dwelling demand occurs within the mid section of the district. Within this area, Ngāruawāhia also accounts for a significant share (19%) of the district's urban demand.

A significant share of demand also occurs within the northern area, spread across the townships of Pōkeno and Tuakau. Together, these areas account for 24% of the district's demand. The remainder of the urban dwelling demand is spread across Raglan (17%) and the smaller urban settlements (5%)[17].

3.3.2 Short-Term Dwelling Demand: 2020-2023

The Waikato District is projected to experience relatively fast urban growth in the short-term. Demand in the district overall, is projected to increase by 1,900 additional dwellings (+7%), which equates to an annual growth rate of 2.2% - above the Statistics New Zealand national high growth rate (1.7%) and between the Auckland medium and high growth rates (2.1% to 2.4%).

The district is projected to experience relatively high rates of urban expansion in the short-term across the main urban centres. Three-quarters (76%) of the district's demand growth is for urban dwellings, amounting to demand for an additional 1,400 urban dwellings (1,700 dwellings with a 20% margin). This equates to a rapid urban growth rate of 4.2% p.a. – an increase of 13%.

Urban growth is spread across the main urban centres within the district. Over one-third (36%) growth is projected to occur within the northern towns of Pōkeno and Tuakau (combined demand for an additional 500 dwellings, or 600 dwellings with a margin). Part of this is likely to be driven by growth pressures from the Auckland region and the zoned opportunity for urban expansion.

A further 42% of the growth is projected to occur across the main urban centres within the mid parts of the district (Huntly, Ngāruawāhia, Te Kauwhata and Taupiri). Together, these areas have demand for a further 600 urban dwellings in the short-term (730 dwellings with a margin). Of these, Te Kauwhata is projected to grow at a faster rate (5.8% p.a.) than the urban component of the district overall.

A significant share (18%) of growth is also projected for Raglan. There is a projected demand for an additional 260 urban dwellings within the short-term (310 dwellings with a margin). A share of the dwelling demand arises from the holiday homes market.

[17] Urban dwelling demand in Te Kowhai includes demand only on the main urban zones as set out in the spatial framework. Lifestyle properties on the area forming the Te Kowhai locality are included within the 'Non-Urban' component of the table.

3.3.3 Medium-Term Dwelling Demand: 2020-2030

Relatively high dwelling demand growth, albeit at a slower rate, is also projected to continue into the medium-term in Waikato District. There is a projected net increase of an additional 5,700 dwellings (+21%) across the district as a whole, equating to an average annual growth rate of 1.9%. This is slightly slower than the Statistics New Zealand high growth household projections for Auckland, at 2.0% p.a..

High growth is driven by the projected urban expansion, where nearly three-quarters (71%) of the increase in demand is for urban dwellings. In the medium-term, there is a projected increase in demand for an additional 4,000 urban dwellings, or 4,800 additional dwellings with a 20% margin applied. This equates to a 37% increase in the district's demand for urban dwellings across a ten-year period.

Urban dwelling demand growth is also spread across the main urban centres of the district in the medium-term. Over one-third (35%) of the urban dwelling demand growth is projected to occur in the northern part of the district across Pōkeno and Tuakau. They have a combined projected net dwelling demand increase of 1,400 dwellings (or 1,700 dwellings with a 20% margin applied).

Approximately 44% (1,800 dwellings; 2,100 dwellings with a 20% margin applied) of the demand growth is projected to occur within the middle section of the district across Te Kauwhata, Ngāruawāhia, Huntly and Taupiri.

3.3.4 Long-Term Dwelling Demand: 2020-2050

The district's total demand for dwellings is projected to increase by between half and two-thirds (+58%) in the long-term, with the demand for urban dwellings nearly doubling across this period (+90%). There is a projected demand for an additional 15,800 dwellings in the district overall across the long-term (2020-2050). Nearly two-thirds of this demand is for additional urban dwellings. This amounts to a projected demand for an additional 9,700 urban dwellings, or 11,200 with a 15% margin applied.

Projected urban dwelling demand growth continues to be spread across the main urban centres of the district. A lesser share (28%) of the urban dwelling demand growth (than the medium-term) is projected to occur within the northern part of the district in Pōkeno and Tuakau. This amounts to an additional 1,900 urban dwellings within the northern part of the district (+2,200 urban dwellings with a margin).

Nearly half (46%) of the dwelling demand growth is projected to occur across the mid parts of the district. Within this, an increasing share of growth is projected to occur within Te Kauwhata and Taupiri, and a decreasing share in Ngāruawāhia. This amounts to demand for an additional 4,400 urban dwellings across the long-term (+5,100 urban dwellings with a margin). If the dwelling demand growth is realised, then the urban size of Te Kauwhata would be over double its current size.

Nearly one-fifth of the urban dwelling demand growth is projected to occur within Raglan over the long-term. The urban dwelling demand is projected to nearly double (+93%). This amounts to demand for an additional 1,700 urban dwellings (or 2,000 urban dwellings with a margin).

3.3.5 Dwelling Demand by Dwelling Type

The projected urban demand by dwelling type (detached and attached dwellings[18]) for Waikato District is shown in Figure 3-2 and Figure 3-3. Figure 3-2 projects the demand under the base case scenario where only a minor preference shift toward attached dwellings occurs through time as a function of projected changes in the underlying household composition. Figure 3-3 projects the demand under a preference shift scenario where a gradual shift in household preference towards attached dwellings is modelled through time. This reflects the gradual shift in preference toward higher density dwelling types that typically occur gradually through time in growing urban economies.

The scenarios provide a range of outputs to capture the potential dwelling preference outcomes through time. While past patterns of development across Waikato District have been characterised by standalone dwellings on full sites, future zone changes together with greater rates of urbanisation may provide for opportunities for future intensification with more intensive dwelling types.

A shift to higher density dwellings reflects the trade-off's that households make between location, space and price. Higher density dwellings are often located in areas of higher amenity, with higher land costs (on a per m^2 basis) associated with the location. These gradual shifts in dwelling typologies are reflected in the building consent data and urban dwelling development patterns of many urban economies, including Hamilton City, through time.

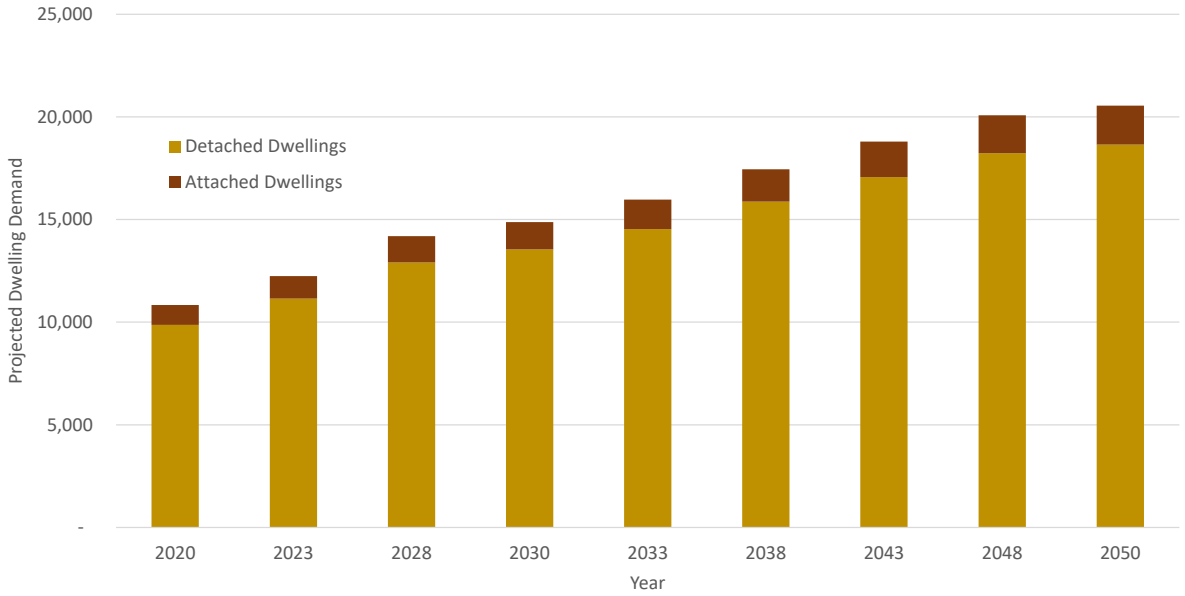
Currently very high shares (around 95%) of the demand is for detached dwellings. Under the base case scenario around 90% of the future additional dwelling demand is for detached dwellings. This amounts to around 8,800 additional detached dwellings (excluding a margin) out to 2050. There is a smaller demand (+800 dwellings) for attached dwellings.

The projected patterns of demand by dwelling type differ under a preference shift scenario. A small modelled preference shift[19] toward attached dwellings shows demand for attached dwellings increasing to around an additional 1,200 dwellings by 2050 (with demand for an additional 8,300 detached dwellings). This would result in a small shift in the overall share of dwellings as detached dwellings to 91% by 2050.

[18] Detached dwellings refer to standalone dwellings on individual sites. Attached dwellings refer to dwellings that are attached and share a site (with minimum site requirements per dwelling). Dwellings could be attached through a shared dwelling/garage wall, or attached vertically as apartments. Attached dwellings range from duplex pairs up to vertical apartment buildings. Different attached dwelling types (e.g. duplex pairs vs. walk-up apartments vs. higher apartment buildings) are modelled in the capacity section and reflect the planning parameters and housing market situation within each area.

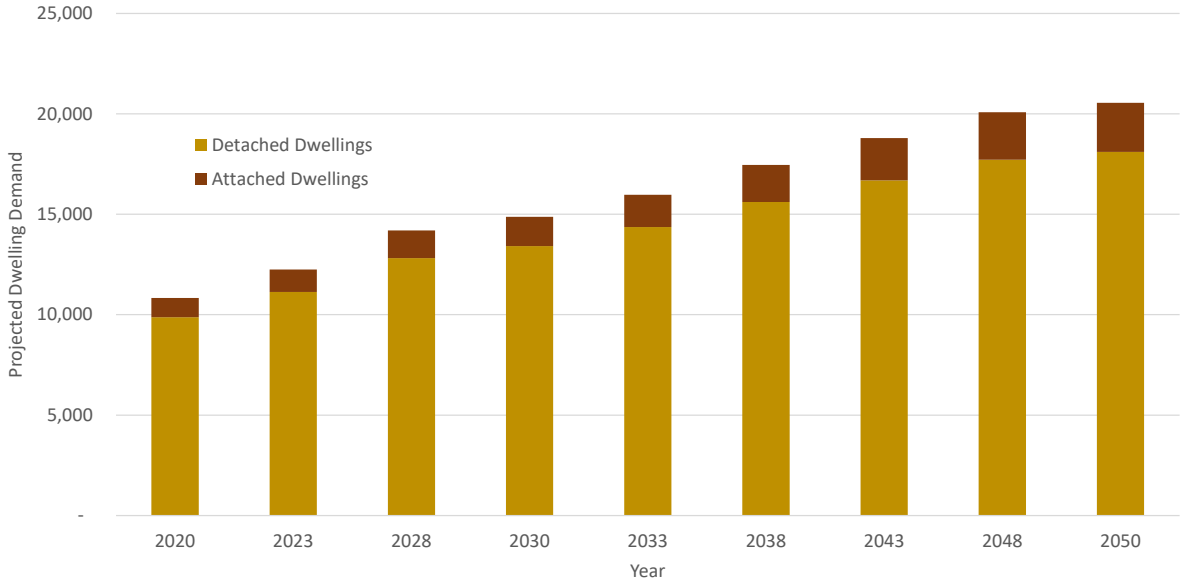
[19] This modelled scenario includes a 1.0% p.a. preference shift towards attached dwellings.

Figure 3-2: Demand by Dwelling Type in Urban Waikato District: 2020-2050 – Base Case Scenario



Source: M.E Dwelling Demand Model, 2021.

Figure 3-3: Demand by Dwelling Type in Urban Waikato District: 2020-2050 – Preference Shift Scenario



Source: M.E Dwelling Demand Model, 2021.

The projected urban demand by dwelling type is disaggregated by tenure for Waikato District in Table 3-4 and Table 3-5. Table 3-4 shows the demand under the base case scenario where only a minor preference shift toward attached dwellings occurs through time as a function of projected changes in the underlying household composition. Table 3-5 shows the preference shift scenario where a gradual change in preference toward attached dwellings is modelled.

The tables show that currently nearly three-quarters (71%) of urban Waikato's dwelling stock is owned (including within a trust). Dwelling ownership rates are substantially higher for detached dwellings where around 72% of dwellings are owned, compared to only 40% of attached dwellings.

The modelling shows projects forward the current dwelling ownership structures by dwelling type as a function of the underlying projected household composition. It is beyond the scope of the assessment to model changes in ownership patterns by dwelling typology with preference shifts through time. It shows similar future levels of dwelling ownership projected for 2050 under both scenarios.

Table 3-4: Urban Demand by Dwelling Type and Tenure in Waikato District: 2020-2050 – Base Case Scenario

Dwelling Tenure : NIDEA Future	2020			2050			2020-50		
	Detached	Attached	Total	Detached	Attached	Total	Detached	Attached	Total
				Trend toward Attached:		*0.1%pa*			
Owned with mortgage	3,400	80	**3,500**	5,800	200	**6,000**	2,400	100	**2,600**
Owned without mortgage	2,500	100	**2,600**	5,300	400	**5,600**	2,800	200	**3,000**
Owned by Trust	1,500	40	**1,600**	2,800	100	**3,000**	1,300	80	**1,400**
Total Owned or in Trust	**7,400**	**200**	**7,700**	**13,900**	**700**	**14,600**	**6,500**	**500**	**7,000**
Not Owned	2,900	300	**3,200**	5,100	600	**5,900**	2,300	400	**2,800**
Total Housing	**10,300**	**500**	**10,800**	**19,000**	**1,300**	**20,600**	**8,800**	**800**	**9,700**
Shares %									
Owned with mortgage	31%	1%	**32%**	28%	1%	**29%**	-3.1%	0.3%	**-2.8%**
Owned without mortgage	23%	1%	**24%**	26%	2%	**27%**	2.5%	0.7%	**3.1%**
Owned by Trust	14%	0%	**14%**	14%	1%	**14%**	-0.3%	0.2%	**0.0%**
Total Owned or in Trust	**68%**	**2%**	**71%**	**68%**	**3%**	**71%**	**-0.9%**	**1.2%**	**0.4%**
Not Owned	26%	2%	**29%**	25%	3%	**29%**	-1.4%	0.7%	**-0.4%**
Total Housing	**95%**	**5%**	**100%**	**93%**	**6%**	**100%**	**-2.3%**	**1.9%**	**0.0%**

Source: ME Housing Demand Model 2021.

Table 3-5: Urban Demand by Dwelling Type and Tenure in Waikato District: 2020-2050 – Preference Shift Scenario

Dwelling Tenure : NIDEA Future	2020			2050			2020-50		
	Detached	Attached	Total	Detached	Attached	Total	Detached	Attached	Total
				Trend toward Attached:		*1%pa*			
Owned with mortgage	3,400	80	**3,500**	5,700	300	**6,000**	2,300	200	**2,500**
Owned without mortgage	2,500	100	**2,600**	5,100	500	**5,600**	2,600	400	**3,000**
Owned by Trust	1,500	40	**1,600**	2,700	200	**2,900**	1,200	100	**1,400**
Total Owned or in Trust	**7,400**	**200**	**7,700**	**13,600**	**900**	**14,500**	**6,100**	**700**	**6,800**
Not Owned	2,900	300	**3,200**	5,000	800	**6,000**	2,200	600	**2,800**
Total Housing	**10,300**	**500**	**10,800**	**18,600**	**1,700**	**20,500**	**8,300**	**1,200**	**9,700**
Shares %									
Owned with mortgage	31%	1%	**32%**	28%	1%	**29%**	-3.7%	0.6%	**-3.0%**
Owned without mortgage	23%	1%	**24%**	25%	2%	**27%**	1.9%	1.2%	**3.1%**
Owned by Trust	14%	0%	**14%**	13%	1%	**14%**	-0.6%	0.4%	**-0.1%**
Total Owned or in Trust	**68%**	**2%**	**71%**	**66%**	**4%**	**71%**	**-2.3%**	**2.2%**	**0.0%**
Not Owned	26%	2%	**29%**	25%	4%	**29%**	-1.9%	1.6%	**0.0%**
Total Housing	**95%**	**5%**	**100%**	**91%**	**8%**	**100%**	**-4.2%**	**3.9%**	**0.0%**

Source: ME Housing Demand Model 2021.

The current composition of demand for dwellings by tenure and dwelling type is shown in Table 3-6. The top third of the table shows the current distribution of households by income, dwelling type and tenure. The middle third shows the percentage distribution across each category. The lower third of the table

shows the relative concentration within each ownership/dwelling typology combination across the different household income groups. Values greater than 1 indicate a higher share of households within that group fall into a particular income category than dwellings overall.

The table shows that owned dwellings tend to be occupied by higher shares of higher income households, and dwellings that are not owned, occupied by higher shares of lower income households. It also shows that the household income profile of detached dwellings is higher than that of attached dwellings.

Table 3-6: Urban Demand by Household Income, Dwelling Type and Tenure in Waikato District: 2020

Household Income	Owned or Trust			Not Owned[1]			Total		
	Detached	Attached	Total	Detached	Attached	Total	Detached	Attached	Total
Under $30,000	900	60	**900**	800	100	**900**	1,600	200	**1,800**
$30-50,000	900	40	**1,000**	500	60	**600**	1,500	100	**1,600**
$50-70,000	900	20	**900**	500	30	**500**	1,300	60	**1,400**
$70-100,000	1,200	20	**1,300**	500	40	**500**	1,700	60	**1,800**
$100-120,000	900	30	**900**	200	20	**200**	1,100	50	**1,200**
$120-150,000	800	30	**800**	200	10	**200**	1,000	40	**1,000**
$150,000+	1,800	50	**1,800**	200	30	**300**	2,000	80	**2,100**
Total Households	**7,400**	**300**	**7,700**	**2,900**	**300**	**3,200**	**10,300**	**600**	**10,800**
Under $30,000	8%	1%	**8%**	7%	1%	**8%**	15%	2%	**16%**
$30-50,000	9%	0%	**9%**	5%	1%	**5%**	13%	1%	**14%**
$50-70,000	8%	0%	**8%**	4%	0%	**4%**	12%	1%	**13%**
$70-100,000	12%	0%	**12%**	4%	0%	**5%**	16%	1%	**16%**
$100-120,000	8%	0%	**9%**	2%	0%	**2%**	10%	0%	**11%**
$120-150,000	7%	0%	**8%**	2%	0%	**2%**	9%	0%	**9%**
$150,000+	17%	0%	**17%**	2%	0%	**2%**	19%	1%	**20%**
Total Households	**68%**	**2%**	**71%**	**26%**	**3%**	**29%**	**95%**	**5%**	**100%**
Relative Concentration									
Under $30,000	0.70	**1.46**	0.72	**1.61**	**2.29**	**1.68**	0.95	**1.91**	
$30-50,000	0.87	**1.12**	0.88	**1.30**	**1.30**	**1.30**	**0.99**	**1.22**	
$50-70,000	0.93	0.74	0.92	**1.22**	0.89	**1.19**	**1.01**	0.82	
$70-100,000	**1.02**	0.56	**1.01**	**1.01**	0.72	**0.98**	**1.02**	0.65	
$100-120,000	**1.13**	**1.02**	**1.12**	0.71	0.63	0.70	**1.01**	0.81	
$120-150,000	**1.15**	**1.07**	**1.15**	0.65	0.46	0.63	**1.01**	0.74	
$150,000+	**1.24**	**1.02**	**1.23**	0.43	0.47	0.43	**1.01**	0.72	

1 Not Owned includes NEI

Source: ME Housing Demand Model 2021.

3.4 Hamilton City Dwelling Demand

Hamilton City has an estimated demand for 60,800 dwellings in 2020. Hamilton City Council's growth projections[20] indicate the city is projected to experience strong growth in dwelling demand. M.E have been requested by Future Proof to use the High Series household projections as an agreed input to the HBA.

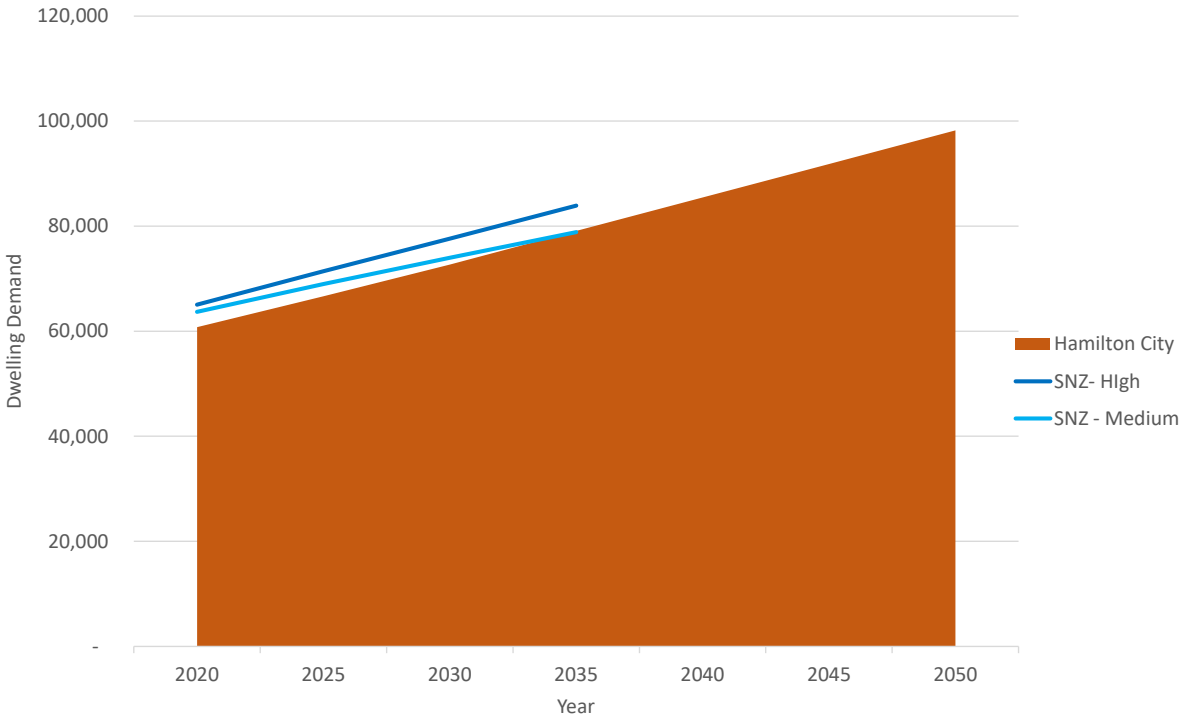
The projected growth in dwelling demand within the city is shown in Figure 3-4. The total demand for dwellings in Hamilton City is projected to increase by nearly two-thirds (62%) over the long-term (2020-2050). This equates to demand for an additional 37,500 over dwellings in the long-term.

[20] As prepared by the University of Waikato and supplied by Future Proof Partners at April 2021.

Hamilton City is projected to grow faster than the Waikato and Waipā districts overall, across the short, medium and long-term. It is projected to account for over 60 per cent (61%) of the total FPP long-term household growth. However, the main urban areas within the Waikato and Waipā districts significantly exceed the projected growth rates for Hamilton City.

Hamilton City's projected growth is between the growth in the Statistics New Zealand medium and high series projections. The Future Proof 2035 total estimated household base of Hamilton City, at 70,100 is slightly above the Statistics New Zealand medium projection series estimate of 78,900 households. The projected total size is closer to the medium series projection (despite higher growth) as the Statistics New Zealand projections occur off a 2020 estimated higher base (63,700 to 65,000 households, compared to 60,800 households in the Future Proof projections.

Figure 3-4: Hamilton City Projected Dwelling Demand, 2020-2050



Source: M.E 2021 NPS-UD Housing Demand Assessment.

The total dwelling demand by dwelling value band for Hamilton City is shown in Table 3-7 for the short, medium and long-term. The overall urban scale of Hamilton City means that a relatively large share of the total urban area of Hamilton is accessible (via a short drive) from most locations within the urban area. This means that demand for dwellings in Hamilton is likely to arise at the city level, with a range of (appropriate types of) locations within the urban area to meet demand. It is appropriate for a modelling approach at the urban scale to allow the market sufficient flexibility for demand (within each part of the market) to be met across a range of similar types of locations across the urban area[21]. As such, demand by value band has

[21] i.e. the model quantifies demand with each sub-market (broadly, by value band), then allows households the flexibility to choose different locations across the urban area that correspond with their relative market position.

been provided for Hamilton City as these help to inform the type of location within which demand could be met across the urban area.

The table shows the demand by broad dwelling value band under each of the modelled scenarios (Current Prices Scenario, Growth Scenario 1 and Growth Scenario 2). The first part of the table provides an estimate of the projected total dwelling demand, including for existing households at each assessment point in time. The middle section of the table shows the net change in dwelling demand in the short, medium and long-term, calculated from the total projected demand in the first part of the table. The final section of the table shows the net change in dwelling demand with the relevant (15%-20%) margin[22] added. The following sub-sections summarise the key aspects of the dwelling demand projections.

Table 3-7: Hamilton City Projected Urban Dwelling Demand: 2020-2050

Growth Scenario and Dwelling Value Band	Dwelling Demand				Change in Demand			Change in Demand + Margin		
	2020	2023	2030	2050	Short-Term: 2020-2023	Medium-Term: 2020-2030	Long-Term: 2020-2050	Short-Term: 2020-2023 (20% margin)	Medium-Term: 2020-2030 (20% margin)	Long-Term: 2020-2050 (15% margin)
Current Prices Scenario										
Up to $500k	19,300	21,300	25,700	39,000	2,000	6,500	19,700	2,400	7,800	22,700
$500k to $1m	38,600	40,000	43,700	55,100	1,400	5,000	16,500	1,600	6,100	18,900
$1m+	2,800	3,000	3,300	4,200	200	400	1,300	200	500	1,500
TOTAL	**60,800**	**64,300**	**72,700**	**98,300**	**3,500**	**11,900**	**37,500**	**4,200**	**14,300**	**43,100**
Growth Scenario 1										
Up to $500k	19,300	17,800	14,600	9,900	-1,500	-4,600	-9,400	-1,800	-5,600	-10,800
$500k to $1m	38,600	43,000	51,600	60,000	4,400	13,000	21,400	5,300	15,600	24,600
$1m+	2,800	3,500	6,400	28,300	600	3,600	25,500	700	4,300	29,300
TOTAL	**60,800**	**64,300**	**72,700**	**98,300**	**3,500**	**11,900**	**37,500**	**4,200**	**14,300**	**43,100**
Growth Scenario 2										
Up to $500k	19,300	17,600	11,100	3,300	-1,700	-8,200	-16,000	-2,100	-9,800	-18,300
$500k to $1m	38,600	42,800	52,300	40,400	4,200	13,600	1,800	5,100	16,400	2,100
$1m+	2,800	3,900	9,400	54,500	1,000	6,500	51,600	1,200	7,800	59,400
TOTAL	**60,800**	**64,300**	**72,700**	**98,300**	**3,500**	**11,900**	**37,500**	**4,200**	**14,300**	**43,100**

Source: M.E 2021 NPS-UD Housing Demand Assessment.

Household composition and income are key household characteristics that have an important effect on the value and types of dwellings demanded. The current (2020) and projected future (2050) household characteristics are shown in Table 3-8 and Table 3-9. The top third of the table shows the current distribution of households by household type and income. The middle third shows the percentage distribution across each category. The lower third of the table shows the relative concentration within each income band across the different household composition groups. Values greater than 1 indicate a higher share of households within that group fall into a particular income category than dwellings overall.

The tables show that around half (49%) of Hamilton's households are 1-2 person households. This is projected to increase to just over half (53%) of household by 2050, accounting for 59% of the growth in households. A share of this will occur as retirement demand, with existing households decreasing in size as children leave home and form new households.

[22] The NPS-UD requires a margin of 20% to be applied to the net increase in dwelling demand in the short and medium-term, and a 15% margin applied to the net increase in demand in the long-term. Capacity is compared to the dwelling demand plus the margin during the sufficiency assessment.

Higher relative proportions of the lower income households are smaller (1 person) households or single parent families. Larger family households and couples tend to be over-represented in the mid to higher household income bands.

Table 3-8: Hamilton City Households by Household Composition and Income, 2020

Household Type	Household Income							
	<$30,000	$30-50,000	$50-70,000	$70-100,000	$100-120,000	$120-150,000	$150,000+	Total
One Person household	7,100	2,600	1,900	1,300	300	80	200	**13,600**
Couple household	1,000	2,700	2,300	2,900	2,200	1,900	2,900	**16,000**
2 Parents 1-2 children	500	900	1,500	2,600	2,000	2,100	3,200	**12,700**
2 Parents 3+ children	200	300	400	700	500	500	900	**3,500**
1 Parent Family	2,600	2,100	1,700	1,500	700	200	300	**9,100**
Multi-family household	60	80	200	300	300	300	900	**2,100**
Non-family household	500	600	600	600	400	300	500	**3,600**
Total Households	**12,100**	**9,200**	**8,600**	**10,000**	**6,500**	**5,500**	**8,900**	**60,800**
One Person household	11.7%	4.3%	3.2%	2.2%	0.6%	0.1%	0.3%	**22.4%**
Couple household	1.7%	4.5%	3.8%	4.8%	3.7%	3.2%	4.7%	**26.4%**
2 Parents 1-2 children	0.9%	1.4%	2.4%	4.2%	3.3%	3.4%	5.3%	**20.9%**
2 Parents 3+ children	0.3%	0.4%	0.7%	1.1%	0.9%	0.8%	1.5%	**5.8%**
1 Parent Family	4.4%	3.4%	2.7%	2.5%	1.2%	0.4%	0.5%	**15.1%**
Multi-family household	0.1%	0.1%	0.3%	0.5%	0.5%	0.6%	1.5%	**3.5%**
Non-family household	0.9%	1.0%	1.1%	1.1%	0.7%	0.5%	0.8%	**5.9%**
Total Households	**19.8%**	**15.1%**	**14.2%**	**16.4%**	**10.7%**	**9.0%**	**14.6%**	**100.0%**
Relative Concentration								
One Person household	**2.64**	**1.27**	**0.99**	0.59	0.23	0.06	0.11	
Couple household	0.32	**1.12**	**1.02**	**1.11**	**1.30**	**1.34**	**1.23**	
2 Parents 1-2 children	0.21	0.44	0.82	**1.23**	**1.48**	**1.79**	**1.73**	
2 Parents 3+ children	0.22	0.51	0.85	**1.20**	**1.41**	**1.59**	**1.81**	
1 Parent Family	**1.46**	**1.50**	**1.28**	**1.01**	0.73	0.29	0.22	
Multi-family household	0.14	0.24	0.59	0.86	**1.19**	**1.80**	**2.88**	
Non-family household	0.74	**1.08**	**1.25**	**1.08**	**1.08**	**0.99**	0.88	

Source: ME Housing Demand Model 2021.

Table 3-9: Hamilton City Households by Household Composition and Income, 2050

Household Type	Household Income							
	<$30,000	$30-50,000	$50-70,000	$70-100,000	$100-120,000	$120-150,000	$150,000+	Total
One Person household	13,900	4,500	3,000	2,000	500	100	300	**24,400**
Couple household	1,800	5,700	4,200	4,800	3,500	3,000	4,400	**27,400**
2 Parents 1-2 children	700	1,300	2,200	3,900	3,000	3,100	4,900	**19,100**
2 Parents 3+ children	200	400	600	1,000	800	700	1,400	**5,100**
1 Parent Family	3,800	3,200	2,600	2,300	1,100	400	400	**13,800**
Multi-family household	90	100	300	500	400	500	1,400	**3,300**
Non-family household	700	900	900	900	600	400	600	**5,100**
Total Households	**21,300**	**16,100**	**13,800**	**15,400**	**9,900**	**8,300**	**13,500**	**98,300**
One Person household	14.2%	4.6%	3.0%	2.1%	0.5%	0.1%	0.3%	**24.8%**
Couple household	1.9%	5.8%	4.3%	4.8%	3.5%	3.0%	4.5%	**27.9%**
2 Parents 1-2 children	0.8%	1.3%	2.2%	3.9%	3.0%	3.2%	5.0%	**19.4%**
2 Parents 3+ children	0.2%	0.4%	0.6%	1.0%	0.8%	0.8%	1.4%	**5.2%**
1 Parent Family	3.8%	3.3%	2.6%	2.4%	1.1%	0.4%	0.5%	**14.1%**
Multi-family household	0.1%	0.1%	0.3%	0.5%	0.4%	0.5%	1.4%	**3.3%**
Non-family household	0.7%	0.9%	1.0%	0.9%	0.6%	0.4%	0.6%	**5.2%**
Total Households	**21.7%**	**16.4%**	**14.0%**	**15.7%**	**10.0%**	**8.4%**	**13.8%**	**100.0%**
Relative Concentration								
One Person household	**2.63**	**1.12**	0.86	0.54	0.22	0.06	0.10	
Couple household	0.31	**1.27**	**1.10**	**1.11**	**1.26**	**1.28**	**1.17**	
2 Parents 1-2 children	0.18	0.41	0.82	**1.29**	**1.55**	**1.94**	**1.87**	
2 Parents 3+ children	0.20	0.46	0.85	**1.24**	**1.49**	**1.73**	**1.98**	
1 Parent Family	**1.25**	**1.42**	**1.33**	**1.08**	0.80	0.32	0.24	
Multi-family household	0.13	0.21	0.61	0.90	**1.28**	**1.92**	**3.06**	
Non-family household	0.65	**1.08**	**1.32**	**1.13**	**1.14**	**0.99**	0.88	

Source: ME Housing Demand Model 2021.

3.4.1 Current Dwelling Demand: 2020

There is currently demand for an estimated 60,800 urban dwellings[23] across Hamilton City's urban area. Hamilton City is the main urban area within the Future Proof area. It accounts for nearly three-quarters (71%) of the current demand for urban dwellings across the Future Proof area, and over half (56%) of the total demand for dwellings.

Around two-thirds of the demand (64%) is for dwellings in the value bands of $500k to $1m. Around one-third (32%) of Hamilton's current dwelling demand is for dwellings in the lower value bands up to $500k. A large share of these dwellings are older housing stock and located within multi-unit developments. The remaining 5% of demand is for dwellings in the higher value bands over $1m.

3.4.2 Short-Term Dwelling Demand: 2020-2023

There is a projected net increase in demand for an additional 3,500 urban dwellings within Hamilton City in the short-term to 2023, bringing the total dwelling demand to 64,300 dwellings. When a 20% margin is applied, the net increase becomes 4,200 dwellings.

[23] It has been assumed that all demand within Hamilton represents urban dwelling demand. Although there are a minor share of lifestyle properties, the allocation as urban demand will contribute toward a conservative sufficiency assessment.

Hamilton City is projected to account for over half (59%) of the Future Proof areas short-term urban dwelling demand. However, the net increase equates to an annual growth rate of 1.9%, which is below the urban dwelling demand growth rate of 2.3% p.a. for the FPP area overall. This is projected to result in a slight decrease in Hamilton's share of the FPPs urban dwelling demand from 71% to 70% in the short-term. Urban growth in the rest of the FPP area is projected to be higher due to the relatively fast urban growth of the main urban settlements, particularly within the Waikato District.

Under the current prices scenario, a high share of the increase in dwelling demand occurs within the lower dwelling value bands up to $500k.

3.4.3 Medium-Term Dwelling Demand: 2020-2030

Hamilton City has a projected net increase for an additional 11,900 urban dwellings across the medium-term (2020-2030). This equates to an annual average increase of 1.8%, which is slightly below the FPP area urban dwelling growth rate of 2.0%. When a margin is applied, the net increase becomes an additional 14,300 urban dwellings.

The projected urban dwelling demand growth within Hamilton City accounts for nearly two-thirds (63%) of the FPPs urban dwelling demand growth overall. However, faster urbanisation around the FPP district's other urban areas means that Hamilton's share of total urban dwelling demand is projected to decrease slightly to 69% (from 71% currently).

3.4.4 Long-Term Dwelling Demand: 2020-2050

Over the long-term, Hamilton's urban dwelling demand is projected to increase by nearly two-thirds (+62%). There is a projected net increase for an additional 37,500 urban dwellings, or 43,100 dwellings when a margin is applied. This brings the total urban dwelling demand to 98,300 dwellings in the long-term in Hamilton City.

Hamilton City is projected to account for two-thirds of the FPP area growth in urban dwelling demand over the long-term. A slow-down in urban growth in the district's in the long-term means that Hamilton's share of the FPP area urban dwelling demand remains at 69% in the long-term (from 69% in the medium-term, but down slightly from 71% currently).

Under the current prices scenario, dwelling demand remains distributed across the mid and lower value bands. However, under the growth scenarios, growth in household incomes means that higher shares of the total long-term demand are projected to occur within the mid to higher dwelling value bands.

3.4.5 Dwelling Demand by Dwelling Type

The projected demand by dwelling type (detached and attached dwellings) for Hamilton City is shown in Figure 3-5 and Figure 3-6. Figure 3-5 projects the demand under the base case scenario where only a minor preference shift toward attached dwellings occurs through time as a function of projected changes in the underlying household composition. Figure 3-6 instead projects the demand under a preference shift scenario where a gradual shift in household preference towards attached dwellings is modelled through time. This reflects the gradual shift in preference toward higher density dwelling types that typically occur

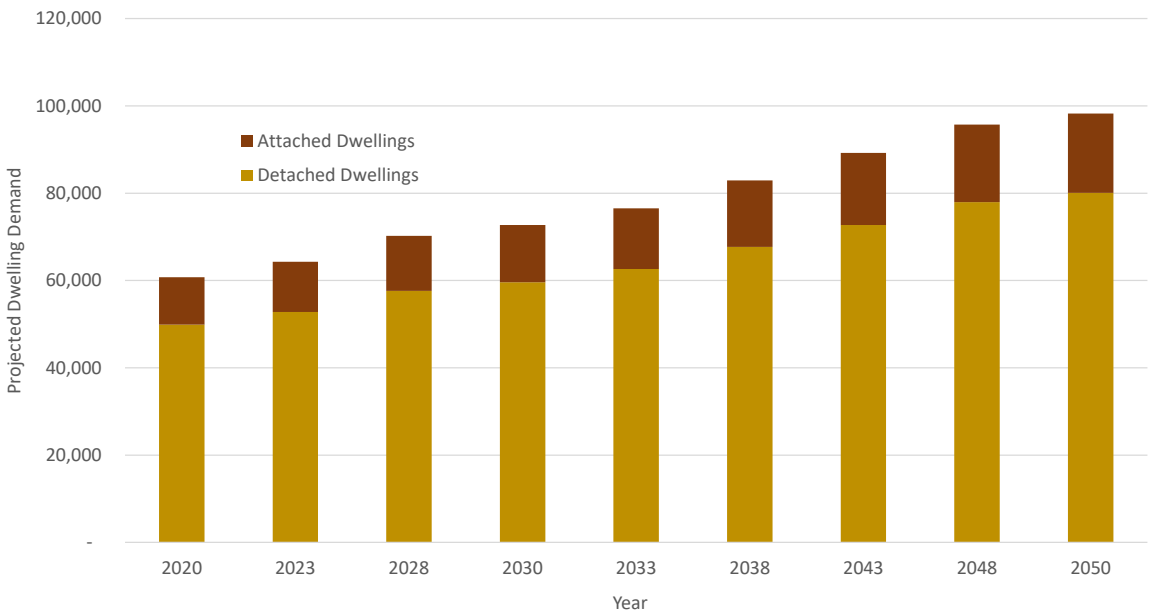
gradually through time in growing urban economies. The scenarios provide a range of outputs to capture the potential dwelling preference outcomes through time.

A shift to higher density dwellings reflects the trade-offs that households make between location, space and price. Higher density dwellings are often located in areas of higher amenity, with higher land costs (on a per m^2 basis) associated with the location. These gradual shifts in dwelling typologies are reflected in Hamilton building consent data patterns through time, as well as the development patterns across other growing urban economies.

Currently around four-fifths (83%) of the demand is for detached dwellings. Under the base case scenario a similar share of demand for detached dwellings is projected forward, equating to a demand for around 30,200 additional detached dwellings out to 2050 (excluding a margin). Correspondingly there is a projected demand for an additional 7,300 attached dwellings.

The projected patterns of demand by dwelling type differ under a preference shift scenario. If a moderate to high preference shift[24] toward attached dwellings were to occur where around half of the future demand was for attached dwellings, then this would amount to demand for around an additional 19,300 detached dwellings and around 18,100 additional attached dwellings. The total dwelling stock share of detached dwellings would decrease from around 83% to around 71% by 2050.

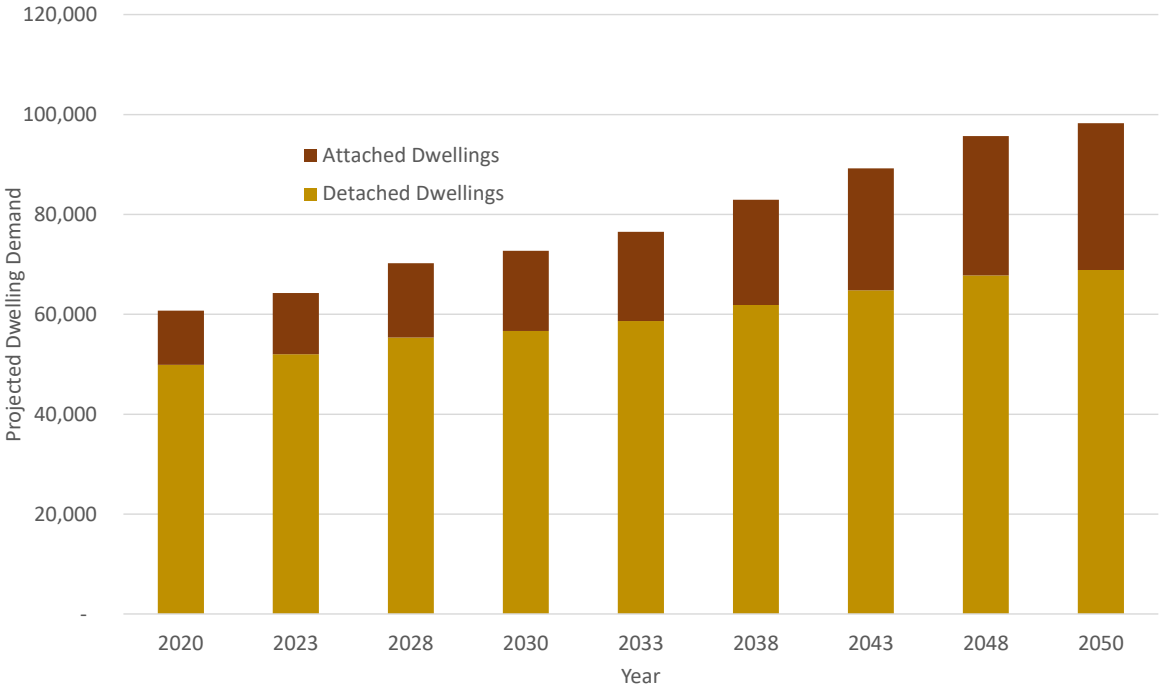
Figure 3-5: Demand by Dwelling Type in Hamilton City: 2020-2050 – Base Case Scenario



Source: M.E Dwelling Demand Model, 2021.

[24] This modelled scenario includes a 1.7% p.a. preference shift towards attached dwellings.

Figure 3-6: Demand by Dwelling Type in Hamilton City: 2020-2050 – Preference Shift Scenario



Source: M.E Dwelling Demand Model, 2021.

The projected demand by dwelling type is disaggregated by tenure for Hamilton City in Table 3-10 and Table 3-11. Table 3-10 shows the demand under the base case scenario where only a minor preference shift toward attached dwellings occurs through time as a function of projected changes in the underlying household composition. Table 3-11 shows the preference shift scenario where a gradual change in preference toward attached dwellings is modelled.

The tables show that currently over half (56%) of Hamilton's dwelling stock is owned (including within a trust). Dwelling ownership rates are substantially higher for detached dwellings where around 61% of dwellings are owned, compared to only 32% of attached dwellings.

The modelling shows projects forward the current dwelling ownership structures by dwelling type as a function of the underlying projected household composition. It is beyond the scope of the assessment to model changes in ownership patterns by dwelling typology with preference shifts through time. As such, it shows a slight increase in dwelling ownership under the base case scenario (58%) projected for 2050. In comparison, the preference shift scenario shows a slight overall decrease to 55%. If further modelling on the changes in ownership patterns were undertaken, then the modelling may show changes in dwelling ownership rates as attached dwellings are often cheaper.

Table 3-10: Demand by Dwelling Type and Tenure in Hamilton City: 2020-2050 – Base Case Scenario

Dwelling Tenure : NIDEA Future	2020			2050			2020-50		
	Detached	Attached	Total	Detached	Attached	Total	Detached	Attached	Total
				Trend toward Attached:		*0.1%pa*			
Owned with mortgage	14,700	1,000	**15,600**	22,400	1,600	**24,000**	7,800	700	**8,400**
Owned without mortgage	10,400	1,700	**12,100**	19,100	3,400	**22,500**	8,700	1,800	**10,400**
Owned by Trust	5,600	600	**6,200**	9,500	1,100	**10,700**	3,900	500	**4,500**
Total Owned or in Trust	**30,700**	**3,200**	**33,900**	**51,000**	**6,200**	**57,200**	**20,400**	**3,000**	**23,400**
Not Owned	20,000	6,800	**26,900**	29,900	11,200	**41,200**	9,900	4,300	**14,300**
Total Housing	**50,700**	**10,000**	**60,800**	**80,900**	**17,300**	**98,400**	**30,200**	**7,300**	**37,600**
Shares %									
Owned with mortgage	24%	2%	**26%**	23%	2%	**24%**	-1.4%	0.1%	**-1.3%**
Owned without mortgage	17%	3%	**20%**	19%	3%	**23%**	2.3%	0.8%	**3.0%**
Owned by Trust	9%	1%	**10%**	10%	1%	**11%**	0.5%	0.2%	**0.7%**
Total Owned or in Trust	**50%**	**5%**	**56%**	**52%**	**6%**	**58%**	**1.4%**	**1.0%**	**2.4%**
Not Owned	33%	11%	**44%**	30%	11%	**42%**	-2.6%	0.1%	**-2.4%**
Total Housing	**83%**	**16%**	**100%**	**82%**	**18%**	**100%**	**-1.2%**	**1.1%**	**0.0%**

Source: ME Housing Demand Model 2021.

Table 3-11: Demand by Dwelling Type and Tenure in Hamilton City: 2020-2050 – Preference Shift Scenario

Dwelling Tenure : NIDEA Future	2020			2050			2020-50		
	Detached	Attached	Total	Detached	Attached	Total	Detached	Attached	Total
				Trend toward Attached:		*1.7%pa*			
Owned with mortgage	14,700	1,000	**15,600**	19,400	2,600	**22,000**	4,700	1,700	**6,400**
Owned without mortgage	10,400	1,700	**12,100**	16,500	5,600	**22,100**	6,100	3,900	**10,000**
Owned by Trust	5,600	600	**6,200**	8,300	1,800	**10,100**	2,700	1,300	**3,900**
Total Owned or in Trust	**30,700**	**3,200**	**33,900**	**44,200**	**10,000**	**54,200**	**13,500**	**6,800**	**20,300**
Not Owned	20,000	6,800	**26,900**	25,900	18,200	**44,100**	5,800	11,300	**17,200**
Total Housing	**50,700**	**10,000**	**60,800**	**70,000**	**28,200**	**98,300**	**19,300**	**18,100**	**37,500**
Shares %									
Owned with mortgage	24%	2%	**26%**	20%	3%	**22%**	-4.4%	1.1%	**-3.3%**
Owned without mortgage	17%	3%	**20%**	17%	6%	**22%**	-0.3%	2.9%	**2.6%**
Owned by Trust	9%	1%	**10%**	8%	2%	**10%**	-0.8%	0.9%	**0.1%**
Total Owned or in Trust	**50%**	**5%**	**56%**	**45%**	**10%**	**55%**	**-5.5%**	**4.9%**	**-0.6%**
Not Owned	33%	11%	**44%**	26%	18%	**45%**	-6.6%	7.2%	**0.6%**
Total Housing	**83%**	**16%**	**100%**	**71%**	**29%**	**100%**	**-12.2%**	**12.2%**	**0.0%**

Source: ME Housing Demand Model 2021.

The current composition of demand for dwellings by tenure and dwelling type is shown in Table 3-12. The top third of the table shows the current distribution of households by income, dwelling type and tenure. The middle third shows the percentage distribution across each category. The lower third of the table shows the relative concentration within each ownership/dwelling typology combination across the different household income groups. Values greater than 1 indicate a higher share of households within that group fall into a particular income category than dwellings overall.

The table shows that owned dwellings tend to be occupied by higher shares of higher income households, and dwellings that are not owned, occupied by higher shares of lower income households. It also shows that the household income profile of detached dwellings is higher than that of attached dwellings.

Table 3-12: Demand by Household Income, Dwelling Type and Tenure in Hamilton City: 2020

Household Income	Owned or Trust			Not Owned[1]			Total		
	Detached	Attached	Total	Detached	Attached	Total	Detached	Attached	Total
Under $30,000	3,600	900	**4,500**	4,900	2,600	**7,500**	8,500	3,500	**12,000**
$30-50,000	3,900	600	**4,500**	3,400	1,300	**4,700**	7,300	1,900	**9,200**
$50-70,000	3,900	400	**4,400**	3,300	1,000	**4,300**	7,200	1,500	**8,600**
$70-100,000	5,200	300	**5,600**	3,500	900	**4,400**	8,700	1,200	**10,000**
$100-120,000	4,100	200	**4,300**	1,800	400	**2,200**	5,900	600	**6,500**
$120-150,000	3,600	200	**3,800**	1,500	300	**1,800**	5,000	500	**5,500**
$150,000+	6,400	400	**6,800**	1,700	400	**2,100**	8,000	800	**8,900**
Total Households	**30,700**	**3,200**	**33,900**	**20,000**	**6,900**	**26,900**	**50,700**	**10,100**	**60,800**
Under $30,000	6%	2%	**7%**	8%	4%	**12%**	14%	6%	**20%**
$30-50,000	6%	1%	**7%**	6%	2%	**8%**	12%	3%	**15%**
$50-70,000	6%	1%	**7%**	5%	2%	**7%**	12%	2%	**14%**
$70-100,000	9%	1%	**9%**	6%	1%	**7%**	14%	2%	**16%**
$100-120,000	7%	0%	**7%**	3%	1%	**4%**	10%	1%	**11%**
$120-150,000	6%	0%	**6%**	2%	0%	**3%**	8%	1%	**9%**
$150,000+	10%	1%	**11%**	3%	1%	**3%**	13%	1%	**15%**
Total Households	**50%**	**5%**	**56%**	**33%**	**11%**	**44%**	**83%**	**17%**	**100%**
Relative Concentration									
Under $30,000	0.59	**1.45**	0.67	**1.25**	**1.89**	**1.41**	0.85	**1.75**	
$30-50,000	0.84	**1.34**	0.88	**1.12**	**1.23**	**1.15**	0.95	**1.26**	
$50-70,000	0.90	0.96	0.91	**1.14**	**1.04**	**1.12**	**1.00**	**1.01**	
$70-100,000	**1.04**	0.66	**1.00**	**1.07**	0.80	**1.00**	**1.05**	0.75	
$100-120,000	**1.24**	0.72	**1.19**	0.84	0.54	0.76	**1.08**	0.59	
$120-150,000	**1.29**	0.61	**1.22**	0.80	0.49	0.72	**1.09**	0.53	
$150,000+	**1.42**	0.90	**1.37**	0.57	0.41	0.53	**1.09**	0.57	

1 Not Owned includes NEI

Source: ME Housing Demand Model 2021.

3.5 Waipā District Dwelling Demand

Waipā District has an estimated demand for 20,900 dwellings in 2020. Waipā District Council's growth projections[25] indicate the district is projected to experience strong growth, particularly in the main urban areas. M.E have been requested by Future Proof to use the High Series household projections as an agreed input to the HBA.

The projected growth in demand within the district is shown in Figure 3-7. Total district demand is projected to increase by nearly half (+45%) over the long-term (2020-2050). This equates to demand for an additional 9,500 dwellings, to reach a total demand for around 30,400 dwellings in the long-term.

The level of urbanisation is likely to gradually increase within the district, with dwelling demand in the urban areas projected to grow at a faster rate than the district overall. Almost all (88%) of the long-term dwelling demand growth is for urban dwellings, amounting to an additional 8,400 dwellings (or 9,600 dwellings with a 15% margin). Within this, almost all of the urban demand growth is projected to occur within the main urban areas. It is concentrated around the main urban centre of Cambridge, which has recent substantive

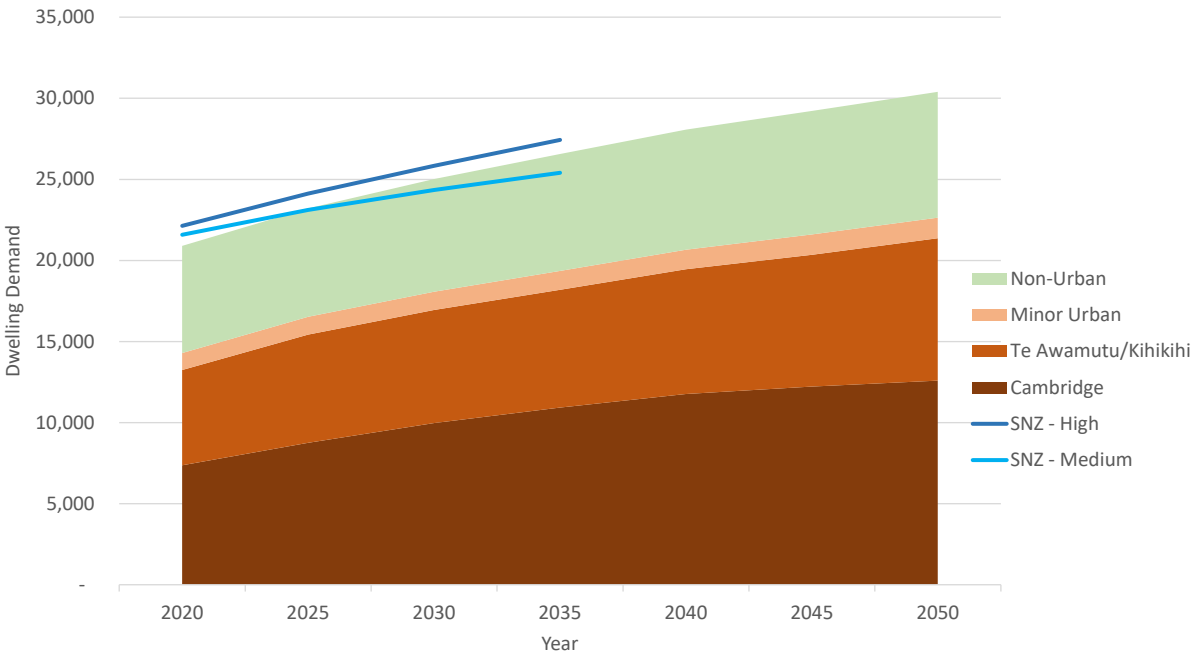
[25] As prepared by the University of Waikato and supplied by Future Proof Partners at April 2021.

additional capacity through the addition of the Plan Change 7 growth cells. Sizeable demand growth also projected for Te Awamutu.

The Waipā District's projected dwelling demand exceeds the Statistics New Zealand medium and high series household projections for the district. The projected dwelling demand reflects the household demand projections supplied by Waipā District Council, which also exceed the Statistics New Zealand projections to the same extent. At the district level, the projection series has an additional 200 to 500 household growth in the short-term, and 400 to 1,400 in the medium-term in comparison to the Statistics New Zealand medium and high series projections.

The total households in the FPP supplied projection series are between the SNZ low and medium series at the start of the projection period. By the end of the projection series (2038), the FPP supplied Waip ā District household projections are between the SNZ medium and high series projections.

Figure 3-7: Waipā District Projected Dwelling Demand, 2020-2050



Source: M.E 2021 NPS-UD Housing Demand Assessment.

Table 3-13 shows the dwelling demand across the district across the short, medium and long-term. It shows the urban component of demand[26] by location across the time periods. The locations include the main urban areas established within the spatial framework, as well as the minor urban areas and settlements. A row for non-urban demand is also included which captures demand for rural and lifestyle dwellings.

[26] Lifestyle dwelling demand surrounding the urban areas is captured in the 'Non-Urban' row of the table.

The first part of the table provides an estimate of the projected total dwelling demand, including for existing households at each assessment point in time. The middle section of the table shows the net change in dwelling demand in the short, medium and long-term, calculated from the total projected demand in the first part of the table. The final section of the table shows the net change in dwelling demand with the relevant (15%-20%) margin[27] added. The following sub-sections summarise the key aspects of the dwelling demand projections.

Table 3-13: Waipā District Projected Urban Dwelling Demand by Location: 2020-2050

	Dwelling Demand				Change in Demand			Change in Demand + Margin		
AREA	2020	2023	2030	2050	Short-Term: 2020-2023	Medium-Term: 2020-2030	Long-Term: 2020-2050	Short-Term: 2020-2023 (20% margin)	Medium-Term: 2020-2030 (20% margin)	Long-Term: 2020-2050 (15% margin)
Main Urban Areas										
Cambridge	7,400	7,900	9,300	12,600	550	1,900	5,200	660	2,300	6,000
Te Awamutu	4,900	5,200	5,700	7,300	310	760	2,400	370	920	2,800
Kihikihi	930	1,100	1,300	1,400	170	330	500	200	400	570
Total Main Urban Areas	*13,200*	*14,300*	*16,300*	*21,400*	*1,000*	*3,000*	*8,100*	*1,200*	*3,600*	*9,400*
Minor Urban Areas/Settlements										
Ohaupo	250	250	260	290	-	10	40	-	10	40
Karapiro	160	150	160	170	-	-	10	-	-	10
Rukuhia	80	80	80	120	-	10	40	-	10	50
Ngahinapouri	80	80	90	100	-	-	10	-	-	20
Pirongia	470	500	540	600	30	70	130	40	80	150
Total Minor Urban Areas/Se	*1,000*	*1,100*	*1,100*	*1,300*	*30*	*90*	*230*	*40*	*100*	*260*
TOTAL URBAN	**14,300**	**15,300**	**17,400**	**22,600**	**1,100**	**3,100**	**8,400**	**1,300**	**3,700**	**9,600**
Non-Urban	6,600	6,700	7,000	7,800	50	350	1,100	60	420	1,300
TOTAL	**20,900**	**22,000**	**24,300**	**30,400**	**1,100**	**3,500**	**9,500**	**1,300**	**4,100**	**10,900**

Source: M.E 2021 NPS-UD Housing Demand Assessment.

Household composition and income are key household characteristics that have an important effect on the value and types of dwellings demanded. The current (2020) and projected future (2050) household characteristics are shown in Table 3-14 and Table 3-15. The top third of the table shows the current distribution of households by household type and income. The middle third shows the percentage distribution across each category. The lower third of the table shows the relative concentration within each income band across the different household composition groups. Values greater than 1 indicate a higher share of households within that group fall into a particular income category than dwellings overall.

The tables show that between half and two-thirds (58%) of Waipā District's urban households are 1-2 person households. This is projected to increase to 63% of household by 2050, accounting for nearly three-quarters 71% of the growth in households. A relatively substantial share of this will occur as retirement demand, with existing households decreasing in size as children leave home and form new households together with new households moving into the district to retire.

Higher relative proportions of the lower income households are smaller (1 person) households or single parent families. Larger family households and couples tend to be over-represented in the mid to higher household income bands.

[27] The NPS-UD requires a margin of 20% to be applied to the net increase in dwelling demand in the short and medium-term, and a 15% margin applied to the net increase in demand in the long-term. Capacity is compared to the dwelling demand plus the margin during the sufficiency assessment.

Table 3-14: Waipā District Urban Households by Household Composition and Income, 2020

Household Type	Household Income							
	<$30,000	$30-50,000	$50-70,000	$70-100,000	$100-120,000	$120-150,000	$150,000+	Total
One Person household	1,800	700	500	300	70	10	30	**3,400**
Couple household	300	900	800	900	700	500	800	**4,900**
2 Parents 1-2 children	40	100	300	600	500	600	900	**3,000**
2 Parents 3+ children	-	40	90	200	100	100	300	**900**
1 Parent Family	400	400	300	200	100	40	70	**1,500**
Multi-family household	-	10	20	40	20	60	200	**300**
Non-family household	30	70	60	70	40	30	40	**300**
Total Households	**2,400**	**2,200**	**2,100**	**2,300**	**1,500**	**1,300**	**2,300**	**14,300**
One Person household	12.4%	4.9%	3.6%	2.1%	0.5%	0.0%	0.2%	**23.7%**
Couple household	1.8%	6.2%	5.4%	6.4%	4.6%	3.8%	5.9%	**34.0%**
2 Parents 1-2 children	0.2%	0.8%	2.3%	4.2%	3.3%	3.9%	6.4%	**21.1%**
2 Parents 3+ children	0.0%	0.3%	0.6%	1.4%	1.0%	0.9%	1.8%	**6.0%**
1 Parent Family	2.5%	2.6%	2.3%	1.7%	0.9%	0.2%	0.5%	**10.7%**
Multi-family household	0.0%	0.1%	0.1%	0.3%	0.2%	0.4%	1.2%	**2.2%**
Non-family household	0.2%	0.5%	0.4%	0.5%	0.3%	0.2%	0.3%	**2.3%**
Total Households	**17.1%**	**15.3%**	**14.8%**	**16.4%**	**10.7%**	**9.4%**	**16.3%**	**100.0%**
Relative Concentration								
One Person household	**3.05**	**1.34**	**1.03**	0.54	0.20	0.02	0.06	
Couple household	0.30	**1.18**	**1.08**	**1.14**	**1.26**	**1.18**	**1.07**	
2 Parents 1-2 children	0.07	0.25	0.73	**1.20**	**1.47**	**1.96**	**1.86**	
2 Parents 3+ children	0.01	0.32	0.69	**1.40**	**1.54**	**1.60**	**1.86**	
1 Parent Family	**1.39**	**1.60**	**1.45**	0.96	0.75	0.24	0.27	
Multi-family household	0.02	0.19	0.37	0.75	0.72	**1.90**	**3.28**	
Non-family household	0.49	**1.39**	**1.25**	**1.24**	**1.09**	0.82	0.76	

Source: ME Housing Demand Model 2021.

Table 3-15: Waipā District Urban Households by Household Composition and Income, 2050

Household Type	Household Income							
	<$30,000	$30-50,000	$50-70,000	$70-100,000	$100-120,000	$120-150,000	$150,000+	Total
One Person household	3,500	1,200	800	400	100	10	50	**6,100**
Couple household	500	1,900	1,400	1,400	900	800	1,200	**8,100**
2 Parents 1-2 children	50	200	500	800	700	800	1,300	**4,200**
2 Parents 3+ children	-	60	100	300	200	200	400	**1,200**
1 Parent Family	500	600	500	300	200	50	90	**2,200**
Multi-family household	-	10	20	50	40	80	200	**400**
Non-family household	30	100	80	80	50	30	50	**400**
Total Households	**4,600**	**4,000**	**3,300**	**3,400**	**2,200**	**1,900**	**3,300**	**22,600**
One Person household	15.7%	5.2%	3.3%	1.9%	0.5%	0.0%	0.2%	**26.8%**
Couple household	2.2%	8.5%	6.2%	6.2%	4.2%	3.4%	5.4%	**36.0%**
2 Parents 1-2 children	0.2%	0.8%	2.1%	3.7%	2.9%	3.4%	5.7%	**18.7%**
2 Parents 3+ children	0.0%	0.2%	0.5%	1.2%	0.9%	0.8%	1.6%	**5.3%**
1 Parent Family	2.2%	2.5%	2.1%	1.5%	0.7%	0.2%	0.4%	**9.7%**
Multi-family household	0.0%	0.0%	0.1%	0.2%	0.2%	0.3%	1.0%	**1.8%**
Non-family household	0.1%	0.5%	0.3%	0.3%	0.2%	0.1%	0.2%	**1.8%**
Total Households	**20.4%**	**17.7%**	**14.5%**	**15.1%**	**9.6%**	**8.3%**	**14.4%**	**100.0%**
Relative Concentration								
One Person household	**2.86**	**1.09**	0.85	0.47	0.18	0.02	0.05	
Couple household	0.30	**1.34**	**1.18**	**1.14**	**1.21**	**1.13**	**1.04**	
2 Parents 1-2 children	0.05	0.24	0.76	**1.31**	**1.62**	**2.19**	**2.09**	
2 Parents 3+ children	-	0.27	0.70	**1.57**	**1.73**	**1.80**	**2.07**	
1 Parent Family	-	**1.45**	**1.47**	**1.05**	0.80	0.26	0.30	
Multi-family household	-	0.13	0.31	0.75	0.95	**2.19**	**3.78**	
Non-family household	-	**1.45**	**1.28**	**1.23**	**1.22**	0.84	0.81	

Source: ME Housing Demand Model 2021.

3.5.1 Current Dwelling Demand: 2020

Waipā district currently has an estimated demand for around 20,900 dwellings. Around two-thirds (68%) of the demand is for urban dwellings, which is concentrated into the main urban centres of Cambridge, Te Awamutu and Kihikihi (which together account for 93% of the urban dwelling demand). A small share (5%) of the district's total dwelling demand occurs as urban demand within the smaller urban areas.

Cambridge is the district's largest urban centre, accounting for over half (52%) of the district's urban dwelling demand (approximately 7,400 dwellings), and one-third (35%) of the district's dwelling demand overall. Demand for a further 5,900 urban dwellings occurs across Te Awamutu and Kihikihi. These form the urban areas subject to the commercial feasibility assessment.

A substantial component of the district's demand is for non-urban dwellings, including lifestyle and rural dwellings. It is estimated that these types of dwellings currently account for around one-third (32%) of the district's total dwelling demand (6,600 dwellings). Many (around 40% to 45%) of these are lifestyle properties that are located within proximity to the main urban centres.

3.5.2 Short-Term Dwelling Demand: 2020-2023

The Waipā District is projected to experience reasonable growth in the short-term. Demand in the district overall, is projected to increase by 1,100 additional dwellings (+5%), which equates to an annual growth rate of 1.7%. This is between the Statistics New Zealand medium and high series growth rates for the district, and is slightly above the Statistics New Zealand high series growth rate for the Waikato Region overall (1.6%).

Dwelling demand growth is heavily concentrated into the district's urban areas. Nearly all (95%) of this demand growth is for urban dwellings. It amounts to an additional 1,100 urban dwellings over the next three years, or 1,300 dwellings with a 20% margin applied. Excluding the margin, this is a 7% increase in the district's demand for urban dwellings, equating to a 2.4% annual growth rate (compared to 1.7% for the district overall).

The urban dwelling demand growth is concentrated into the main urban areas of Cambridge, Te Awamutu and Kihikihi which are projected to account for nearly all (97%) of the district's urban dwelling demand growth. The projected dwelling demand growth reflects the existing patterns of the commercial residential development sector within the district, the presence of additional capacity within Cambridge and Te Awamutu's greenfield areas as well as the higher value of amenity within the centres.

In the short-term, urban dwelling demand is projected to grow by 2.4% p.a. in Cambridge, amounting to an additional 550 dwellings (or 660 dwellings with a margin applied). Te Awamutu forms the next largest area of projected urban dwelling demand growth. It has a projected demand increase of 300 urban dwellings, or 370 dwellings with a margin applied. Kihikihi is projected to growth at a faster rate (5.7% p.a.), but with a smaller share of the overall increase (+170 dwellings, or +200 dwellings with the margin applied).

3.5.3 Medium-Term Dwelling Demand: 2020-2030

Dwelling demand growth is projected to slow slightly into the medium-term across Waipā District. The district has a projected demand growth for an additional 3,500 dwellings over the next ten years, meaning the district's total dwelling demand is projected to increase by 17% across this period.

A high share (90%) of this projected demand is for urban dwellings, amounting to demand for an additional 3,100 urban dwellings (+3,700 with a 20% margin applied). This amounts to a 22% increase in the district's urban dwelling demand growth across the next 10 years.

In the medium-term, urban dwelling demand growth is projected to be more heavily concentrated into the main centre of Cambridge. Over the medium-term, dwelling demand in Cambridge is projected to increase by 1,900 dwellings (or 2,300 dwellings with a 20% margin applied). If dwelling demand growth is realised, then this would increase the urban dwelling component of Cambridge by 26% over the next ten years.

The next largest increase in urban dwelling demand is projected to occur within Te Awamutu. There is a projected increase of 760 urban dwellings (or 900 dwellings with a 20% margin applied), increasing Te Awamutu's total urban dwelling demand by 15%.

Minor amounts of urban dwelling demand growth are projected to occur across the remainder of the urban areas. There is a projected increase of demand for an additional 420 urban dwellings across Kihikihi and the minor urban areas combined (or 500 dwellings with a margin applied).

3.5.4 Long-Term Dwelling Demand: 2020-2050

The district's total demand for dwellings is projected to increase by nearly half (+45%) in the long-term. There is a projected demand for an additional 9,500 dwellings in the district overall across the long-term (2020-2050).

Dwelling demand growth is projected to continue to be concentrated into the district's urban areas over the long-term, although to a slightly lesser extent. A high share (88%) of the long-term demand growth is for urban dwellings. This amounts to demand for an additional 8,400 urban dwellings in the long-term (or 9,600 dwellings with a 15% margin applied). Overall, dwelling demand in the district's urban areas is projected to grow by 59% (compared to 45% for the district overall) over the long-term. If realised, this would result in a gradual increase in the urbanisation of the district. The share of demand as urban dwellings would increase from an estimated 68% currently, to 74% by 2050.

Urban dwelling demand growth is projected to continue to be concentrated into the district's main centre of Cambridge over the long-term. Cambridge is projected to account for nearly two-thirds (63%) of the district's urban growth over the next 30 years. This amounts to demand for an additional 5,200 urban dwellings, or an additional 6,000 urban dwellings with a 15% margin applied. If realised, this would result in a 71% increase in the size of Cambridge (excluding the margin) over the next 30 years.

Over the long-term, there is also a projected substantive increase in demand for urban dwellings within Te Awamutu. However, dwelling demand growth in this urban centre is projected to occur at a slower rate than Cambridge. Over the next 30 years, demand for urban dwellings is projected to increase by 2,400 dwellings in Te Awamutu, or 2,800 dwellings with a 15% margin applied. This represents a 49% increase in urban dwelling demand. Kihikihi, within relatively close proximity (1-2 kilometres from the existing urban edge) to Te Awamutu, has a smaller projected increase in urban dwelling demand (+500 dwellings, or +570 dwellings with a margin applied) over the long-term.

There is only a small projected increase in demand for urban dwellings across the minor urban areas. Over the long-term, demand in these areas is projected to increase by 230 dwellings (+260 with a margin applied). This equates to an annual growth rate of 0.7%, which is slower than the district overall (1.3%).

The district is also projected to have an increase in demand for an additional 1,100 dwellings over the long-term outside of the urban areas. It is likely that much of this demand would occur as lifestyle dwelling demand and be located around the edges of the main urban centres, or toward the north of the district in areas that are within close proximity to the urban amenity of Hamilton City.

3.5.5 Dwelling Demand by Dwelling Type

The projected urban demand by dwelling type (detached and attached dwellings) for Waipā District is shown in Figure 3-8 and Figure 3-9. Figure 3-8 projects the demand under the base case scenario where only a minor preference shift toward attached dwellings occurs through time as a function of projected changes in the underlying household composition. Figure 3-9 projects the demand under a preference shift scenario where a gradual shift in household preference towards attached dwellings is modelled through time. This reflects the gradual shift in preference toward higher density dwelling types that typically occur gradually through time in growing urban economies.

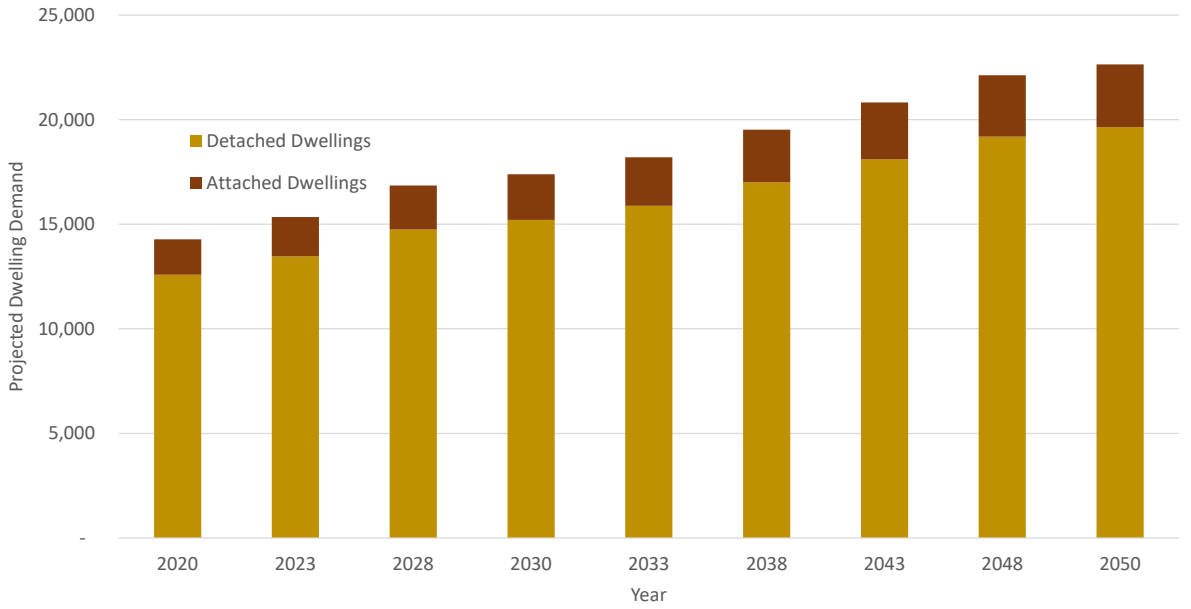
The scenarios provide a range of outputs to capture the potential dwelling preference outcomes through time. While past patterns of development across Waipā District have been characterised by standalone dwellings on full sites, greater rates of urbanisation may provide for opportunities for future intensification with more intensive dwelling types.

A shift to higher density dwellings reflects the trade-offs that households make between location, space and price. Higher density dwellings are often located in areas of higher amenity, with higher land costs (on a per m^2 basis) associated with the location. These gradual shifts in dwelling typologies are reflected in the building consent data and urban dwelling development patterns of many urban economies, including Hamilton City, through time.

Currently high shares (around 91%) of the demand is for detached dwellings. Under the base case scenario around four-fifths (82%) of the future additional dwelling demand is for detached dwellings. This amounts to around 6,800 additional detached dwellings (excluding a margin) out to 2050. There is a smaller demand (+1,500 dwellings) for attached dwellings.

The projected patterns of demand by dwelling type differ under a preference shift scenario. A small modelled preference shift[28] toward attached dwellings shows demand for attached dwellings increasing to around an additional 2,000 dwellings by 2050 (with demand for an additional 6,300 detached dwellings). This would result in a small shift in the overall share of dwellings as detached dwellings to 85% by 2050.

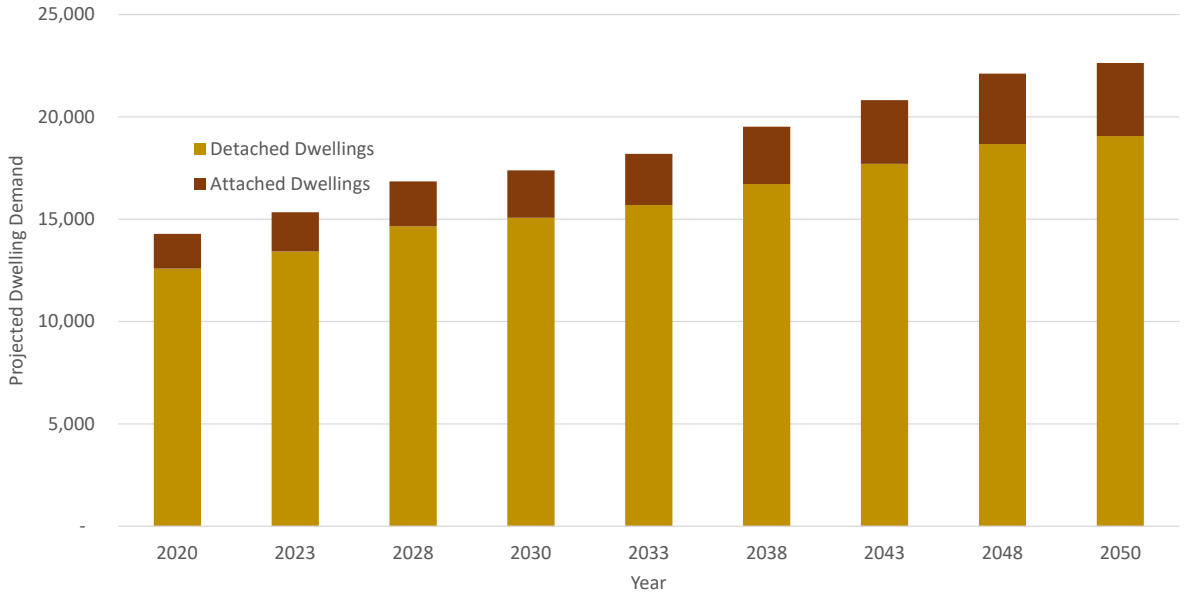
Figure 3-8: Demand by Dwelling Type in Urban Waipā District: 2020-2050– Base Case Scenario



Source: M.E Dwelling Demand Model, 2021.

[28] This modelled scenario includes a 0.9% p.a. preference shift towards attached dwellings.

Figure 3-9: Demand by Dwelling Type in Urban Waipā District: 2020-2050– Preference Shift Scenario



Source: M.E Dwelling Demand Model, 2021.

The projected urban demand by dwelling type is disaggregated by tenure for Waipā District in Table 3-16 and Table 3-17. Table 3-16 shows the demand under the base case scenario where only a minor preference shift toward attached dwellings occurs through time as a function of projected changes in the underlying household composition. Table 3-17 shows the preference shift scenario where a gradual change in preference toward attached dwellings is modelled.

The tables show that currently nearly three-quarters (72%) of urban Waipā's dwelling stock is owned (including within a trust). Dwelling ownership rates are substantially higher for detached dwellings where nearly three-quarters (73%) of dwellings are owned, compared to only 54% of attached dwellings.

The modelling shows projects forward the current dwelling ownership structures by dwelling type as a function of the underlying projected household composition. It is beyond the scope of the assessment to model changes in ownership patterns by dwelling typology with preference shifts through time. It shows similar future levels of dwelling ownership projected for 2050 under both scenarios.

Table 3-16: Urban Demand by Dwelling Type and Tenure in Waipā District: 2020-2050 – Base Case Scenario

Dwelling Tenure : NIDEA Future	2020			2050			2020-50		
	Detached	Attached	Total	Detached	Attached	Total	Detached	Attached	Total
				Trend toward Attached:		*0.3%pa*			
Owned with mortgage	3,900	200	**4,100**	5,600	400	**6,000**	1,700	200	**1,800**
Owned without mortgage	3,400	400	**3,800**	5,700	1,000	**6,700**	2,300	600	**2,900**
Owned by Trust	2,200	100	**2,400**	3,500	300	**3,700**	1,200	100	**1,400**
Total Owned or in Trust	**9,500**	**700**	**10,300**	**14,800**	**1,600**	**16,400**	**5,200**	**900**	**6,100**
Not Owned	3,400	600	**4,000**	5,000	1,200	**6,300**	1,600	600	**2,200**
Total Housing	**13,000**	**1,300**	**14,300**	**19,800**	**2,800**	**22,700**	**6,800**	**1,500**	**8,400**
Shares %									
Owned with mortgage	28%	1%	**29%**	25%	2%	**26%**	-2.9%	0.3%	**-2.6%**
Owned without mortgage	24%	3%	**26%**	25%	4%	**29%**	1.6%	1.5%	**3.1%**
Owned by Trust	16%	1%	**17%**	15%	1%	**17%**	-0.3%	0.3%	**0.0%**
Total Owned or in Trust	**67%**	**5%**	**72%**	**65%**	**7%**	**72%**	**-1.5%**	**2.1%**	**0.5%**
Not Owned	24%	4%	**28%**	22%	5%	**28%**	-1.8%	1.2%	**-0.5%**
Total Housing	**91%**	**9%**	**100%**	**87%**	**12%**	**100%**	**-3.3%**	**3.3%**	**0.0%**

Source: ME Housing Demand Model 2021.

Table 3-17: Urban Demand by Dwelling Type and Tenure in Waipā District: 2020-2050 – Preference Shift Scenario

Dwelling Tenure : NIDEA Future	2020			2050			2020-50		
	Detached	Attached	Total	Detached	Attached	Total	Detached	Attached	Total
				Trend toward Attached:		*0.9%pa*			
Owned with mortgage	3,900	200	**4,100**	5,400	400	**5,900**	1,500	300	**1,800**
Owned without mortgage	3,400	400	**3,800**	5,600	1,100	**6,700**	2,200	800	**2,900**
Owned by Trust	2,200	100	**2,400**	3,400	300	**3,700**	1,100	200	**1,300**
Total Owned or in Trust	**9,500**	**700**	**10,300**	**14,400**	**1,900**	**16,300**	**4,800**	**1,200**	**6,000**
Not Owned	3,400	600	**4,000**	4,900	1,400	**6,400**	1,500	800	**2,300**
Total Housing	**13,000**	**1,300**	**14,300**	**19,200**	**3,300**	**22,600**	**6,300**	**2,000**	**8,300**
Shares %									
Owned with mortgage	28%	1%	**29%**	24%	2%	**26%**	-3.5%	0.6%	**-2.9%**
Owned without mortgage	24%	3%	**26%**	25%	5%	**30%**	0.9%	2.3%	**3.3%**
Owned by Trust	16%	1%	**17%**	15%	1%	**16%**	-0.7%	0.5%	**-0.2%**
Total Owned or in Trust	**67%**	**5%**	**72%**	**63%**	**8%**	**72%**	**-3.3%**	**3.5%**	**0.1%**
Not Owned	24%	4%	**28%**	22%	6%	**28%**	-2.4%	2.2%	**-0.1%**
Total Housing	**91%**	**9%**	**100%**	**85%**	**15%**	**100%**	**-5.7%**	**5.7%**	**0.0%**

Source: ME Housing Demand Model 2021.

The current composition of demand for dwellings by tenure and dwelling type is shown in Table 3-18. The top third of the table shows the current distribution of households by income, dwelling type and tenure. The middle third shows the percentage distribution across each category. The lower third of the table shows the relative concentration within each ownership/dwelling typology combination across the different household income groups. Values greater than 1 indicate a higher share of households within that group fall into a particular income category than dwellings overall.

The table shows that owned dwellings tend to be occupied by higher shares of higher income households, and dwellings that are not owned, occupied by higher shares of lower income households. It also shows that the household income profile of detached dwellings is higher than that of attached dwellings.

Table 3-18: Urban Demand by Household Income, Dwelling Type and Tenure in Waipā District: 2020

Household Income	Owned or Trust			Not Owned[1]			Total		
	Detached	Attached	Total	Detached	Attached	Total	Detached	Attached	Total
Under $30,000	1,200	200	**1,400**	700	200	**1,000**	1,900	500	**2,400**
$30-50,000	1,300	100	**1,500**	600	100	**700**	1,900	300	**2,200**
$50-70,000	1,300	100	**1,400**	600	80	**700**	1,900	200	**2,100**
$70-100,000	1,600	60	**1,700**	600	70	**700**	2,200	100	**2,400**
$100-120,000	1,200	60	**1,200**	300	30	**300**	1,500	90	**1,500**
$120-150,000	1,000	40	**1,100**	300	20	**300**	1,300	60	**1,300**
$150,000+	1,900	100	**2,000**	300	50	**300**	2,200	100	**2,300**
Total Households	**9,500**	**700**	**10,300**	**3,400**	**600**	**4,000**	**12,900**	**1,300**	**14,300**
Under $30,000	8%	2%	**10%**	5%	2%	**7%**	14%	3%	**17%**
$30-50,000	9%	1%	**10%**	4%	1%	**5%**	13%	2%	**15%**
$50-70,000	9%	1%	**10%**	4%	1%	**5%**	14%	1%	**15%**
$70-100,000	11%	0%	**12%**	4%	1%	**5%**	16%	1%	**17%**
$100-120,000	8%	0%	**8%**	2%	0%	**2%**	10%	1%	**11%**
$120-150,000	7%	0%	**8%**	2%	0%	**2%**	9%	0%	**9%**
$150,000+	13%	1%	**14%**	2%	0%	**2%**	15%	1%	**16%**
Total Households	**67%**	**5%**	**72%**	**24%**	**4%**	**28%**	**91%**	**9%**	**100%**
Relative Concentration									
Under $30,000	0.74	**1.90**	0.82	**1.29**	**2.37**	**1.46**	0.88	**2.12**	
$30-50,000	0.93	**1.24**	0.95	**1.11**	**1.29**	**1.13**	0.97	**1.26**	
$50-70,000	0.94	0.89	0.94	**1.22**	0.82	**1.16**	**1.01**	0.86	
$70-100,000	**1.01**	0.49	0.97	**1.13**	0.73	**1.07**	**1.04**	0.60	
$100-120,000	**1.12**	0.71	**1.09**	0.81	0.51	0.76	**1.04**	0.62	
$120-150,000	**1.15**	0.61	**1.11**	0.78	0.38	0.72	**1.05**	0.50	
$150,000+	**1.22**	0.88	**1.19**	0.52	0.45	0.51	**1.03**	0.68	

1 Not Owned includes NEI

Source: ME Housing Demand Model 2021.

4 Residential Dwelling Capacity

4.1 Approach

Detailed modelling has been undertaken to estimate the residential dwelling capacity of the FPP area. In accordance with the NPS-UD requirements, the assessment calculates the capacity that is measured against a range of different development process layers. The measures of capacity are:

i. Plan enabled capacity – the dwelling capacity that is enabled by land zoning within the relevant district plan or spatial plan.
ii. Infrastructure serviced capacity – the dwelling capacity that is served by infrastructure at each assessment point in time. In this assessment, this is a sub-set of the plan enabled capacity and is labelled as plan enabled infrastructure served capacity.
iii. Commercially feasible capacity – the infrastructure served, plan enabled capacity where it is feasible for a commercial developer to construct a dwelling.
iv. Reasonably expected to be realised capacity – this is measured as a sub-set of the commercially feasible capacity that could reasonably be realised to accommodate future dwellings. The approach to reasonably expected to be realised capacity is outlined in Section 4.1.5.

The 2020/2021 analysis builds upon the 2017/2018 models that calculate the potential capacity for dwellings upon each property parcel. This section provides an overview of the key stages of the assessment approach. Further detailed technical information on the structure of the models is contained in the supporting technical documents to the 2017 NPS-UD assessment.

Capacity is calculated within each of the FPP areas both within the existing urban areas (intensification) as well as further outward expansion within greenfield areas. Capacity can be categorised as:

i. Infill capacity – this 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).
ii. Redevelopment capacity – this 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.
iii. Greenfield capacity – this refers to the outward expansion of the urban edge to form new areas of urban residential development. It typically occurs on areas that are zoned for future urban use and requires the geographic extension of infrastructure at different points in time to enable the urbanisation of these areas.

The capacity results also include maximums of infill and redevelopment capacity within the existing urban area. Here, the model returns the greatest yield for each parcel out of the infill and redevelopment capacity options. Under the plan enabled capacity, the redevelopment option will always represent the greatest yield. However, under the commercially feasible capacity often only one of the development options (e.g.

standalone infill dwelling) will be feasible (with the option differing between parcels), meaning that the model selects the option that is feasible.

The following sub-sections outline the key stages in the capacity assessment.

4.1.1 Define Development Options and Planning Spatial Requirements

The first stage of the assessment identifies the potential development options that can occur on each property parcel. These refer to the types of dwellings that can be constructed (e.g. standalone, duplex, apartments) on each site and their corresponding spatial requirements. Development options are determined through the district plan provisions with different zones allowing different types of development. In some cases, a property parcel yield (i.e. potential number of additional dwellings) can vary depending on the type of dwelling option constructed and, within the existing urban area, whether infill or redevelopment is undertaken.

The capacity results also include a maximum yield for each type of development path (infill vs. redevelopment vs. greenfield) which is the aggregation of the maximum capacity across all enabled dwelling types within each of the development options. The maximums are produced for both plan enabled and commercially feasible capacity. For example, under the district plan, a particular property parcel could be developed to contain either two standalone houses or four duplex dwellings. The maximum yield would be four under the plan enabled capacity. However, it may only be commercially feasible to develop the site into standalone dwellings, in which case the maximum feasible yield would be two.

4.1.2 Plan Enabled Capacity

This stage of the assessment calculates the capacity that is enabled by the Plan. It identifies the number of dwellings that can theoretically be constructed on each parcel through applying the planning parameters. Once the potential development options have been identified (i.e. typology enabled by zone), the assessment then calculates whether each development option could be constructed on each site. This is assessed entirely in relation to the planning requirements[29] on each site. It is conducted at the property parcel level to assess whether additional dwellings could theoretically be constructed on each site.

Within the existing urban area, the plan enabled capacity assessment is undertaken through geometric modelling within FME software. The model applies the relevant spatial requirements of the Plan to each property parcel. To calculate infill capacity, the geometric process is carried out on each parcel around the existing building footprint on the site. Detailed technical information on the geometric process undertaken in FME is available in the 2017 assessment supporting technical documents.

Plan enabled capacity is calculated in greenfield areas through a prioritisation sequential process to obtain the yield information that reflects the likely development urban form densities. If subdivision yields, structure plans or growth cell yield information is available, then these are applied in the first instance to the corresponding greenfield parcels. In the absence of this information, plan enabled yields are calculated through applying developable land yields and site size assumptions. Developable area yields are estimated

[29] These typically include minimum site size, building setbacks, site shape factors, building platforms, outdoor living space and driveway access requirements.

by removing a share (usually around 32%) of the land area to account for roads and reserves. The remainder of the area is then divided by an average lot size to estimate the total lots from each parcel.

In Hamilton City, the average lot sizes applied in the modelling are larger than the minimum lot sizes enabled by the Plan. Lot sizes have been supplied by HCC and reflect the existing average lot sizes in greenfield areas at the urban edge. This generates a more conservative estimate of capacity than what would specifically be enabled under the Plan.

The outputs of the plan enabled capacity approach are the number of additional dwellings that are potentially able to be constructed on each site as a function of the planning provisions. These form the inputs to the commercial feasibility stage of the analysis where the modelling estimates whether it is commercially feasible to construct each dwelling development option.

4.1.3 Infrastructure Served Capacity

The next stage of the assessment identifies the share of plan enabled capacity that is served by infrastructure at each assessment point in time. Infrastructure timing information for the greenfield areas has been supplied by each of the FPPs. It shows the geographic areas served by infrastructure in the short, medium and long-term. These timings have been applied to the plan enabled capacity outputs by location to identify the shares of plan enabled capacity that are served by infrastructure in each period.

Over the long-term, the FPPs will need to make ongoing, sustained investment in infrastructure capacity to support demand growth in infill areas. Hamilton City Council is in the process of implementing the NPS-UD. Providing for infill capacity to meet long-term aspirations of the NPS-UD is likely to require a step change in infrastructure capacity investment.

4.1.4 Commercially Feasible Capacity

The commercial feasibility stage of the assessment tests the commercial feasibility of the development options on each parcel identified within the plan enabled stage of the assessment. It estimates whether it is commercially feasible for a profit-driven commercial developer to construct the identified dwelling options.

Detailed property parcel level commercial feasibility models were used to test the feasibility of each development option on each parcel that was identified as able to be constructed under the planning provisions. The 2017 assessment models formed the starting point for the analysis and were updated and improved to reflect the current market situation and 2020/2021 assessment spatial framework. Detailed technical information on the structure of the models is available in the supporting technical reports to the 2017 assessment.

The modelling approach takes into account the costs of development to bring a house to market. It compares these costs to the estimated sales price of the constructed dwelling to determine the profit margin that may occur.

In accordance with the NPS-UDC technical guidance, this assessment has assumed that developments with a margin of 20% or greater[30] are commercially feasible to construct for a commercial developer. Dwelling typology/size and density combinations are deemed to be commercially feasible if they achieve at least this margin in the assessment.

Detailed analysis has been undertaken to inform the ranges of costs and prices within the feasibility model. These reflect 2020 values. The assumed ranges are contained in in the appendices (Section 8.1) of this report.

Further information was sought from commercial developers across the FPP area to, in part, inform the feasibility modelling. Limited information was supplied on the developer costs, although some developers indicated that lower margins (than the modelled 20%) were sometimes achieved. An overview of the assessment of the developer survey feedback is contained in Section 6.4.

In the greenfield areas, the feasibility assessment models the feasibility of house and land package options where a developer sells a dwelling on a piece of land to a private buyer. The same development pathway is modelled within the existing urban area for redevelopment capacity. This reflects much of the urban intensification occurring within Hamilton City's urban areas where developers purchase full sites (or in some cases contiguous, amalgamated sites), then redevelop the sites at a higher density and sell off a larger number of smaller lots.

The infill modelling, where further dwellings are added to a site, applied another development pathway where households purchase a site and then commission a private developer to construct a dwelling. This models the feasibility for a commercial developer to construct a dwelling on a site owned by a private individual.

The outputs of the commercial feasibility modelling are the number of dwellings on each site (and within each greenfield area) that are estimated to be commercially feasible to construct.

4.1.5 Reasonably Expected to be Realised (RER) Capacity

The final stage of the capacity assessment estimates the share of commercially feasible, infrastructure served capacity that is reasonably expected to be realised. In this stage, the amount of feasible capacity is reduced to reflect the level and scale of development which is more likely to be delivered by the market. The assessment recognises that the nature and type of development delivered may not achieve the densities (and therefore, capacity) that are enabled by the Plan.

The modelling structure means that some of the difference between feasible RER and plan enabled capacity is already captured in earlier stages of the capacity modelling and therefore has also been removed from plan enabled capacity. This occurs where site specific constraints are applied during the plan enabled modelling. These constraints may either remove whole parcels or parts of parcels. Types of constraints include geographic/topographic constraints and land use constraints (e.g. current use as an unzoned reserved or education, etc).

[30] The margin refers to the profit margin made by a commercial developer through selling a house and land package. It is the margin after tax, between the sales prices and the total costs of development.

Some information from the FPPs was received in relation to site specific constraints, which removed capacity in the early stages of the plan enabled capacity modelling. All parts of properties that fall within Hamilton's gully areas were removed during this process as well as some of the geographic feature areas within the greenfield areas. Within Waikato District, restrictions on capacity were applied within Raglan to reflect the Rangitahi Peninsula cap of 500 dwellings. It was further assumed that the achievable density on the other Raglan future greenfield areas would also reflect similar topographical constraints. No further information on site constraints or developable areas of future zoned land was supplied by the FPPs.

The following sub-sections describe our further approach to estimate the share of feasible capacity that is reasonably expected to be realised in the final stages of the capacity analysis.

Greenfield RER

The analysis estimates the reasonably expected to be realised yield on the greenfield areas that are projected to be feasible to develop. It recognises that the likely densities may not reflect the densities enabled by the Plan, with areas often developed at lower densities than those enabled under the Plan. In the first instance, the model incorporates developer information to apply any known subdivision yields on specific sites as supplied by developers. It also applies any planning yield caps or structure plan estimates for specific sites. This predominantly results in a lower yield than that enabled by the relevant district plan[31].

The RER capacity across the remaining greenfield areas (where the above information is unavailable) is calculated through applying an average lot size that reflects the local development market. This is typically substantially larger than the Plan minimum lot size, resulting in a lower yield that is likely to be achieved across the feasible areas.

Extensive information was supplied by Hamilton City Council in relation to developer subdivision plans, structure plans or other district plan yield caps and existing patterns of development at the urban edge. These were used directly within the model. The model applies a gradual decrease in average lot sizes (of 0.5% p.a.) through time across the balance of sites (where developer or planning yields are not available) to reflect gradual increases in development density[32]. In the Waikato and Waipā districts, the model applies a larger site size than the planning minimums (under each operative or proposed plan), based on the existing development patterns in the market (identified through GIS analysis and sales data).

Existing Urban RER

The share of the existing urban area commercially feasible plan enabled capacity that is reasonably expected to be realised was also estimated. In areas of higher density that enabled vertical patterns of apartment development, the model assumed a lower number of storeys would be developed than enabled under the Plan. This approach was applied within the Hamilton City Centre area.

The RER component of feasible capacity across the remaining suburban residential areas of the FPP area were estimated through analysis of the geographic patterns of residential development through time. Data

[31] Within Hamilton City, there are two instances where the RER capacity within the greenfield areas exceeds the capacity enabled by the Plan due to specific yields enabled through resource consents or structure plans. These occur within small areas of Te Rapa North and Peacocke.

[32] Any long-term reduction in average site sizes are capped to the existing planning minimums. In most cases the long-term average site size remains substantially above the planning minimum site size.

on CCCs[33] were analysed spatially in relation to the existing urban edge[34] through time for each of the main urban areas. The analysis identified the relative share of development occurring as greenfield development or development within the existing urban area through time.

Within Hamilton City, these were combined with the greenfield RER capacities to estimate the relative share of RER development within the existing urban areas based on the observed spatial patterns of growth through time. Further calculations were then undertaken to triangulate the estimated existing urban share of RER in relation to the total feasible capacity estimated within the existing urban area. This process applied limits within the calculations to ensure that the model did not result in unreasonably large shares of feasible capacity being developed. This produces a conservative result where development across the existing urban area is limited by any capacity constraints within the greenfield area.

An equivalent analysis of the geographical patterns of residential development was undertaken across the Waikato and Waipā district's main urban areas. It produced more limited results, particularly within the Waikato District, due to substantial changes in the nature of growth in the main urban areas through time. Consequently, the model instead assumes that the RER capacity is reflected as a share of the commercially feasible capacity through time. In the short-term, it assumes that the RER equates to 10% of the commercially feasible capacity, 20% in the medium-term and 40% in the long-term. These assumptions were also triangulated against the total RER capacity to ensure that the assessment was not substantively relying on high shares of existing urban capacity.

4.1.6 Hamilton City Centre Residential Capacity Modelling

Residential dwelling capacity has been modelled across all three precincts (Downtown, City Living and Ferrybank) of Hamilton's City Centre. An apartment model has been constructed which tests the plan enabled and commercially feasible capacity of different types of apartment construction within the City Centre. This includes modelling the plan enabled capacity and feasibility of different types of developments (e.g. three-level walk-up apartments vs. higher multi-level mixed use apartment buildings).

Within the City Centre, it has been assumed that all ground floor capacity within the Downtown and City Living precincts is allocated to non-residential uses. Ground floor non-residential uses are assumed to be feasible.

The maximum storey heights have been assumed for each precinct:

- Downtown Precinct – 5 storeys.
- City Living Precinct – 8 storeys.
- Ferrybank Precinct – 3 storeys.

The interface between residential and non-residential uses has been taken into account within the calculation of RER within the City Centre. In the short-term, RER capacity represents 1% of the total City Centre plan enabled residential capacity. This increases to around 4% to 5% in the medium-term, and to between 10% and 24% in the long-term.

[33] All individual CCC records were supplied by each council for approximately the last 10 to 25 years.

[34] The location of the urban edge through time was determined through the LINZ property title data.

4.1.7 Modelled Growth Scenarios

Capacity has been modelled against three scenarios within the FPP main urban areas. The first scenario applies current prices. This means that the feasible capacity across the current and future urban area reflects the current 2020 market and remains constant through time. Increases in commercially feasible and reasonably expected to be realised capacity within this scenario are a function of increases in the geographical extent of infrastructure provision within the greenfield areas through time.

In alignment with the NPS-UD, further scenarios have been developed to assess long-term capacity[35]. These scenarios assume that costs and prices gradually change through time as demand grows. Development opportunities correspondingly change as demand increases for dwellings and different development types. Two scenarios have been tested to provide a range of potential outcomes of future capacity. These are subsequently used in the sufficiency and housing affordability assessments to test a range of potential outcomes.

The first scenario – growth scenario 1 – assumes an annual average growth rate of 1.0% in costs and 1.5% in prices (including the price of land). The second scenario – growth scenario 2 – assumes an annual average growth rate of 1.25% in costs and 2.5% in prices.

Low growth rates have also been applied to test the market growth rates required to generate different levels of feasible capacity. This helps to determine the impact of planning though identifying the required price changes across the zoned capacity to generate sufficient feasible capacity to meet demand.

4.1.8 Structure of Outputs

The remainder of the chapter contains the results of the residential capacity modelling for each of the FPP areas. Capacity outputs are provided for each of the spatial framework main urban areas and settlements within the Waikato and Waipā district's and by area type within Hamilton City. Results are reported separately for the short, medium and long-term, and then summarised across all three time periods in the final part of each sub-section.

Capacity estimates are presented for each of the key stages of capacity modelling. Each assessment layer is a sub-set of the previous stage:

- Plan enabled capacity with no infrastructure constraints applied (light green sections of the tables).
- Plan enabled capacity with infrastructure constraints applied (dark green sections of the tables).
- Commercially feasible, infrastructure-served capacity (light blue sections of the tables).
- Reasonably expected to be realised capacity (RER) (dark blue sections of the tables).

Within each set of results, the following measures of capacity are provided:

[35] The assessment recognises the NPS-UD requirements provide for additional scenarios only in relation to long-term capacity. The short and medium-term results have also been provided here for completeness, and to inform Hamilton City Council planning purposes.

- Max Infill – this is an aggregation across all existing urban parcels of the maximum dwelling yield option on each parcel from infill development. Parcels may contain multiple yield options where different dwelling typologies and corresponding spatial requirements are enabled under the Plan.
- Max Redevelopment - this is an aggregation across all existing urban parcels of the maximum dwelling yield option on each parcel from redevelopment. Parcels may contain multiple yield options where different dwelling typologies and corresponding spatial requirements are enabled under the Plan. The yields are expressed as net additional dwellings as the outputs subtract any existing dwellings. Infill and redevelopment yields are not additive – the following measure provides the maximum combination of these two development options.
- Max Existing Urban – this is an aggregation across all existing urban parcels of the maximum dwelling yield option on each parcel from either infill or redevelopment.
- Greenfield – this is the number of additional dwellings within the greenfield areas. These are areas of urban expansion beyond the existing urban area.
- Greenfield + Infill – this is the greenfield and infill yields combined and can be broadly used to define a lower range of capacity.
- Greenfield + Infill + Redevelopment – this is the greenfield yield and the Maximum Existing Urban yield, as specified above. It defines the maximum potential capacity across the combined existing urban area and greenfield areas of urban expansion.

4.2 Waikato District Residential Capacity

4.2.1 Short-Term Residential Capacity: 2023

The capacity in Waikato District's main urban areas and settlements enabled under the ODP in the short-term is displayed in Table 4-1. The first part (light green) of the table shows the plan enabled capacity without infrastructure constraints, while the second part (dark green) includes the infrastructure constraints in the greenfield areas.

In total, there is capacity under the ODP for 7,800 to 11,600 additional dwellings in the main urban areas, and a further 500 to 700 dwellings in the urban settlements (total of 8,200 to 12,300 additional dwellings), when infrastructure constraints are not applied. The lower end of the range is the combined total of the greenfield and existing urban area infill development options, with the upper end of the range also including redevelopment potential within the existing urban area. Without infrastructure constraints, there is a zoned capacity for 4,600 dwellings within the main urban greenfield areas. The largest areas of zoned greenfield capacity are in Raglan, Pōkeno/Tuakau and Huntly.

Pōkeno/Tuakau contains the largest share of plan enabled capacity with zoned capacity for around 2,200 to 3,200 additional dwellings. Approximately one-third to one-half of this is within the greenfield areas (+1,200 dwellings). Huntly, with 1,500 to 2,400 additional dwellings is the next largest area of capacity, of which 1,500 dwellings is in the greenfield area. Ngāruawāhia has a plan enabled capacity of 1,100 to 1,900 additional dwellings, with a low proportion (+400 dwellings) as greenfield.

None of the additional greenfield capacity in Waikato District is currently served by infrastructure. As such, the plan enabled infrastructure served capacity is only that within the existing urban areas, with a total of 3,400 to 7,200 additional dwellings. In accordance with the NPS-UD requirements, this forms the capacity assessed in the short-term within Waikato District.

Infrastructure is planned to be provided within the short-term (by 2023), for a plan-enabled capacity of up to around 1,500 greenfield dwellings. The main areas of planned provision are in Raglan and Pōkeno/Tuakau. However, this capacity is not included within the short-term sufficiency assessment.

Table 4-1: Waikato District Plan Enabled Residential Capacity: Short-Term - 2023

LOCATION	NO INFRASTRUCTURE CONSTRAINTS						SHORT-TERM INFRASTRUCTURE PROVISION					
	Max Infill	Max Redevelopment	Max Existing Urban	Greenfield	Greenfield + Infill	Greenfield + Infill + Redevelopment	Max Infill	Max Redevelopment	Max Existing Urban	Greenfield	Greenfield + Infill	Greenfield + Infill + Redevelopment
Main Urban Areas												
Pokeno/Tuakau	1,000	2,000	2,000	1,200	2,200	3,200	1,000	2,000	2,000	-	1,000	2,000
Te Kauwhata	300	500	500	200	500	700	300	500	500	-	300	500
Ngaruawahia	700	1,500	1,500	400	1,100	1,900	700	1,500	1,500	-	700	1,500
Huntly	500	1,400	1,400	1,000	1,500	2,400	500	1,400	1,400	-	500	1,400
Taupiri	200	400	400	70	300	500	200	400	400	-	200	400
Raglan	700	1,400	1,400	1,500	2,200	2,900	700	1,400	1,400	-	700	1,400
Total Main Urban Areas	**3,400**	**7,200**	**7,200**	**4,400**	**7,800**	**11,600**	**3,400**	**7,200**	**7,200**	**-**	**3,400**	**7,200**
Total Settlements	200	500	500	200	500	700	200	500	500	-	200	500
TOTAL URBAN	**3,600**	**7,700**	**7,700**	**4,600**	**8,200**	**12,300**	**3,600**	**7,700**	**7,700**	**-**	**3,600**	**7,700**

Source: M.E FPP Residential Capacity Model, 2020.

Table 4-2 displays the infrastructure served plan enabled capacity development options that are estimated to be commercially feasible in the short-term across the main urban areas[36]. The first part (light blue) of the table displays the capacity which is feasible. The second part (dark blue) shows the estimated component as RER development options capacity.

It is estimated that there is a feasible capacity of 2,000 to 2,600 additional dwellings across the main urban areas. The absence of existing infrastructure in the short-term means that the feasible capacity is restricted to the existing urban areas. Higher amounts of infill capacity are estimated to be feasible, than redevelopment options, which are likely to become feasible through time. The modelling estimates that around 10% of the currently feasible capacity in the short-term is likely to represent RER development options. This amounts to 200 to 300 dwellings across the main urban area.

It is likely that greenfield development opportunities will continue to be taken up within the short-term as infrastructure is supplied to new areas within the short-term. However, these are excluded from the assessment, which can only consider greenfield areas where infrastructure is already in place.

Table 4-2: Waikato District Commercially Feasible and Reasonably Expected to be Realised Residential Capacity: Short-Term – 2023

LOCATION	COMMERCIALLY FEASIBLE						REASONABLY REALISED CAPACITY					
	Max Infill	Max Redevelopment	Max Existing Urban	Greenfield	Greenfield + Infill	Greenfield + Infill + Redevelopment	Max Infill	Max Redevelopment	Max Existing Urban	Greenfield	Greenfield + Infill	Greenfield + Infill + Redevelopment
Main Urban Areas												
Pokeno/Tuakau	500	400	700	-	500	700	50	40	70	-	50	70
Te Kauwhata	100	100	100	-	100	100	10	10	10	-	10	10
Ngaruawahia	400	400	500	-	400	500	40	40	50	-	40	50
Huntly	200	-	200	-	200	200	20	-	20	-	20	20
Taupiri	200	300	300	-	200	300	20	30	30	-	20	30
Raglan	500	500	700	-	500	700	50	50	70	-	50	70
TOTAL MAIN URBAN	**2,000**	**1,700**	**2,600**	**-**	**2,000**	**2,600**	**200**	**200**	**300**	**-**	**200**	**300**

Source: M.E FPP Residential Capacity Model, 2020.

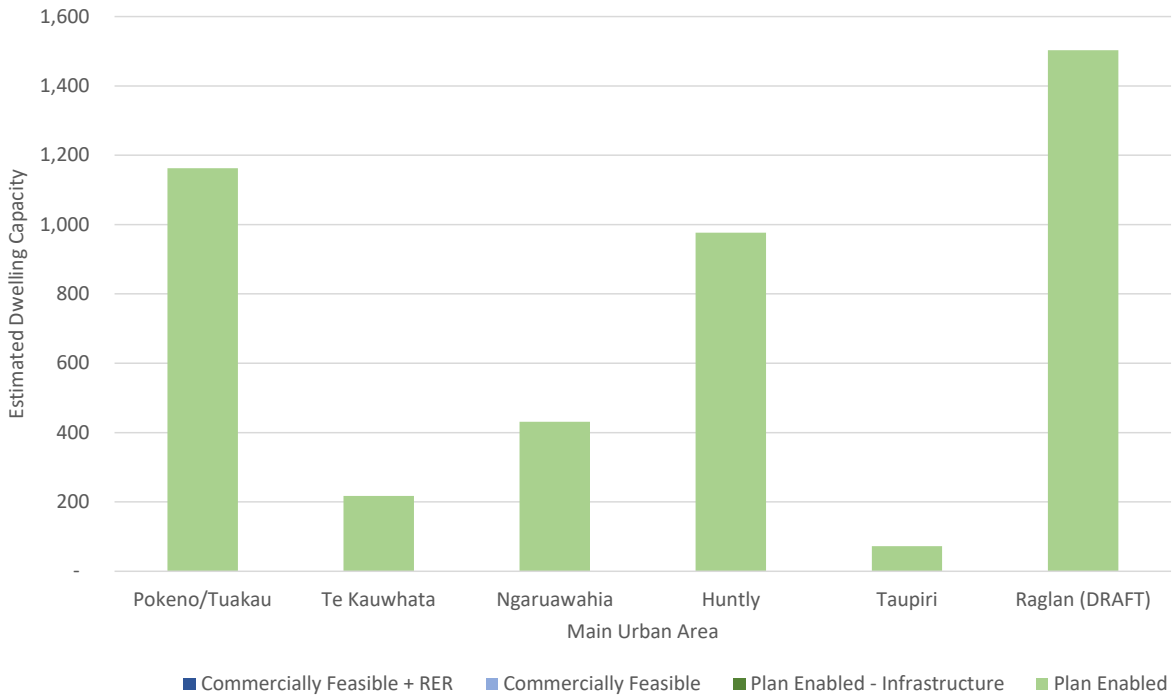
[36] As set out in the spatial framework, the commercially feasible assessment is only conducted on the main urban areas. The capacity assessment within the urban settlements and minor urban areas is limited to plan enabled capacity.

The estimated dwelling capacity by main urban area is summarised in Figure 4-1 and Figure 4-2. They show the total plan enabled capacity, and the components of this that are estimated to be RER (dark blue), commercially feasible by not RER (light blue), plan enabled and infrastructure served but not commercially feasible (dark green) and plan enabled but not infrastructure served (light green). Figure 4-1 shows the capacity on the greenfield areas only, and Figure 4-2, the combined capacity on both the greenfield and existing urban areas.

Key aspects are:

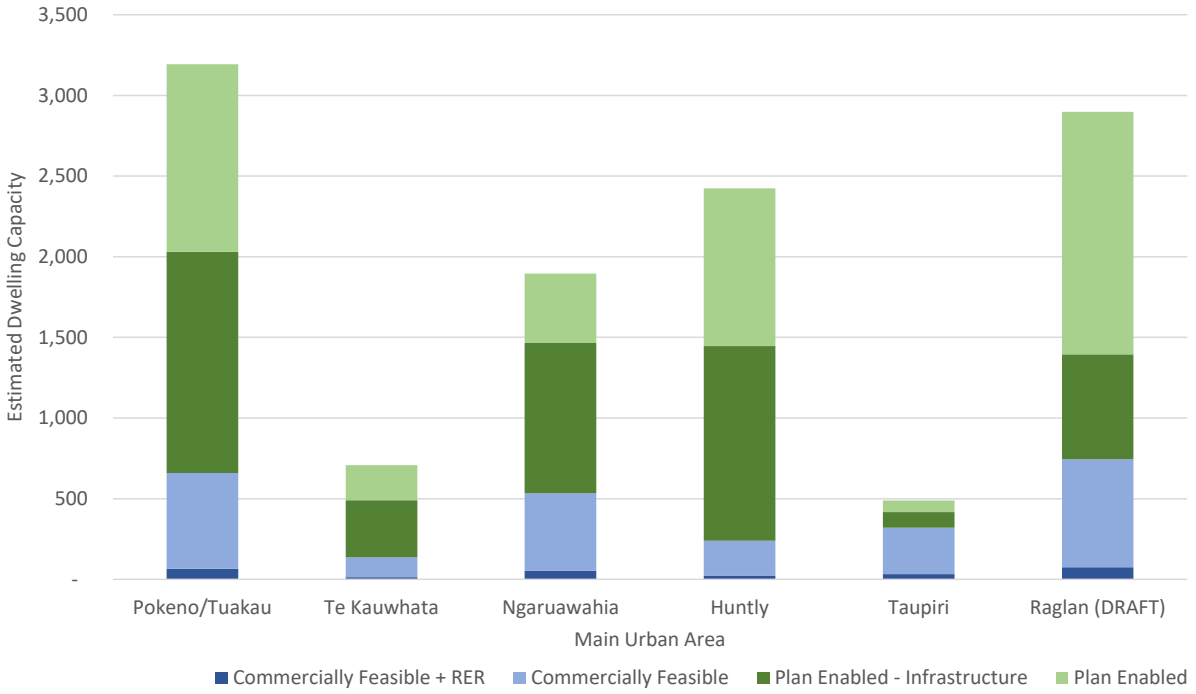
- There is significant zoned greenfield capacity across the district's main urban centres. However, none of this is currently served by infrastructure.
- There are large amounts of plan-enabled capacity within the existing urban areas across most of the district's main urban centres. The largest areas of existing urban capacity include Pōkeno/Tuakau, Ngāruawāhia, Huntly and Raglan.
- Significant portions of the plan enabled capacity within the existing urban areas are estimated to be currently commercially feasible. The largest amounts are in Pōkeno/Tuakau and Raglan, reflecting the growth pressures and/or higher prices within these areas. Lower shares of the plan-enabled capacity within Huntly are estimated to be feasible due to lower demand within this location.
- Significant amounts of existing urban capacity is enabled under the plan, but is not estimated to be currently commercially feasible.
- Only small amounts of capacity within the existing urban areas are estimated to represent RER, to reflect the lower rates of capacity uptake within the existing urban areas under the existing zoning structure. With the exception of Huntly, most of the past growth within these areas has occurred through greenfield expansion.

Figure 4-1: Waikato District Estimated Urban Residential Capacity: Greenfield – Short-Term – 2023



Source: M.E FPP Residential Capacity Model, 2020.

Figure 4-2: Waikato District Estimated Urban Residential Capacity: Greenfield and Maximum Existing Urban – Short-Term – 2023



Source: M.E FPP Residential Capacity Model, 2020.

4.2.2 Medium-Term Residential Capacity: 2030

The PDP contains significant areas of urban expansion from the ODP across Waikato District in the medium-term. The total zoned greenfield development capacity almost quadruples under the PDP to reach an estimated 19,100 additional dwellings (Table 4-3) across the main urban areas. This represents an increase in the zoned opportunity for development capacity of around 15,000 additional greenfield dwellings. Together with the existing urban area, the total zoned plan enabled capacity across the district's main urban areas is an additional 23,000 to 26,400 dwellings in the medium-term, and a further 900 to 1,200 additional dwellings within the urban settlements.

The expansion of zoned greenfield areas accounts for nearly all of the increase in plan-enabled capacity within the medium-term. A large share of this zoned area is planned to have infrastructure supplied in the medium-term, with a combined greenfield capacity for an additional 11,900 dwellings.

The largest areas of planned infrastructure are within Pōkeno/Tuakau (+6,000 dwellings) and Te Kauwhata (+3,700 dwellings), where significant growth is occurring. Together, these areas are projected to account for around four-fifths of the district's infrastructure-served plan-enabled greenfield capacity. These areas also have further zoned greenfield capacity beyond that served by infrastructure (approximately 70% of

the district's zoned greenfield capacity). This heavily concentrates the district's greenfield capacity to the north.

Table 4-3: Waikato District Plan Enabled Residential Capacity: Medium-Term - 2030

LOCATION	NO INFRASTRUCTURE CONSTRAINTS						MEDIUM-TERM INFRASTRUCTURE PROVISION					
	Max Infill	Max Redevelopment	Max Existing Urban	Greenfield	Greenfield + Infill	Greenfield + Infill + Redevelopment	Max Infill	Max Redevelopment	Max Existing Urban	Greenfield	Greenfield + Infill	Greenfield + Infill + Redevelopment
Main Urban Areas												
Pokeno/Tuakau	1,400	2,000	2,000	9,300	10,700	11,300	1,400	2,000	2,000	6,000	7,300	7,900
Te Kauwhata	500	800	800	4,400	4,900	5,200	500	800	800	3,700	4,200	4,500
Ngaruawahia	600	1,400	1,400	1,900	2,400	3,200	600	1,400	1,400	900	1,500	2,300
Huntly	500	1,400	1,400	1,400	1,900	2,900	500	1,400	1,400	100	600	1,500
Taupiri	200	400	400	300	600	700	200	400	400	300	500	700
Raglan	700	1,300	1,300	1,700	2,500	3,000	700	1,300	1,300	1,000	1,700	2,300
Total Main Urban Areas	**3,900**	**7,300**	**7,300**	**19,100**	**23,000**	**26,400**	**3,900**	**7,300**	**7,300**	**11,900**	**15,800**	**19,200**
Total Settlements	600	900	900	300	900	1,200	600	900	900	100	700	1,000
TOTAL URBAN	**4,500**	**8,200**	**8,200**	**19,400**	**23,900**	**27,600**	**4,500**	**8,200**	**8,200**	**12,000**	**16,600**	**20,200**

Source: M.E FPP Residential Capacity Model, 2020.

Table 4-4 shows that the district has an estimated commercially feasible capacity of 12,800 to 13,100 additional dwellings across the main urban areas. Most (around 80%) of this is greenfield capacity, which is concentrated into Pōkeno/Tuakau and Te Kauwhata, with significant amounts also in Raglan and Ngāruawāhia.

Over three-quarters of the total capacity is estimated to represent RER development opportunities, equating to a RER capacity of 9,800 to 9,900 additional dwellings across the main urban areas. Most of the RER capacity is greenfield capacity, with a small share (around 600 dwellings) estimated to occur within the existing urban areas.

A high share (85%) of the infrastructure served greenfield capacity is projected to be commercially feasible and around three-quarters (78%) representing RER capacity once differences in yields are taken into account. Lower shares of the existing urban capacity is projected to be commercially feasible, particularly for redevelopment options. The maximum existing urban feasible capacity is estimated at around 2,900 additional dwellings, with a small portion of these assumed to represent RER development opportunities in the medium-term (under the current prices scenario).

Table 4-4: Waikato District Commercially Feasible and Reasonably Expected to be Realised Residential Capacity: Medium-Term – 2030

LOCATION	COMMERCIALLY FEASIBLE						REASONABLY REALISED CAPACITY					
	Max Infill	Max Redevelopment	Max Existing Urban	Greenfield	Greenfield + Infill	Greenfield + Infill + Redevelopment	Max Infill	Max Redevelopment	Max Existing Urban	Greenfield	Greenfield + Infill	Greenfield + Infill + Redevelopment
Main Urban Areas												
Pokeno/Tuakau	800	300	800	4,900	5,800	5,800	200	60	200	4,600	4,800	4,800
Te Kauwhata	300	200	300	3,100	3,400	3,400	60	40	60	2,800	2,900	2,900
Ngaruawahia	400	300	500	900	1,300	1,300	80	60	90	700	800	800
Huntly	300	-	300	-	300	300	60	-	60	-	60	60
Taupiri	200	300	300	300	500	600	50	60	60	200	300	300
Raglan	500	400	600	1,000	1,500	1,600	100	80	100	900	1,000	1,000
TOTAL MAIN URBAN	**2,600**	**1,500**	**2,900**	**10,200**	**12,800**	**13,100**	**500**	**300**	**600**	**9,300**	**9,800**	**9,900**

Source: M.E FPP Residential Capacity Model, 2020.

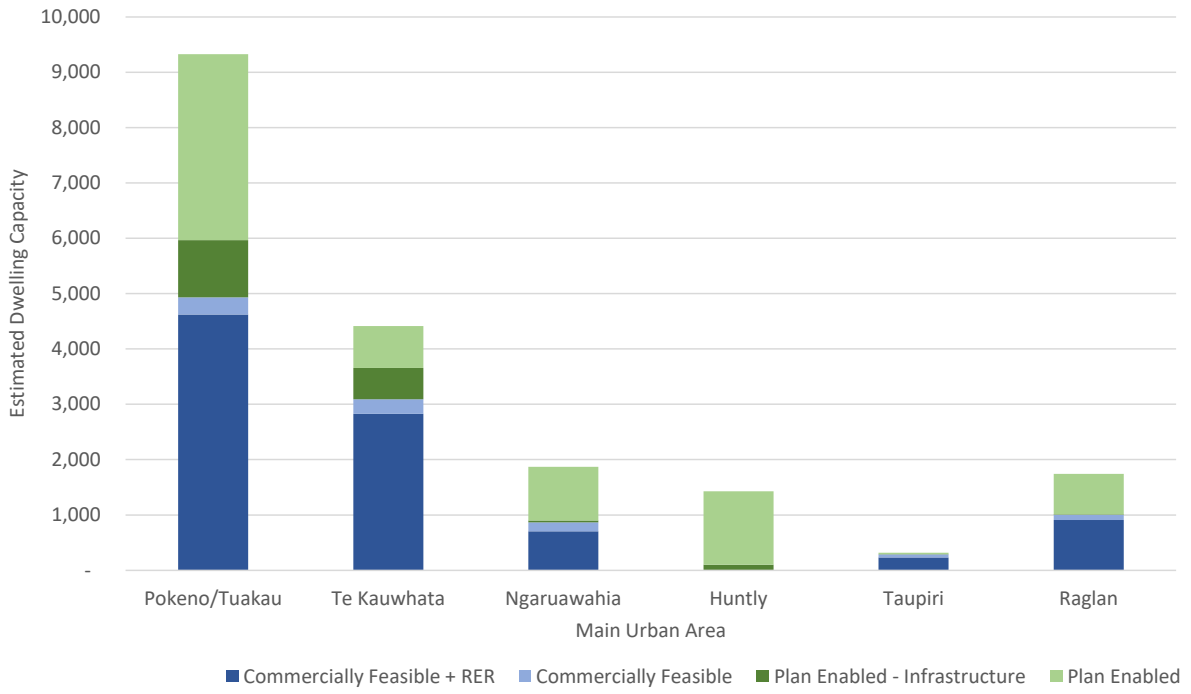
The total plan enabled capacity across the main urban areas, and the breakdown by capacity type, is shown in Figure 4-3 (greenfield only) and Figure 4-4 (greenfield and existing urban combined). In the medium-term, the additional dwelling capacity is concentrated into the northern areas of the district within

Pōkeno/Tuakau. If the patterns of growth uptake correspond with the additional dwelling capacity, this is likely to result in a shift in the distribution of households within the district. Huntly currently represents the largest urban centre, but contains some of the lowest shares of plan enabled and feasible development capacity.

The figures show that in the medium-term, there are sizeable areas of zoned greenfield opportunity that are not planned to be served by infrastructure. This is concentrated into Pōkeno/Tuakau, with significant components also in Huntly and Ngāruawāhia.

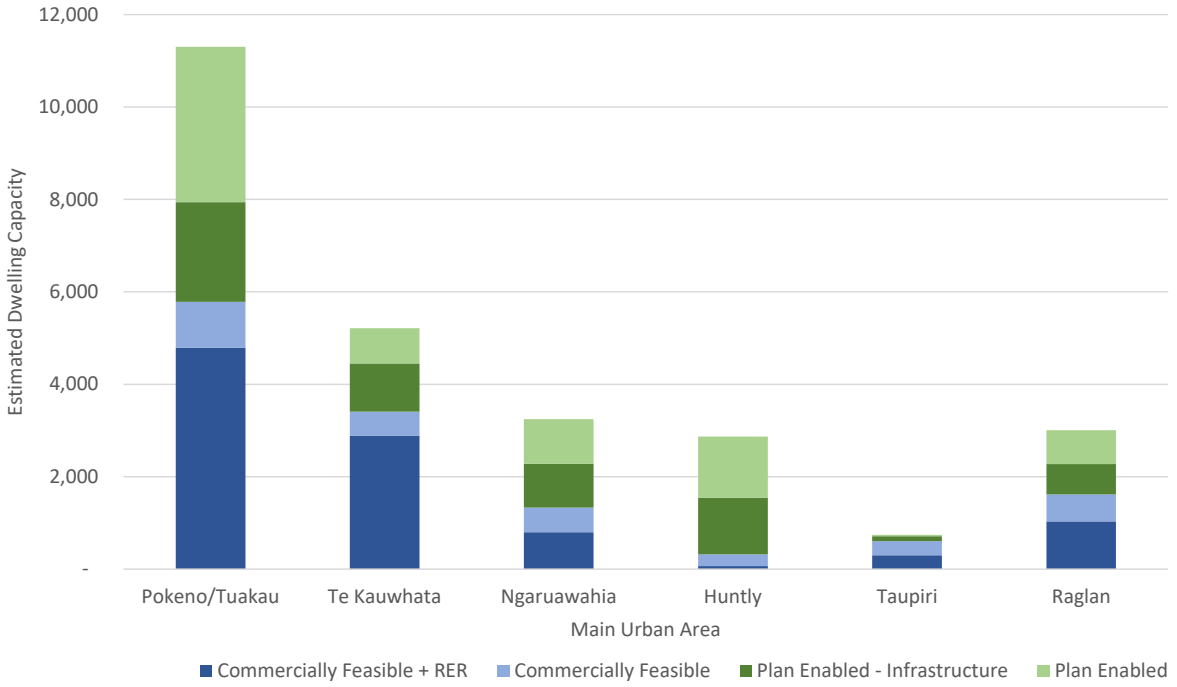
Most of the plan enabled greenfield capacity is projected to be commercially feasible, however, there are also significant amounts of infrastructure served zoned greenfield capacity that is not projected to be commercially feasible (total 1,700 additional dwellings). This is proportional to the distribution of greenfield capacity and is mainly in Pōkeno/Tuakau and Te Kauwhata.

Figure 4-3: Waikato District Estimated Urban Residential Capacity: Greenfield – Medium-Term – 2030



Source: M.E FPP Residential Capacity Model, 2020.

Figure 4-4: Waikato District Estimated Urban Residential Capacity: Greenfield and Maximum Existing Urban – Medium-Term – 2030



Source: M.E FPP Residential Capacity Model, 2020.

4.2.3 Long-Term Residential Capacity: 2050

There are further large projected increases in plan enabled urban capacity in the long-term across the Waikato District. The Waikato 2070 (W2070) strategy contains substantial areas of urban expansion as well as opportunity for further intensification within the existing urban areas.

Table 4-5 shows that there is an estimated total plan enabled capacity for an additional 41,200 to 46,500 dwellings in the long-term across the main urban areas. This amounts to a further 75% to 80% increase from the capacity enabled under the PDP, and is around three to four times the capacity currently enabled by the ODP.

Most (82% to 93%) of the long-term plan enabled capacity is within the greenfield areas (+38,100 dwellings). The largest share of this zoned capacity continues to be in Pōkeno/Tuakau, although there are large increases in the zoned greenfield capacity across all of the main urban areas in the long-term. A large share (78%) of the additional areas of urban expansion are planned to be served by infrastructure in the long-term. This amounts to a total infrastructure served zoned greenfield capacity for an additional 29,600 dwellings across the district's main urban areas, and a further 4,000 additional dwellings within the urban settlements (a combined greenfield total of an additional 33,600 dwellings).

Table 4-5: Waikato District Plan Enabled Residential Capacity: Long-Term - 2050

LOCATION	NO INFRASTRUCTURE CONSTRAINTS						LONG-TERM INFRASTRUCTURE PROVISION					
	Max Infill	Max Redevelopment	Max Existing Urban	Greenfield	Greenfield + Infill	Greenfield + Infill + Redevelopment	Max Infill	Max Redevelopment	Max Existing Urban	Greenfield	Greenfield + Infill	Greenfield + Infill + Redevelopment
Main Urban Areas												
Pokeno/Tuakau	1,100	2,200	2,200	16,600	17,700	18,800	1,100	2,200	2,200	12,600	13,700	14,800
Te Kauwhata	300	600	600	6,400	6,600	6,900	300	600	600	6,200	6,400	6,700
Ngaruawahia	400	1,600	1,600	3,200	3,600	4,800	400	1,600	1,600	2,500	3,000	4,200
Huntly	400	2,300	2,300	4,600	4,900	6,900	400	2,300	2,300	3,300	3,600	5,600
Taupiri	200	500	500	2,300	2,500	2,700	200	500	500	2,300	2,500	2,700
Raglan	700	1,200	1,200	5,100	5,800	6,300	700	1,200	1,200	2,700	3,400	3,900
Total Main Urban Areas	**3,100**	**8,400**	**8,400**	**38,100**	**41,200**	**46,500**	**3,100**	**8,400**	**8,400**	**29,600**	**32,700**	**38,000**
Total Settlements	800	1,100	1,100	4,200	5,000	5,300	800	1,100	1,100	4,000	4,800	5,100
TOTAL URBAN	**3,900**	**9,500**	**9,500**	**42,300**	**46,200**	**51,800**	**3,900**	**9,500**	**9,500**	**33,600**	**37,500**	**43,100**

Source: M.E FPP Residential Capacity Model, 2020.

The following tables (Table 4-15 to Table 4-17) show the portion of Waikato District's plan enabled capacity that is projected to represent commercially feasible development options in the long-term and the share which are estimated to represent RER development opportunities. In this section, three scenarios are presented for long-term feasible capacity. Table 4-15 contains the capacity estimates under the current prices scenario where the change in feasible capacity is a function only of infrastructure expansion within the greenfield areas. The alternative scenarios that take into account the effect of demand growth through changing costs and prices and contained in Table 4-16 (Growth Scenario 1) and Table 4-17 (Growth Scenario 2).

Current Prices Scenario

Under the current prices scenario, over three-quarters (78%) of the infrastructure served greenfield capacity is projected to represent commercially feasible development options[37] in the long-term within the district's main urban areas. Relatively high proportions of the plan enabled greenfield capacity is projected to be commercially feasible in most of the main urban areas. The exception is Huntly, which does not contain any commercially feasible greenfield capacity using current prices in the long-term. However, this is largely due to the modelling using a 20% margin and current (2020) prices. It is likely that some of the plan enabled greenfield capacity will be taken up in Huntly in the long-term, albeit at a lower margin or by a different part of the market.

The share of plan enabled capacity within the existing urban areas that is projected to be feasible is lower at between 28% (redevelopment) to 63% (infill opportunities). The largest area of existing urban feasible capacity is projected to occur in Pōkeno/Tuakau, followed by Huntly, Raglan and Ngāruawāhia.

Once RER is taken into account, the long-term projected capacity across the district's main urban areas amounts to between 21,600 and 22,100 additional dwellings under the current prices scenario. It is projected that around 20,800 of the additional RER dwelling capacity occurs within the greenfield areas, which amounts to around 90% of the greenfield capacity that is estimated to represent commercially feasible development capacity.

[37] These represent the feasible development opportunities for developers and do not reflect the actual take-up of capacity, which is likely to be lower and in line with the projected demand. This is an important difference between capacity and growth.

Table 4-6: Waikato District Commercially Feasible and Reasonably Expected to be Realised Residential Capacity: Long-Term – 2050 (Current Prices)

LOCATION	COMMERCIALLY FEASIBLE						REASONABLY REALISED CAPACITY					
	Max Infill	Max Redevelopment	Max Existing Urban	Greenfield	Greenfield + Infill	Greenfield + Infill + Redevelopment	Max Infill	Max Redevelopment	Max Existing Urban	Greenfield	Greenfield + Infill	Greenfield + Infill + Redevelopment
Main Urban Areas												
Pokeno/Tuakau	600	700	1,100	10,400	11,000	11,500	300	300	400	9,500	9,700	9,900
Te Kauwhata	100	100	200	5,800	5,900	6,000	40	40	70	5,200	5,300	5,300
Ngaruawahia	200	400	500	2,000	2,200	2,500	90	200	200	1,700	1,700	1,900
Huntly	300	300	600	-	300	600	100	100	200	-	100	200
Taupiri	200	400	400	2,200	2,500	2,600	80	100	100	2,000	2,100	2,100
Raglan	500	400	600	2,700	3,200	3,300	200	200	200	2,400	2,600	2,700
TOTAL MAIN URBAN	**1,900**	**2,300**	**3,300**	**23,100**	**25,000**	**26,400**	**800**	**900**	**1,300**	**20,800**	**21,600**	**22,100**

Source: M.E FPP Residential Capacity Model, 2020.

Under the growth scenarios, a greater share of the plan enabled capacity within the existing urban areas, and within the greenfield areas (e.g. Huntly), becomes feasible through time. It is also projected that an increased share of the commercially feasible capacity within the existing urban areas is gradually taken up through time.

Growth Scenario 1

Under Growth Scenario 1 (Table 4-16), the projected long-term feasible capacity increases to an additional 31,200 to 33,100 dwellings within the district's main urban areas. This represents an increase of around 6,200 to 6,700 additional dwellings from the current prices scenario. This is a function of gradual growth in demand through time resulting in an increased range of development options become feasible.

Most of the increase (+5,900 dwellings) in feasible capacity occurs through an expansion in the greenfield areas that become commercially feasible to develop. The largest increase occurs within Huntly, where greenfield areas are not currently feasible to develop (if the zoning were in place), but are projected to become feasible through time.

The types of feasible development opportunities within the existing urban areas are also projected to gradually increase through time. Across the short and medium-term there is projected faster growth in infill development opportunities, with an increasing range of redevelopment opportunities becoming feasible through time in the longer-term.

Within the feasible capacity, there is an estimated RER capacity of 27,000 to 27,800 additional dwellings. Most of this is within the greenfield areas, where it is estimated that a high portion of the yield enabled within these areas could be achieved if they were developed as greenfield areas.

The modelling also makes a smaller allowance for RER capacity within the existing urban areas. Under this scenario, there is an estimated RER capacity of 900 to 1,600 additional dwelling within these areas. The largest share is projected to occur within Pōkeno. Even with growth in the market, the modelling has taken a conservative approach is projecting only a low share of existing urban area development (under the existing zoning information and margins required for the assessment) is likely to represent RER capacity. In large part, this is due to the relative ease of greenfield development options, where there is a very large supply within the medium and long-term.

Furthermore, within the information supplied[38] for the assessment, there are limited options for higher forms of intensification within the existing urban areas. In areas containing the long-term Medium Density Residential Zone, the modelling has projected higher rates of feasibility within these areas through time. Where applied, a higher share of the plan enabled capacity within this zone is projected to be feasible through time.

Table 4-7: Waikato District Commercially Feasible and Reasonably Expected to be Realised Residential Capacity: Long-Term – 2050 (Growth Scenario 1)

LOCATION	COMMERCIALLY FEASIBLE						REASONABLY REALISED CAPACITY					
	Max Infill	Max Redevelopment	Max Existing Urban	Greenfield	Greenfield + Infill	Greenfield + Infill + Redevelopment	Max Infill	Max Redevelopment	Max Existing Urban	Greenfield	Greenfield + Infill	Greenfield + Infill + Redevelopment
Main Urban Areas												
Pokeno/Tuakau	600	900	1,200	12,400	13,000	13,600	300	400	500	11,300	11,500	11,800
Te Kauwhata	100	200	200	6,100	6,200	6,400	40	90	90	5,500	5,600	5,600
Ngaruawahia	400	700	900	2,500	2,900	3,400	200	300	400	2,100	2,300	2,500
Huntly	300	500	700	3,000	3,300	3,700	100	200	300	2,800	2,900	3,100
Taupiri	200	400	400	2,300	2,500	2,700	90	200	200	2,000	2,100	2,200
Raglan	500	600	600	2,700	3,200	3,400	200	200	300	2,400	2,600	2,700
TOTAL MAIN URBAN	**2,200**	**3,400**	**4,100**	**29,000**	**31,200**	**33,100**	**900**	**1,300**	**1,600**	**26,200**	**27,000**	**27,800**

Source: M.E FPP Residential Capacity Model, 2020.

Growth Scenario 2

Under Growth Scenario 2 (Table 4-16), the projected long-term feasible capacity increases to an additional 32,400 to 35,200 dwellings (+1,200 to 2,100 dwellings from Growth Scenario 1) within the district's main urban areas. This represents an increase of around 7,400 to 8,800 additional dwellings from the current prices scenario. This is a function of gradual growth in demand through time resulting in an increased range of development options become feasible.

The largest further feasible capacity increases between Growth Scenarios 1 and 2 occur through a greater range of redevelopment opportunities within the existing urban area becoming feasible. Nearly all of the greenfield areas are already projected to become feasible to develop under the lower growth scenario. The increase in feasible redevelopment capacity amounts to an additional 1,700 dwellings (from Growth Scenario 1), and is spread across the main urban areas.

[38] The modelling is based on zoning information supplied and confirmed by Waikato District Council in November 2020. Information on the current notified plan changes, including the wider application of the Medium Density Residential Zone, has not been supplied for the HBA assessment.

Table 4-8: Waikato District Commercially Feasible and Reasonably Expected to be Realised Residential Capacity: Long-Term – 2050 (Growth Scenario 2)

LOCATION	COMMERCIALLY FEASIBLE						REASONABLY REALISED CAPACITY					
	Max Infill	Max Redevelopment	Max Existing Urban	Greenfield	Greenfield + Infill	Greenfield + Infill + Redevelopment	Max Infill	Max Redevelopment	Max Existing Urban	Greenfield	Greenfield + Infill	Greenfield + Infill + Redevelopment
Main Urban Areas												
Pokeno/Tuakau	1,000	1,300	1,700	12,500	13,600	14,200	400	500	700	11,400	11,800	12,100
Te Kauwhata	300	300	500	6,200	6,400	6,600	100	100	200	5,600	5,700	5,700
Ngaruawahia	400	1,200	1,300	2,500	3,000	3,800	200	500	500	2,100	2,300	2,700
Huntly	300	900	1,000	3,300	3,600	4,300	100	400	400	3,000	3,100	3,400
Taupiri	200	500	500	2,300	2,500	2,700	90	200	200	2,000	2,100	2,200
Raglan	700	700	900	2,700	3,400	3,600	300	300	400	2,500	2,700	2,800
TOTAL MAIN URBAN	**2,900**	**4,900**	**5,800**	**29,500**	**32,400**	**35,300**	**1,200**	**2,000**	**2,300**	**26,500**	**27,700**	**28,900**

Source: M.E FPP Residential Capacity Model, 2020.

The projected long-term capacity by type across each of the district's main urban areas is summarised in Figure 4-5 (greenfield only) and Figure 4-6 (greenfield and existing urban) for both the current prices and higher growth scenarios. Most of the infrastructure served greenfield areas are projected to be commercially feasible across the main urban areas. The exception is Huntly, and a part of Pōkeno/Tuakau, which are not feasible to develop under the existing market conditions. The market is not currently delivering greenfield dwellings in Huntly, and therefore, does not contain any feasible capacity if current prices are applied.

A share of the capacity in Pōkeno/Tuakau is also not currently feasible if current prices are applied to the long-term future greenfield areas. Although demand is currently strong in this location, there is a large amount of greenfield capacity supplied relative to both the existing size of the settlement and long-term demand. It is therefore in alignment with current market conditions that a large share of the capacity is likely to be feasible, with a share also likely to be unfeasible due to the volume supplied.

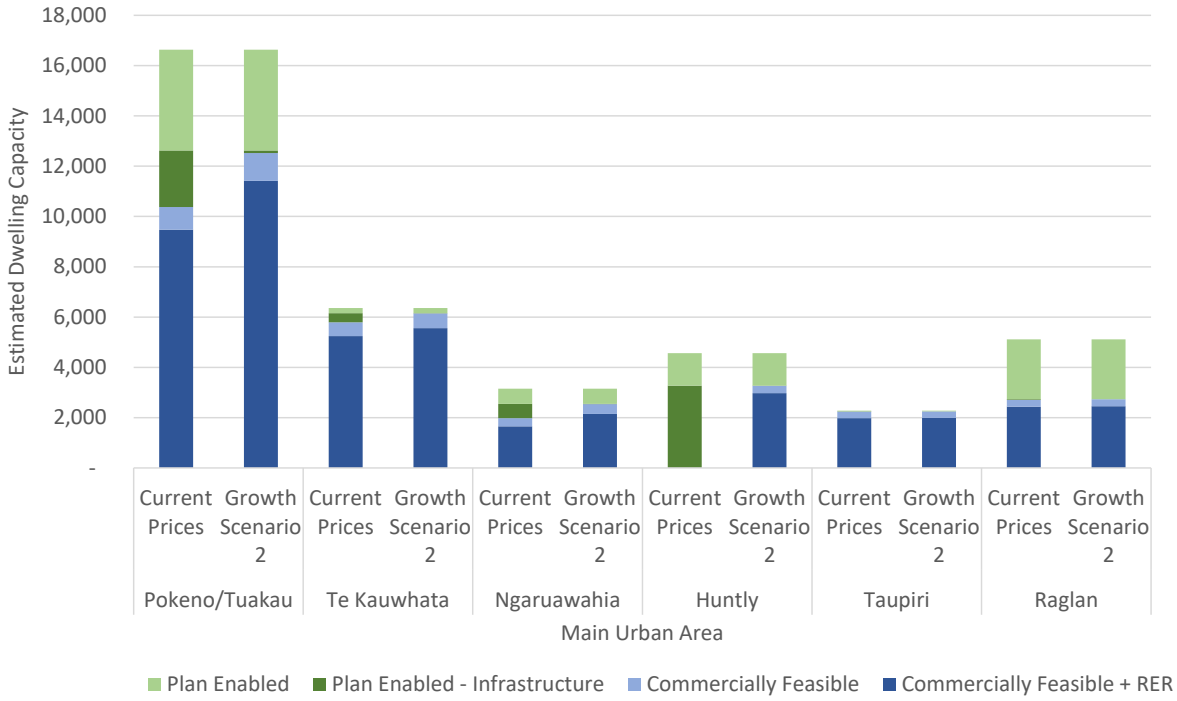
Under the modelled growth scenarios, where the market is allowed to change gradually in response to demand growth, then nearly all of these greenfield areas become feasible.

In the long-term, a large share of the greenfield areas are planned to be served by infrastructure. In addition, there are substantial areas of zoned greenfield land that are not planned to be served by infrastructure within the long-term. These occur in Pōkeno/Tuakau, Raglan and Huntly.

Figure 4-6 shows additional areas of infrastructure-served plan-enabled capacity within the existing urban areas that are not projected to be commercially feasible in the long-term. There is likely to be additional capacity within the existing urban areas that is not feasible to develop through time. A lower take-up of capacity within the existing urban areas is expected, particularly where there are large volumes of greenfield capacity provided.

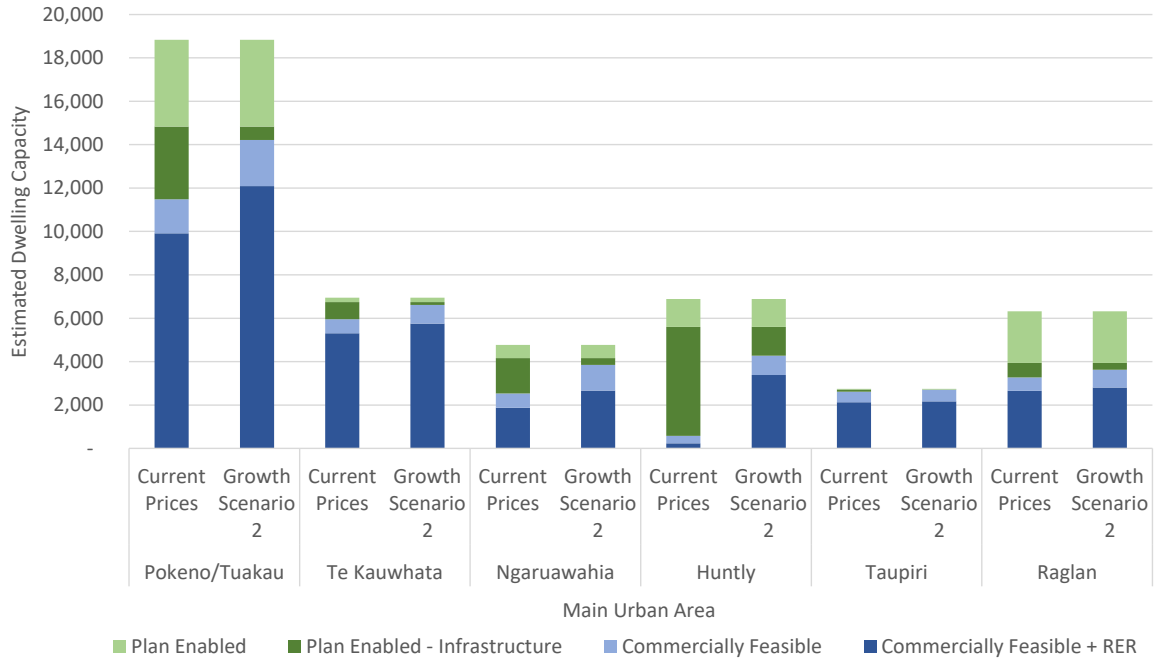
The relative contribution of intensification of the existing urban areas to overall capacity lessens (on a proportional basis) through time across many of these urban areas as the plan-enabled urban footprint is expanded to a large extent. It is important to note however, that the modelling does not take into account much of the potential for intensification (a large share of the proposed Medium Density Residential Zone) that is currently being evaluated through hearings on the PDP. This information was not available at the time of modelling or completion of the HBA report.

Figure 4-5: Waikato District Estimated Urban Residential Capacity: Greenfield – Long-Term – 2050



Source: M.E FPP Residential Capacity Model, 2020.

Figure 4-6: Waikato District Estimated Urban Residential Capacity: Greenfield and Maximum Existing Urban – Long-Term – 2050



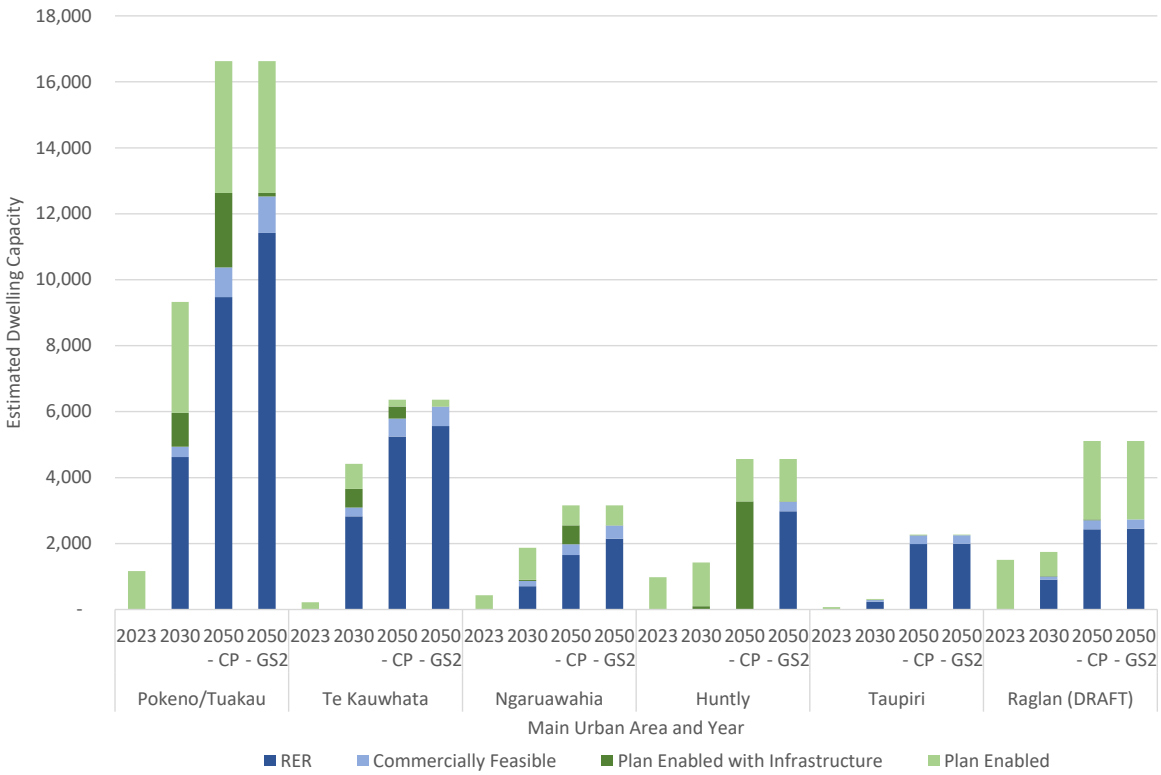
Source: M.E FPP Residential Capacity Model, 2020.

4.2.4 Residential Capacity: Short, Medium and Long-Term

The following graphs (Figure 4-7 and Figure 4-8) summarise the change in projected capacity through time across the district's main urban areas. Figure 4-7 shows the greenfield capacity only, and Figure 4-8 both the greenfield and existing urban capacity.

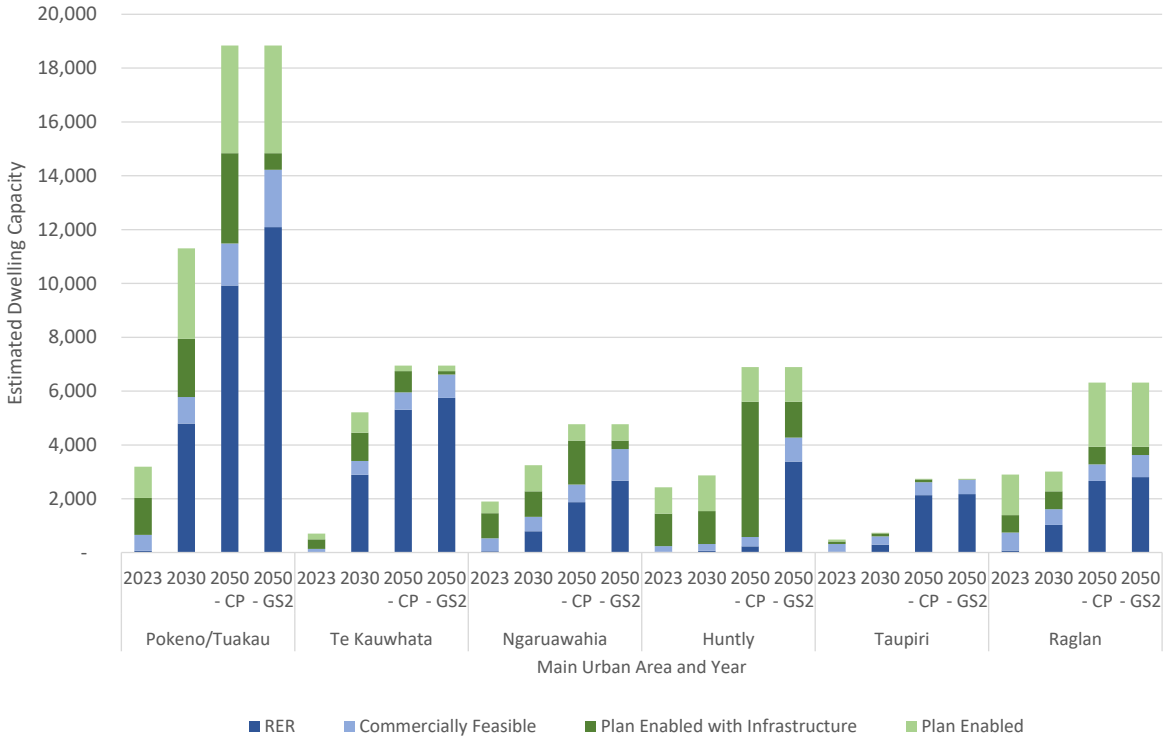
Most of the additional capacity is projected to be supplied in Pōkeno/Tuakau, Te Kauwhata, Raglan and Huntly (although, not served by infrastructure) in the short-term. The main increases in capacity between the short and medium-term occur in Pōkeno/Tuakau and Te Kauwhata. In the long-term the main increases in capacity occur in Pōkeno/Tuakau, Raglan and Huntly where the W2070 contains sizeable areas of outward urban expansion.

Figure 4-7: Waikato District Estimated Urban Residential Capacity: Greenfield 2023-2050



Source: M.E FPP Residential Capacity Model, 2020.

Figure 4-8: Waikato District Estimated Urban Residential Capacity: Greenfield and Maximum Existing Urban 2023-2050



Source: M.E FPP Residential Capacity Model, 2020.

4.3 Hamilton City Residential Capacity

4.3.1 Short-Term Residential Capacity: 2023

Hamilton City residential capacity has been assessed in relation to the Operative District Plan (ODP) across the short, medium and long-term. It takes into account the existing urban area (which has expanded outward since the 2017/2018 assessment) and the greenfield areas of future urban expansion.

The capacity in Hamilton City enabled under the ODP in the short-term is displayed in Table 4-9. The first part (light green) of the table shows the plan enabled capacity without infrastructure constraints, while the second part (dark green) includes the infrastructure constraints in the greenfield areas.

In total, there is zoned capacity for an additional 22,900 to 108,300 additional dwellings within Hamilton City's existing urban area. The lower end of the range includes only infill development options, with the upper end of the range also including redevelopment potential. Through applying the underlying zoning provisions, there is further capacity for an additional 22,300 dwellings within the city's greenfield areas. In

total, there is a combined zoned capacity for an additional 45,100 to 130,600 additional dwellings within Hamilton City without taking into account infrastructure constraints.

Within the urban area, over half of the additional infill dwelling capacity occurs within the lower value areas (Level 1 and Level 2 areas) of the city. Almost all of the capacity occurs within the General Residential Zone, reflecting the spatial extent of the zone across the city. A small share of capacity occurs within the Residential Intensification Zone. There is almost no capacity within the Special Heritage and Special Residential Zones.

When taking into account redevelopment capacity, over one-third (38%; 41,400 dwellings) occurs within the City Centre Zone. The remaining 62% of capacity (66,900 dwellings) occurs within the residential zones outside of the city centre. The rate of uptake of capacity within the City Centre is likely to be lower in the short and medium-term, which is reflected in a conservative approach taken within the subsequent feasibility assessment.

The plan enabled additional dwelling capacity by development option within Hamilton's existing urban area is shown in Table 4-10. The upper section of the table shows the infill capacity by dwelling typology and zone, and the lower half, the redevelopment capacity options by typology and zone. Capacity by typology is not additive and the maximum ('Max') columns show the maximum yield across the typologies combined. The last column is the maximum yield across both infill and redevelopment options.

The table shows that a large share of the infill capacity occurs through the addition of a further dwelling to an already developed parcel to form a duplex pair together with the existing dwelling. There is capacity for around 15,000 additional dwellings through this development pathway. If the vacant areas of existing parcels are subdivided and new dwellings constructed, then there is capacity for nearly 3,000 single dwellings, or 6,300 duplex dwellings (and 500 apartments within the Residential Intensification Zone).

Redevelopment of sites into duplex pairs forms the largest type of redevelopment capacity enabled under the ODP. There is also large redevelopment capacity within the City Centre, with a maximum potential for an additional 41,400 dwellings. However, a significant share of this capacity is likely to be taken up by non-residential uses.

Rotokauri, Peacocke and Temple View form the largest areas of zoned greenfield capacity (excluding infrastructure constraints) under the ODP, accounting for over four-fifths of the potential capacity. Rototuna and Ruakura North also contain significant areas of zoned greenfield capacity. No zoned residential capacity is identified within Te Rapa North as the underlying ODP zoning is for industrial uses.

In the short-term, approximately only 11% of the zoned greenfield capacity is served by infrastructure. This equates to a total plan-enabled, infrastructure-served greenfield capacity for an additional 2,400 dwellings. Almost all (90%) of this is within Rototuna (2,200 dwellings), meaning that nearly all (85%) of the capacity within Rototuna will be served by infrastructure within the short-term. A small amount of greenfield capacity (200 dwellings) is currently served by infrastructure within Ruakura North.

Table 4-9: Hamilton City Plan Enabled Residential Capacity: Short-Term – 2023

LOCATION	NO INFRASTRUCTURE CONSTRAINTS						SHORT-TERM INFRASTRUCTURE PROVISION					
	Max Infill	Max Redevelopment	Max Existing Urban	Greenfield	Greenfield + Infill	Greenfield + Infill + Redevelopment	Max Infill	Max Redevelopment	Max Existing Urban	Greenfield	Greenfield + Infill	Greenfield + Infill + Redevelopment
Level 1	4,600	13,500	13,500				4,600	13,500	13,500			
Level 2	7,300	23,000	23,100				7,300	23,000	23,100			
Level 3	4,000	14,800	14,800				4,000	14,800	14,800			
Level 4	3,500	11,900	12,100				3,500	11,900	12,100			
Level 5	900	3,400	3,400				900	3,400	3,400			
City Centre	2,600	41,400	41,400				2,600	41,400	41,400			
Total Existing Urban	**22,900**	**108,100**	**108,300**				**22,900**	**108,100**	**108,300**			
Te Rapa North				-						-		
Rotokauri				6,800						200		
Rototuna				2,600						2,100		
Ruakura North				1,600						600		
Ruakura South				80						-		
Temple View				5,000						-		
Peacocke				6,200						200		
Total Greenfield				**22,300**						**3,100**		
Total Hamilton					**45,100**	**130,600**					**26,000**	**111,500**

Source: M.E FPP Residential Capacity Model, 2020.

Table 4-10: Plan Enabled Capacity in Hamilton's Existing Urban Area

	INFILL (Additional Dwelling Capacity)				
	Single	Duplex	Add Duplex	Apartment	Max Infill
General Residential Zone	2,600	5,800	15,200	-	19,800
Residential Intensification Zone	300	500	-	500	500
City Centre Zone	-	-	-	2,600	2,600
Total	**2,900**	**6,300**	**15,200**	**3,100**	**22,900**

	REDEVELOPMENT (Additional Dwelling Capacity)				
	Single	Duplex	Apartment	Max Redevelopment	Max Infill + Redevelopment
General Residential Zone	10,700	62,000	-	62,000	62,300
Residential Intensification Zone	2,700	4,000	4,500	4,600	4,600
City Centre Zone	-	-	41,400	41,400	41,400
Total	**13,400**	**66,000**	**46,000**	**108,100**	**108,300**

Source: M.E FPP Residential Capacity Model, 2020.

The share of plan enabled capacity projected to be commercially feasible and reasonably expected to be realised in the short-term is shown in Table 4-11. It is estimated that the feasible dwelling development options (light blue section of the table) within Hamilton's existing urban area amount to between 10,100 and 16,300 additional dwellings. In combination with greenfield capacity, this amounts to an a commercially feasible capacity of 12,000 to 18,100 dwellings in the short-term. Just over one-quarter of the redevelopment capacity occurs within the City Centre.

Within the existing urban area, this amounts to around 15% of the existing urban plan enabled capacity representing feasible development options in the short-term. The share is higher for infill development (44%) and lower (8%) for redevelopment capacity. A higher proportion of redevelopment capacity is concentrated into the higher value areas within the city.

There is an estimated RER capacity of around 3,000 to 3,600 additional dwellings within Hamilton in the short-term. Around 50% to 60% of this capacity is projected to occur within the greenfield areas, with the remainder within the existing urban area. It is important to note that only a small share (11% of commercially feasible and 2% of plan enabled) of the existing urban capacity is expected to be RER. This is based off the average rates of capacity take-up within the existing urban area relative to greenfield growth. There is a much larger amount of capacity within the existing urban area that is estimated to be feasible within the short-term, and an even larger amount enabled under the Plan (some 60 times the existing urban RER capacity).

There is a projected commercially feasible capacity for around 1,900 dwellings within Hamilton's greenfield areas in the short-term. This amounts to around 78% of the infrastructure-served greenfield capacity, and around 8% of greenfield capacity overall. Most of the infrastructure-served greenfield areas are located adjacent to the existing urban edge and are projected to be commercially feasible development options within the short-term. A portion of the capacity in Rototuna is modelled as not likely to be commercially feasible. This is primarily due to the higher value of properties in this area as they are currently established as higher value lifestyle properties, which would affect the feasibility of redeveloping these areas into new subdivision areas.

It is estimated that there is a RER capacity of 1,800 dwellings within the greenfield areas in the short-term. The RER yields on some of Hamilton's greenfield areas are projected to be higher than that enabled under the ODP as the developer yields and structure plans are higher than the capacities enabled through the underlying zoning. Rototuna accounts for nearly all of this capacity, containing 90% of Hamilton's RER greenfield capacity in the short-term.

The estimated short-term commercially feasible and RER capacities under growth scenarios 1 and 2 are contained in the district level summaries in the sufficiency assessment.

Table 4-11: Hamilton City Commercially Feasible and Reasonably Expected to be Realised Residential Capacity: Short-Term – 2023 (Current Prices)

	COMMERCIALLY FEASIBLE						REASONABLY REALISED CAPACITY					
LOCATION	Max Infill	Max Redevelopment	Max Existing Urban	Greenfield	Greenfield + Infill	Greenfield + Infill + Redevelopment	Max Infill	Max Redevelopment	Max Existing Urban	Greenfield	Greenfield + Infill	Greenfield + Infill + Redevelopment
Level 1	1,700	600	2,100				200	80	300			
Level 2	3,500	1,200	4,300				500	200	600			
Level 3	1,200	1,100	1,900				200	100	200			
Level 4	2,600	1,600	3,200				300	200	400			
Level 5	300	400	600				40	50	70			
City Centre	800	4,200	4,300				50	300	300			
Total Existing Urban	**10,100**	**9,200**	**16,300**				**1,300**	**900**	**1,800**			
Te Rapa North				-						-		
Rotokauri				200						200		
Rototuna				1,600						1,500		
Ruakura North				600						600		
Ruakura South				-						-		
Temple View				-						-		
Peacocke				200						200		
Total Greenfield				**2,600**						**2,500**		
Total Hamilton					**12,700**	**18,800**					**3,700**	**4,300**

Source: M.E FPP Residential Capacity Model, 2020.

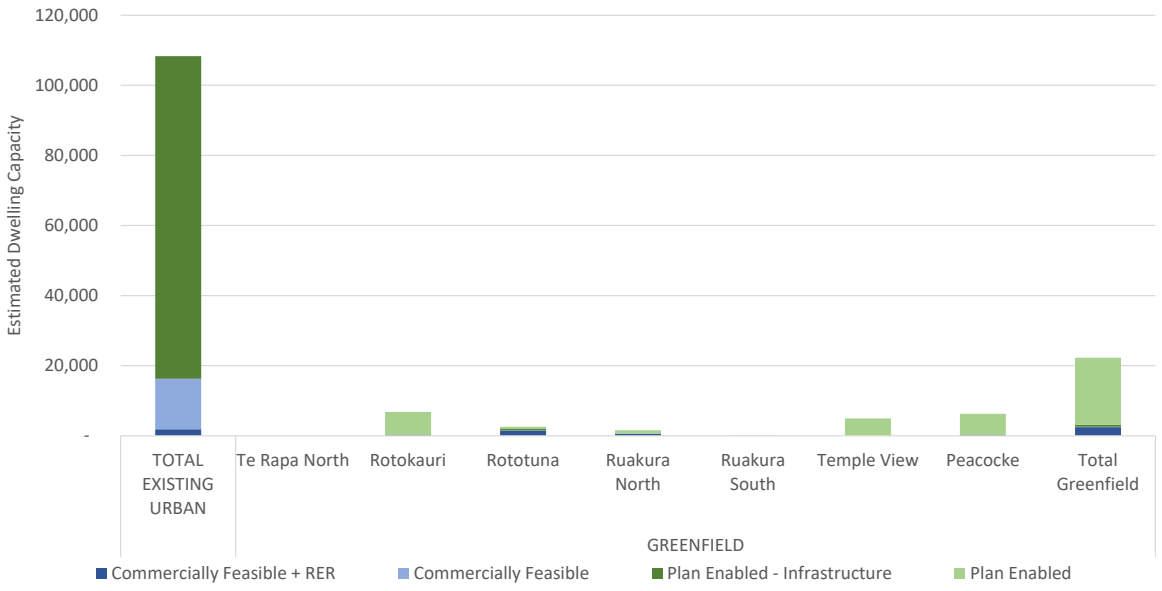
The estimated dwelling capacity within Hamilton's existing urban area and each of the greenfield areas is summarised in Figure 4-9. It shows the total plan enabled capacity, and the components of this that are

estimated to be RER (dark blue), commercially feasible by not RER (light blue), plan enabled and infrastructure served but not commercially feasible (dark green) and plan enabled but not infrastructure served (light green).

Key aspects are:

- Hamilton's existing urban area contains the largest amount of plan enabled capacity for additional dwellings.
- A minor share of the plan enabled capacity within the existing urban area is projected to be currently commercially feasible. There is a large amount of additional zoned opportunity beyond what is currently estimated to be commercially feasible.
- A minor share of the greenfield zoned capacity will be served by infrastructure in the short-term. It is projected that most of this will be commercially feasible to develop and represent RER capacity.

Figure 4-9: Hamilton City Estimated Urban Residential Capacity: Greenfield and Maximum Existing Urban – Short-Term – 2023 (Current Prices)



Source: M.E FPP Residential Capacity Model, 2020.

4.3.2 Medium-Term Residential Capacity: 2030

Hamilton City's medium-term estimated plan enabled capacity is shown in Table 4-12. The same underlying zoning framework is also applied in the medium-term assessment, meaning that the plan enabled capacity within the existing urban area remains the same across the short and medium-term. In total, there is a plan enabled capacity for an additional 22,900 to 108,300 dwellings within the existing urban area.

In the medium-term, there is an estimated zoned capacity for an additional 8,700 dwellings in infrastructure-served greenfield areas. This is around 40% of the total zoned greenfield capacity.

The greenfield zoned area served by infrastructure will more than triple in the medium-term (in comparison to the short-term). The largest areas of infrastructure expansion are planned to occur in Peacocke (+4,500 dwellings) and Ruakura North (+1,300 dwellings), with smaller amounts in Rototuna (+400 dwellings) and Ruakura South (+80 dwellings). In the medium-term, this makes Peacocke and Rototuna the largest areas of infrastructure-served greenfield capacity.

Table 4-12: Hamilton City Plan Enabled Residential Capacity: Medium-Term - 2030

LOCATION	NO INFRASTRUCTURE CONSTRAINTS						MEDIUM-TERM INFRASTRUCTURE PROVISION					
	Max Infill	Max Redevelopment	Max Existing Urban	Greenfield	Greenfield + Infill	Greenfield + Infill + Redevelopment	Max Infill	Max Redevelopment	Max Existing Urban	Greenfield	Greenfield + Infill	Greenfield + Infill + Redevelopment
Level 1	4,600	13,500	13,500				4,600	13,500	13,500			
Level 2	7,300	23,000	23,100				7,300	23,000	23,100			
Level 3	4,000	14,800	14,800				4,000	14,800	14,800			
Level 4	3,500	11,900	12,100				3,500	11,900	12,100			
Level 5	900	3,400	3,400				900	3,400	3,400			
City Centre	2,600	41,400	41,400				2,600	41,400	41,400			
Total Existing Urban	**22,900**	**108,100**	**108,300**				**22,900**	**108,100**	**108,300**			
Te Rapa North				-						-		
Rotokauri				6,800						-		
Rototuna				2,600						2,600		
Ruakura North				1,600						1,600		
Ruakura South				80						80		
Temple View				5,000						-		
Peacocke				6,200						4,500		
Total Greenfield				**22,300**						**8,700**		
Total Hamilton					**45,100**	**130,600**					**31,600**	**117,100**

Source: M.E FPP Residential Capacity Model, 2020.

The portion of Hamilton's plan enabled capacity that is projected to represent commercially feasible development options in the medium-term is displayed in Table 4-13. In total, there is an estimated commercially feasible development capacity of between 17,400 and 23,600 dwellings across the existing urban and greenfield areas combined.

The RER component of this capacity is estimated to be 14,800 to 18,000 dwellings. This is based off the average rates of dwelling capacity take-up within existing urban areas relative to greenfield areas. Within the existing urban area, it equates to around two-thirds of the existing urban area capacity that is currently feasible being RER, and around 10% of the plan enabled capacity.

Under the current prices scenario, the feasible capacity within the existing urban area remains equal to that in the short-term. There is a feasible capacity of between 10,100 to 16,300 additional dwellings within the existing urban area.

Within the greenfield areas, the commercially feasible capacity increases to an additional 7,400 dwellings. This amounts to 84% of the infrastructure-served zoned capacity within the greenfield areas. The areas of feasible greenfield capacity reflect the extent of the areas served by infrastructure, with Peacocke, Rototuna and Ruakura North being the largest areas of feasible capacity.

The RER component of the greenfield capacity is estimated to increase to 7,600 additional dwellings in the medium-term. The areas of RER capacity cover a high share of the infrastructure-served zoned area. There

is also a small amount of capacity in Te Rapa North, which is projected to occur within a private plan change area as signalled through the developer information. Some of the RER capacity within the Peacocke area is projected to occur at higher yields (as signalled through the developer information), with a share of the infrastructure-served capacity in Peacocke not projected to be RER in the medium-term.

Table 4-13: Hamilton City Commercially Feasible and Reasonably Expected to be Realised Residential Capacity: Medium-Term – 2030 (Current Prices)

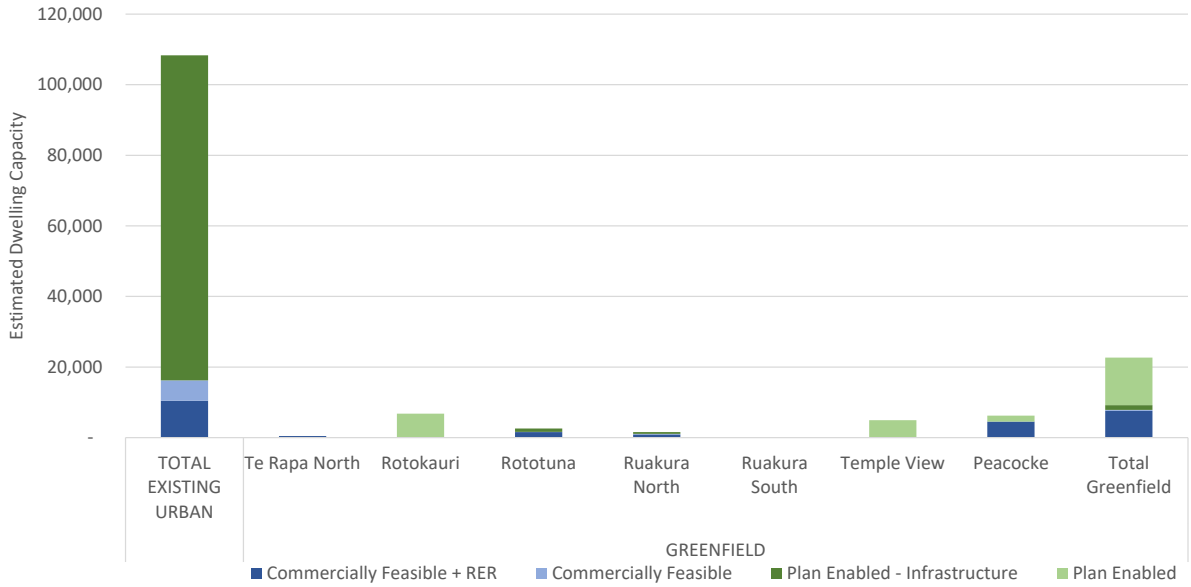
	COMMERCIALLY FEASIBLE						REASONABLY REALISED CAPACITY					
LOCATION	Max Infill	Max Redevelopment	Max Existing Urban	Greenfield	Greenfield + Infill	Greenfield + Infill + Redevelopment	Max Infill	Max Redevelopment	Max Existing Urban	Greenfield	Greenfield + Infill	Greenfield + Infill + Redevelopment
Level 1	1,700	600	2,100				1,300	400	1,500			
Level 2	3,500	1,200	4,300				2,600	900	3,200			
Level 3	1,200	1,100	1,900				900	800	1,400			
Level 4	2,600	1,600	3,200				1,900	1,200	2,400			
Level 5	300	400	600				200	300	400			
City Centre	800	4,200	4,300				300	1,600	1,600			
Total Existing Urban	**10,100**	**9,200**	**16,300**				**7,200**	**5,200**	**10,500**			
Te Rapa North				-						400		
Rotokauri				-						-		
Rototuna				1,700						1,600		
Ruakura North				1,100						900		
Ruakura South				80						60		
Temple View				-						-		
Peacocke				4,500						4,600		
Total Greenfield				**7,400**						**7,600**		
Total Hamilton					**17,400**	**23,600**					**14,800**	**18,000**

Source: M.E FPP Residential Capacity Model, 2020.

The total plan enabled capacity across Hamilton City, and the breakdown by capacity type, is shown in Figure 4-10. Under the current prices scenario, the existing urban area plan enabled capacity remains the same as the short-term. The share of commercially feasible capacity (as estimated using current prices) as RER increases in line with the estimated greenfield RER capacity.

Further infrastructure served and feasible capacity is estimated across the greenfield areas in line with the spatial expansion of infrastructure provision in the medium-term. The figure shows that most of the greenfield capacity is reasonably expected to be realised, with a small amount of additional commercially feasible capacity and zoned, infrastructure-served capacity beyond that which is commercially feasible. In addition, there is substantial further zoned opportunity that is not likely to be served by infrastructure within the medium-term.

Figure 4-10: Hamilton City Estimated Urban Residential Capacity: Greenfield and Maximum Existing Urban – Medium-Term – 2030 (Current Prices)



Source: M.E FPP Residential Capacity Model, 2020.

4.3.3 Long-Term Residential Capacity: 2050

The estimated long-term plan-enabled capacity for Hamilton City is shown in Table 4-14. If infrastructure constraints are excluded, the total zoned capacity remains the same (at 45,100 to 130,600 additional dwellings) as the short and medium-term as long-term capacity is also assessed using the ODP zoning framework.

There is significant planned infrastructure expansion within the long-term. The total infrastructure served plan-enabled capacity increases by 140% from the medium-term (+12,300 dwellings from the medium-term), to reach 21,000 dwellings in the long-term. The largest areas of expansion are around Rotokauri and Templeview (in the Future Urban Zone area), followed by the remainder of Peacocke. Expansion into the Temple View Future Urban Zone, means that together with Peacocke and Rotokauri, it forms one the city's largest areas of greenfield capacity in the long-term.

Table 4-14: Hamilton City Plan Enabled Residential Capacity: Long-Term - 2050

LOCATION	NO INFRASTRUCTURE CONSTRAINTS						LONG-TERM INFRASTRUCTURE PROVISION					
	Max Infill	Max Redevelopment	Max Existing Urban	Greenfield	Greenfield + Infill	Greenfield + Infill + Redevelopment	Max Infill	Max Redevelopment	Max Existing Urban	Greenfield	Greenfield + Infill	Greenfield + Infill + Redevelopment
Level 1	4,600	13,500	13,500				4,600	13,500	13,500			
Level 2	7,300	23,000	23,100				7,300	23,000	23,100			
Level 3	4,000	14,800	14,800				4,000	14,800	14,800			
Level 4	3,500	11,900	12,100				3,500	11,900	12,100			
Level 5	900	3,400	3,400				900	3,400	3,400			
City Centre	2,600	41,400	41,400				2,600	41,400	41,400			
Total Existing Urban	**22,900**	**108,100**	**108,300**				**22,900**	**108,100**	**108,300**			
Te Rapa North				-						-		
Rotokauri				6,800						5,600		
Rototuna				2,600						2,600		
Ruakura North				1,600						1,600		
Ruakura South				80						80		
Temple View				5,000						5,000		
Peacocke				6,200						6,200		
Total Greenfield				**22,300**						**21,000**		
Total Hamilton					**45,100**	**130,600**					**43,900**	**129,300**

Source: M.E FPP Residential Capacity Model, 2020.

The following tables (Table 4-15 to Table 4-17) show the portion of Hamilton's plan enabled capacity that is projected to represent commercially feasible development options in the long-term and the share which are estimated to represent RER development opportunities. In this section, three scenarios are presented for long-term feasible capacity. Table 4-15 contains the capacity estimates under the current prices scenario where the change in feasible capacity is a function only of infrastructure expansion within the greenfield areas. The alternative scenarios that take into account the effect of demand growth through changing costs and prices and contained in Table 4-16 (Growth Scenario 1) and Table 4-17 (Growth Scenario 2).

Current Prices Scenario

Under the current prices scenario (Table 4-15), commercially feasible capacity within the existing urban area is projected to remain the same as the short and medium-term assessment periods. It is estimated that all of the existing urban currently feasible capacity would be taken up in the long-term in this scenario, with a RER capacity of 16,300 dwellings. By holding currently feasible capacity constant, this scenario assumes that the existing trend of an increasing share of take-up within the existing urban area would continue into the medium-term, but would then reverse in the long-term, with an acceleration in the rate of greenfield expansion relative to growth within the existing urban area.

Feasible capacity within the greenfield areas is projected to approximately double, in line with the expansion of new areas served by infrastructure. The current prices assessment does not estimate any feasible capacity within Temple View given the existing lower prices within this area. The greenfield RER capacity is projected to increase by a slightly greater amount than the commercially feasible capacity. This is because the yields indicated in the developer information within some areas exceed those theoretically enabled within the underlying ODP zoning.

Table 4-15: Hamilton City Commercially Feasible and Reasonably Expected to be Realised Residential Capacity: Long-Term – 2050 (Current Prices)

LOCATION	COMMERCIALLY FEASIBLE						REASONABLY REALISED CAPACITY					
	Max Infill	Max Redevelopment	Max Existing Urban	Greenfield	Greenfield + Infill	Greenfield + Infill + Redevelopment	Max Infill	Max Redevelopment	Max Existing Urban	Greenfield	Greenfield + Infill	Greenfield + Infill + Redevelopment
Level 1	1,700	600	2,100				1,700	600	2,100			
Level 2	3,500	1,200	4,300				3,500	1,200	4,300			
Level 3	1,200	1,100	1,900				1,200	1,100	1,900			
Level 4	2,600	1,600	3,200				2,600	1,600	3,200			
Level 5	300	400	600				300	400	600			
City Centre	800	4,200	4,300				800	4,200	4,300			
Total Existing Urban	**10,100**	**9,200**	**16,300**				**10,100**	**9,200**	**16,300**			
Te Rapa North				-						400		
Rotokauri				5,000						4,900		
Rototuna				1,700						1,700		
Ruakura North				1,100						900		
Ruakura South				80						70		
Temple View				-						-		
Peacocke				6,200						6,600		
Total Greenfield				**14,100**						**14,600**		
Total Hamilton					**24,200**	**30,400**					**24,600**	**30,800**

Source: M.E FPP Residential Capacity Model, 2020.

Under the growth scenarios, a greater share of the plan enabled capacity within the existing urban areas becomes feasible through time. The share of this capacity that is RER also increases in line with the observed patterns of growth distribution across the urban structure of Hamilton.

Growth Scenario 1

Under Growth Scenario 1 (Table 4-16), there is a projected long-term feasible capacity for an additional 21,100 to 42,800 dwellings within the existing urban area. This is a function of gradual growth in demand through time resulting in an increased range of development options become feasible. The types of feasible development opportunities are also projected to increase through time. Across the short and medium-term there is projected faster growth in infill development opportunities, with an increasing range of redevelopment opportunities becoming feasible through time.

In the long-term, there is a projected RER capacity of 17,200 to 29,600 dwellings within the existing urban area. This amounts to 69% of the long-term feasible capacity that is taken up through time, and 27% of the plan-enabled capacity. Under this lower growth scenario, RER is more concentrated into suburban areas outside of the City Centre, and within this, a higher share as infill development. It assumes that only 16% of the plan-enabled capacity within the City Centre is taken up.

The long-term projected feasible greenfield capacity is for an additional 14,900 dwellings under Growth Scenario 1. This is slightly higher than the current growth scenario, where additional greenfield areas become feasible to develop within Rototuna and Rotokauri (relative to the current prices scenario). The pattern of greenfield feasible capacity similarly follows the provision of infrastructure within the greenfield areas. The RER greenfield capacity is slightly higher at 15,200 additional dwellings due to the higher yields provided through the developer information.

Table 4-16: Hamilton City Commercially Feasible and Reasonably Expected to be Realised Residential Capacity: Long-Term – 2050 (Growth Scenario 1)

LOCATION	COMMERCIALLY FEASIBLE						REASONABLY REALISED CAPACITY					
	Max Infill	Max Redevelopment	Max Existing Urban	Greenfield	Greenfield + Infill	Greenfield + Infill + Redevelopment	Max Infill	Max Redevelopment	Max Existing Urban	Greenfield	Greenfield + Infill	Greenfield + Infill + Redevelopment
Level 1	4,500	2,700	6,200				3,900	2,300	5,300			
Level 2	7,100	4,600	10,000				6,000	3,900	8,500			
Level 3	3,900	2,100	5,200				3,300	1,800	4,400			
Level 4	3,200	2,100	4,100				2,700	1,800	3,500			
Level 5	800	900	1,300				600	700	1,100			
City Centre	1,700	15,700	15,900				700	6,700	6,700			
Total Existing Urban	**21,100**	**28,100**	**42,800**				**17,200**	**17,200**	**29,600**			
Te Rapa North				-						400		
Rotokauri				5,200						5,100		
Rototuna				2,300						2,100		
Ruakura North				1,100						900		
Ruakura South				80						70		
Temple View				-						-		
Peacocke				6,200						6,600		
Total Greenfield				**14,900**						**15,200**		
Total Hamilton					**36,000**	**57,700**					**32,500**	**44,900**

Source: M.E FPP Residential Capacity Model, 2020.

Growth Scenario 2

Growth Scenario 2 (Table 4-17) contains a higher level of feasible capacity across both the existing urban and greenfield areas due to the higher rates of growth assumed. Under this scenario, there is a feasible capacity of an additional 22,200 to 74,000 dwellings within the existing urban area. There is little change to the lower end of the range as this is formed by the infill development options, most of which already become potentially feasible within the short and medium-term under the lower growth scenario. The main increase in the upper end of the feasible capacity range comes about through a higher share of City Centre capacity becoming feasible as well as increases in a range of redevelopment options that become feasible.

The share of RER capacity within the existing urban area is also projected to increase to between 11,500 to 30,500 dwellings within the existing urban area. This is similar to the level of RER under the lower growth scenario as the model restricts growth within the existing urban area relative to the greenfield RER. The main differences occur in the development patterns, where a higher share of the RER occurs through redevelopment, and within the City Centre. This scenario assumes that RER capacity within existing urban area amounts to 41% of the estimated feasible capacity and 28% of the plan-enabled capacity.

The long-term projected feasible and RER dwelling capacity in the greenfield areas is slightly higher under Growth Scenario 2, with an additional 15,700 dwellings RER in the long-term. This is an increase of around 500 dwellings from Growth Scenario 1 through a slight increase in the spatial extent of the feasible area. Under this scenario, dwelling capacity within the Temple View greenfield area is modelled to be feasible at margins below the 20% threshold used within the assessment, so is therefore not captured as feasible capacity within the modelled results. However, development may still occur within this area when infrastructure is provided at a lower margin or if developments are constructed in at different densities to that currently around the closest urban edge.

Table 4-17: Hamilton City Commercially Feasible and Reasonably Expected to be Realised Residential Capacity: Long-Term – 2050 (Growth Scenario 2)

LOCATION	COMMERCIALLY FEASIBLE						REASONABLY REALISED CAPACITY					
	Max Infill	Max Redevelopment	Max Existing Urban	Greenfield	Greenfield + Infill	Greenfield + Infill + Redevelopment	Max Infill	Max Redevelopment	Max Existing Urban	Greenfield	Greenfield + Infill	Greenfield + Infill + Redevelopment
Level 1	4,500	5,700	8,300				2,500	3,100	4,500			
Level 2	7,100	10,400	14,400				3,900	5,700	7,900			
Level 3	3,900	5,300	7,600				2,200	2,900	4,100			
Level 4	3,200	3,800	5,100				1,800	2,100	2,800			
Level 5	800	1,500	1,900				500	800	1,100			
City Centre	2,600	36,800	36,800				700	10,100	10,100			
Total Existing Urban	**22,200**	**63,600**	**74,000**				**11,500**	**24,800**	**30,500**			
Te Rapa North				-						500		
Rotokauri				5,500						5,300		
Rototuna				2,300						2,200		
Ruakura North				1,400						1,100		
Ruakura South				80						70		
Temple View				-						-		
Peacocke				6,200						6,600		
Total Greenfield				**15,500**						**15,700**		
Total Hamilton					**37,800**	**89,600**					**27,200**	**46,200**

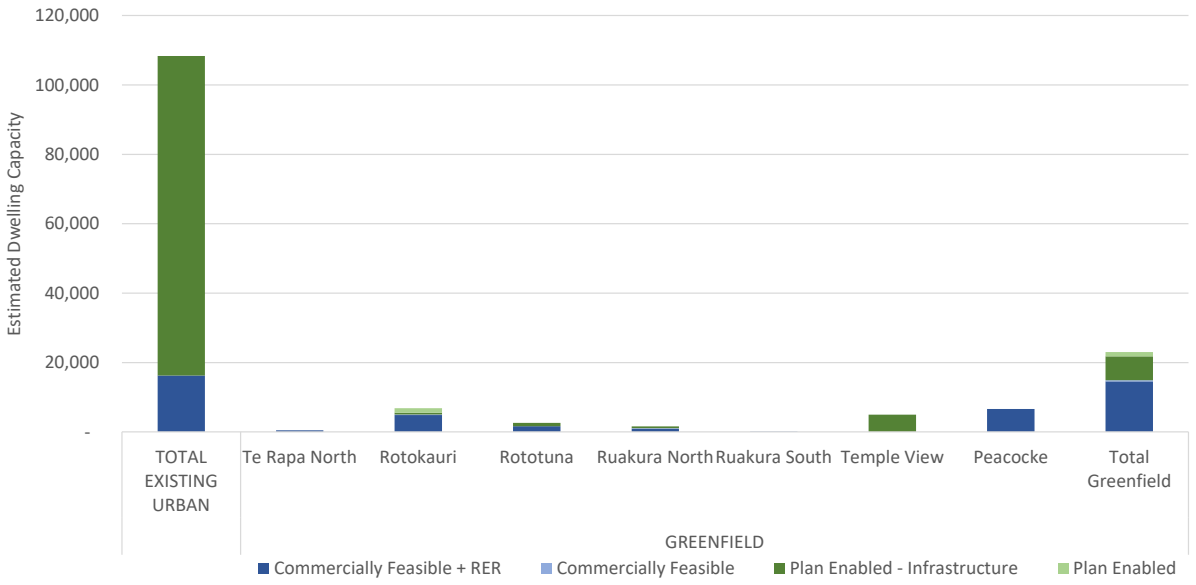
Source: M.E FPP Residential Capacity Model, 2020.

The total plan enabled capacity across Hamilton City, and the breakdown by capacity type, is shown in the following Figures. The range of long-term estimated outcomes is shown across the two figures where Figure 4-11 shows the current prices scenario, and Figure 4-12 contains the results from the higher growth scenario (Growth Scenario 2).

Under each scenario, the RER capacity accounts for only a minor share of the total zoned opportunity within the existing urban area. Using current market conditions, it accounts for only 15% of the total zoned opportunity. When an allowance for demand growth is included, it accounts for around one-quarter (27% to 28%) of the zoned opportunity. Under the range of scenarios tested, there is a large amount of zoned capacity for additional dwellings within the existing urban area beyond that which is estimated to represent RER development opportunities in the long-term. There is zoned opportunity for around 78,000 to 92,000 further additional dwellings beyond that which is RER under the scenarios. Within this, there is zoned opportunity for a further 34,000 to 92,000 additional dwellings that are not projected to be commercially feasible.

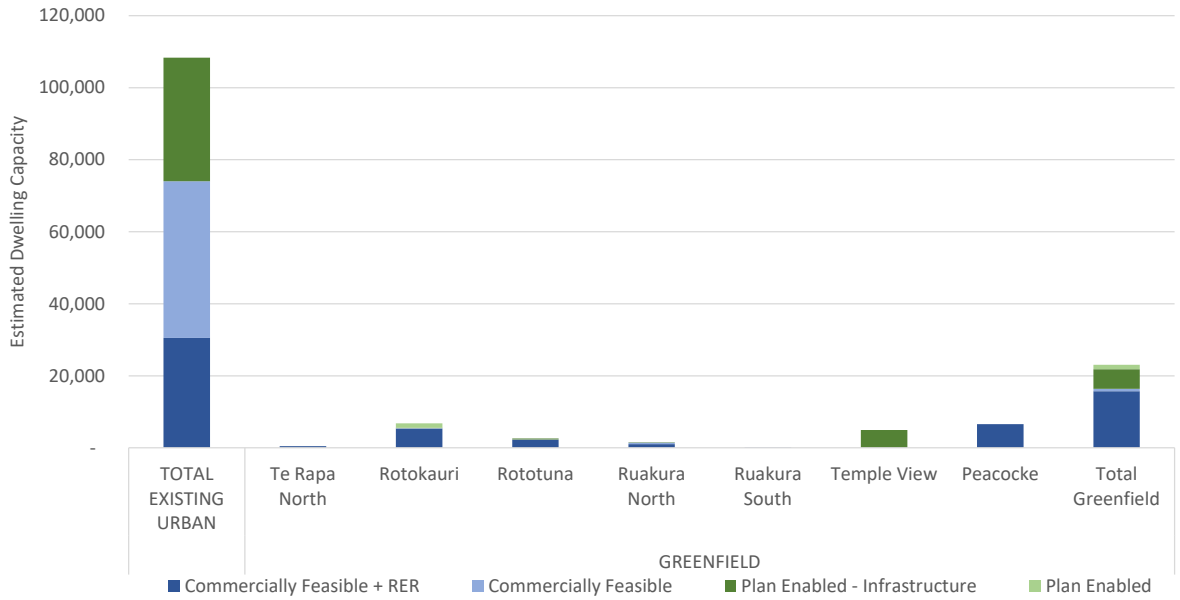
The long-term estimated RER capacity within the greenfield areas largely corresponds within infrastructure provision. There is still a sizeable amount of infrastructure-served zoned greenfield opportunity within Temple View beyond the capacity that is RER in the long-term, and smaller amounts in other locations.

Figure 4-11: Hamilton City Estimated Urban Residential Capacity: Greenfield and Maximum Existing Urban – Long-Term – 2050 (Current Prices)



Source: M.E FPP Residential Capacity Model, 2020.

Figure 4-12: Hamilton City Estimated Urban Residential Capacity: Greenfield and Maximum Existing Urban – Long-Term – 2050 (Growth Scenario 2)



Source: M.E FPP Residential Capacity Model, 2020.

4.3.4 Residential Capacity: Short, Medium and Long-Term

The following graph (Figure 4-13) summarises the change in projected capacity through time across Hamilton City's existing urban and greenfield areas. Within the existing urban area, it includes the maximum development yield, which is a combination of infill and redevelopment options. Each of the three scenarios

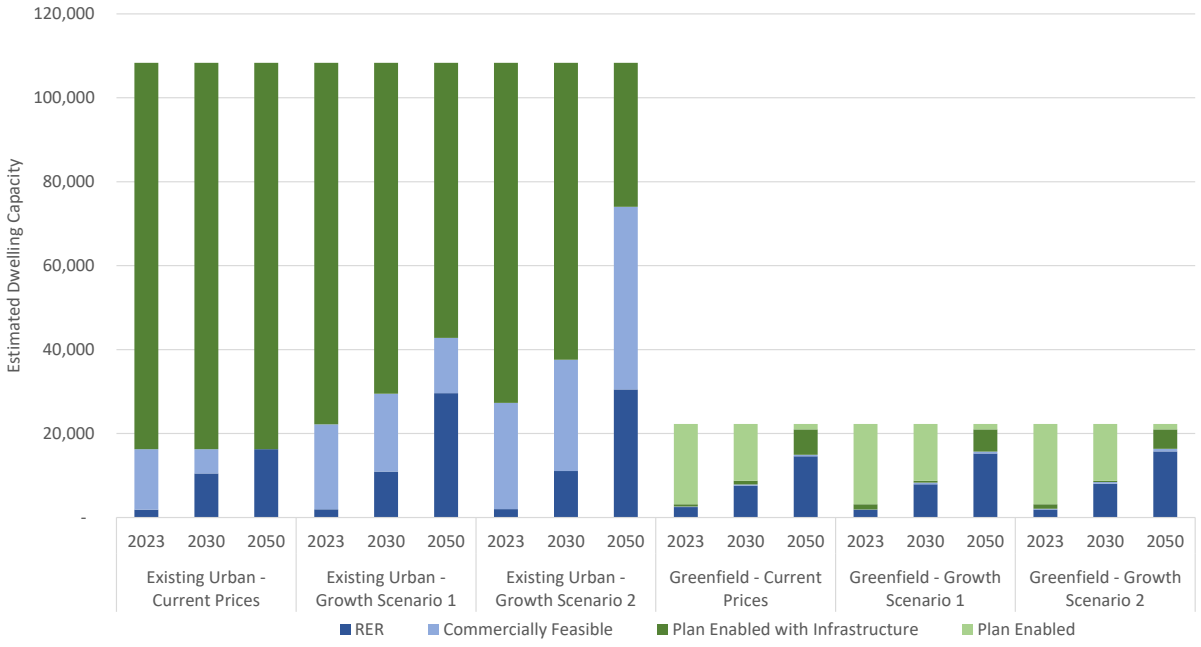
(Current Prices, and Growth Scenarios 1 and 2) are included to illustrate the difference in capacity across the different scenarios.

The total zoned opportunity within the plan enabled capacity remains the same across all three time periods, as the ODP is used as a consistent underlying zoning framework across each assessment period. The RER share of feasible capacity within the existing urban area differs across the three scenarios as RER capacity is held at a fixed maximum proportion to greenfield take-up across the scenarios. The share of RER capacity within the greenfield areas corresponds with the spatial extent of infrastructure provision.

Under all scenarios, only a minor share of the total zoned opportunity within the existing urban area is projected to form part of the RER capacity. The feasible capacity remains constant in the current prices scenario where the market conditions reflect only the current market. In the long-term, it is estimated that all of the capacity that is currently feasible (in 2020) will be taken up. Constraining uptake within these parameters correspondingly assumes that a reversal in the historic growth patterns will occur in Hamilton beyond the medium-term where increasing shares of growth would instead occur within the greenfield areas.

Under the growth scenarios, the share of capacity that becomes feasible increases through time (and correspondingly the share of RER capacity within the existing urban area). This better reflects the patterns of dwelling capacity uptake in relation to the distribution of new dwellings between the existing urban and greenfield areas. Under all scenarios, there is a large amount of zoned opportunity within the existing urban area beyond that estimate to form part of the RER development opportunities.

Figure 4-13: Hamilton City Estimated Urban Residential Capacity: Greenfield and Maximum Existing Urban 2023-2050 (Current Prices and Growth Scenarios 1 and 2)



Source: M.E FPP Residential Capacity Model, 2020.

4.4 Waipā District Residential Capacity

4.4.1 Short-Term Residential Capacity: 2023

The capacity in Waipā District's main urban areas and settlements enabled under the ODP in the short-term is displayed in Table 4-18. The first part (light green) of the table shows the plan enabled capacity without infrastructure constraints, while the second part (dark green) includes the infrastructure constraints in the greenfield areas.

In total, there is zoned capacity under the ODP for 15,800 to 19,000 additional dwellings in the main urban areas of Cambridge, Te Awamutu and Kihikihi, and a further 300 to 1,400 additional dwellings within the smaller urban settlements (total of 16,100 to 20,400 additional dwellings). The lower end of the range is the combined total of the greenfield and existing urban area infill development options, with the upper end of the range also including redevelopment potential within the existing urban area.

Without taking account of infrastructure constraints, most (76% to 91%) of the main urban area short-term zoned capacity is within the greenfield areas. There is a zoned opportunity for 14,400 additional dwellings within the greenfield areas. Most (80%) of this occurs within the Deferred Residential Zone.

Around half (49%) of the district's greenfield capacity is currently served by infrastructure. This amounts to an additional 7,100 dwellings within the greenfield areas. Together, with the existing urban area, this results in an infrastructure served plan enabled capacity of an additional 8,400 to 11,700 dwellings across the main urban areas.

There are relatively even amounts of infrastructure served plan enabled capacity in Cambridge and Te Awamutu in the short-term. Each have capacity for around 3,400 to 3,500 additional dwellings within greenfield areas served by infrastructure in the short-term.

Table 4-18: Waipā District Plan Enabled Residential Capacity: Short-Term – 2023

	NO INFRASTRUCTURE CONSTRAINTS						SHORT-TERM INFRASTRUCTURE PROVISION					
LOCATION	Max Infill	Max Redevelopment	Max Existing Urban	Greenfield	Greenfield + Infill	Greenfield + Infill + Redevelopment	Max Infill	Max Redevelopment	Max Existing Urban	Greenfield	Greenfield + Infill	Greenfield + Infill + Redevelopment
Main Urban Areas												
Cambridge	400	2,100	2,100	8,500	8,900	10,600	400	2,100	2,100	3,500	4,000	5,700
Te Awamutu	800	2,000	2,000	5,800	6,500	7,800	800	2,000	2,000	3,400	4,200	5,400
Kihikihi	200	500	500	100	300	600	200	500	500	100	300	600
Total Main Urban Areas	**1,400**	**4,600**	**4,600**	**14,400**	**15,800**	**19,000**	**1,400**	**4,600**	**4,600**	**7,100**	**8,400**	**11,700**
Total Settlements	300	1,400	1,400	-	300	1,400	300	1,400	1,400	-	300	1,400
TOTAL URBAN	**1,700**	**6,000**	**6,000**	**14,400**	**16,100**	**20,400**	**1,700**	**6,000**	**6,000**	**7,100**	**8,700**	**13,100**

Source: M.E FPP Residential Capacity Model, 2020.

Around half to two-thirds of the infrastructure served plan enabled capacity is projected to be commercially feasible in the short-term. This amounts to a projected feasible capacity of 5,900 to 6,500 additional dwellings across the main urban areas. Most (80% to 90%) of this occurs within the greenfield areas (+ 5,100 dwellings).

Cambridge contains the largest amount of feasible capacity, with over three-quarters of the greenfield capacity feasible that has infrastructure in the short-term. Around two-thirds of the greenfield capacity in Te Awamutu is projected to be feasible.

When taking into account the capacity that is RER, there is an estimated potential development capacity for around 4,300 to 4,400 additional dwellings in the district's main urban areas in the short-term. This amounts to around 40% to 50% of the plan enabled infrastructure served capacity, and around 60% to 70% of the projected commercially feasible capacity.

Within the greenfield areas, around three-quarters (72%) of the infrastructure-served greenfield areas are projected to be feasible development options within the short-term. When taking into account what is RER, the yield on the feasible capacity reduces by about 18% to 4,200 additional dwellings. This represents nearly all (95% to 97%) of the total RER capacity.

It is estimated that around 30% of the plan enabled capacity within the existing urban area is currently commercially feasible. The modelling assumes that 15% of this would be likely to represent RER development opportunities within the short-term. This results in a small contribution of around 100 to 200 additional dwellings within the main urban areas within the short-term. This equates to around 5% of plan-enabled existing urban capacity, and less than 5% of the RER development opportunity.

Table 4-19: Waipā District Commercially Feasible and Reasonably Expected to be Realised Residential Capacity: Short-Term – 2023

	COMMERCIALLY FEASIBLE						REASONABLY REALISED CAPACITY					
LOCATION	Max Infill	Max Redevelopment	Max Existing Urban	Greenfield	Greenfield + Infill	Greenfield + Infill + Redevelopment	Max Infill	Max Redevelopment	Max Existing Urban	Greenfield	Greenfield + Infill	Greenfield + Infill + Redevelopment
Main Urban Areas												
Cambridge	300	400	600	2,800	3,100	3,400	40	60	90	2,300	2,300	2,400
Te Awamutu	400	200	500	2,300	2,700	2,800	60	30	80	1,900	1,900	2,000
Kihikihi	100	300	300	30	100	300	10	40	40	20	40	70
TOTAL MAIN URBAN	**800**	**900**	**1,400**	**5,100**	**5,900**	**6,500**	**100**	**100**	**200**	**4,200**	**4,300**	**4,400**

Source: M.E FPP Residential Capacity Model, 2020.

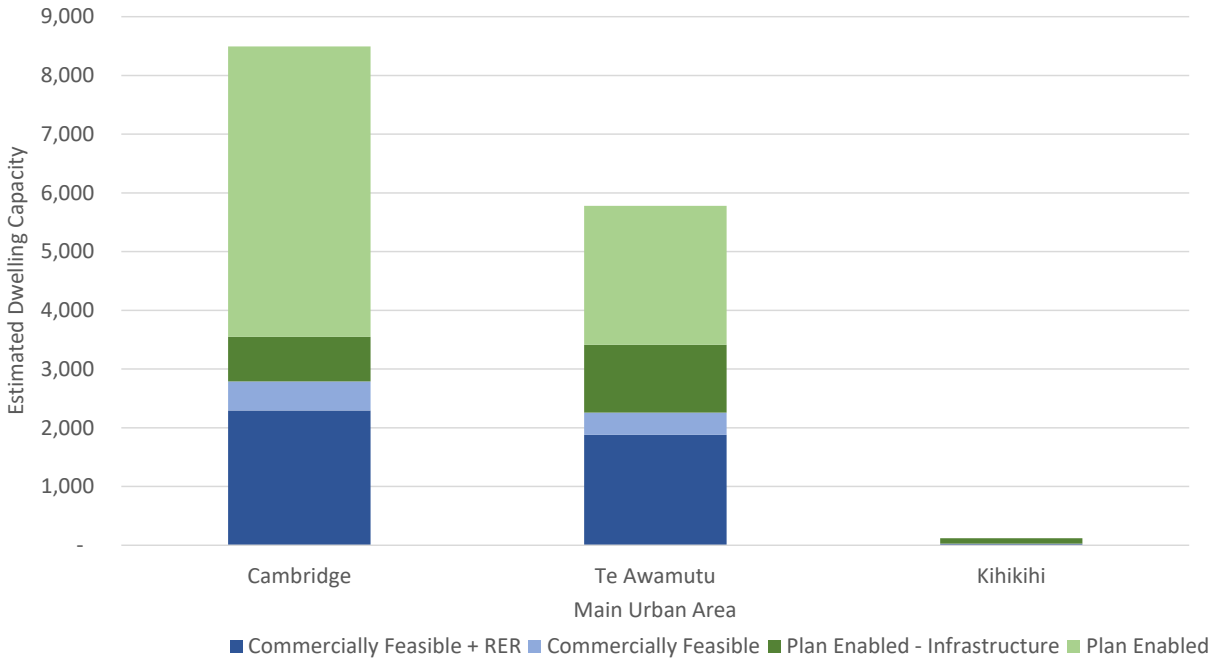
The estimated dwelling capacity by main urban area is summarised in Figure 4-14 and Figure 4-15. They show the total plan enabled capacity, and the components of this that are estimated to be RER (dark blue), commercially feasible by not RER (light blue), plan enabled and infrastructure served but not commercially feasible (dark green) and plan enabled but not infrastructure served (light green). Figure 4-14Figure 4-1 shows the capacity on the greenfield areas only, and Figure 4-15, the combined capacity on both the greenfield and existing urban areas.

Key aspects are:

- The largest projected capacity occurs within Cambridge in the short-term, with substantial capacity also in Te Awamutu. Kihikihi contains a smaller amount of capacity.
- The projected amount of RER (up to 4,400 additional dwellings) capacity represents a significant opportunity for development in relation to the current urban dwelling demand base (approximately 13,200 dwellings across the main urban areas).
- There are significant areas of greenfield capacity beyond the projected feasible capacity that are currently served by infrastructure in the short-term, particularly in Te Awamutu.

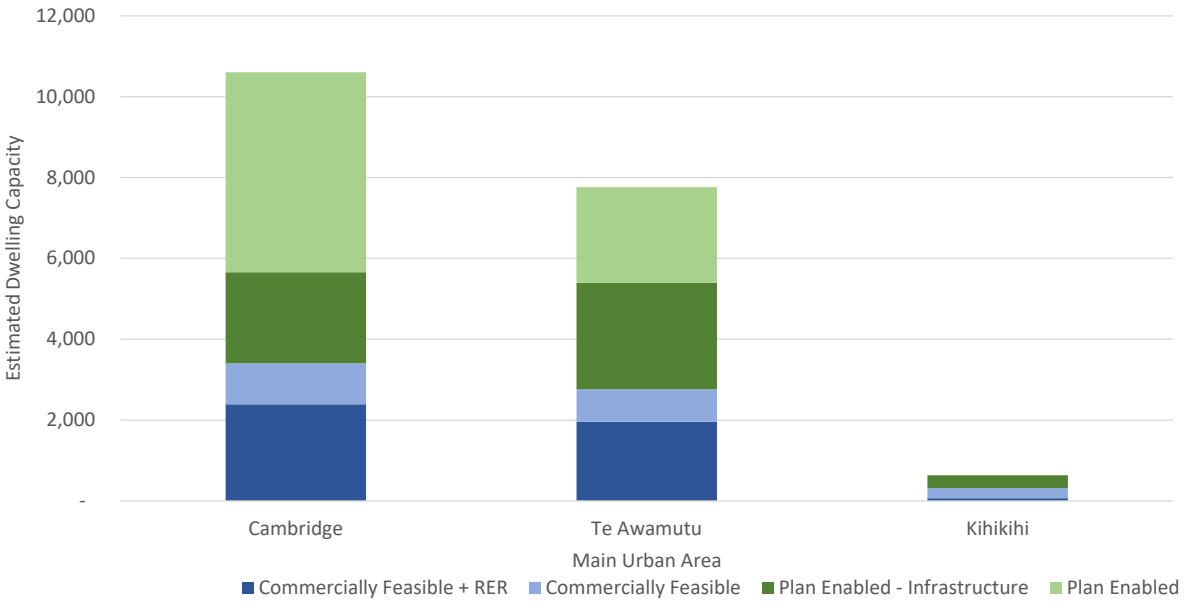
- Both Cambridge and Te Awamutu contain a large amount of zoned greenfield capacity that is not currently served by infrastructure within the short-term.

Figure 4-14: Waipā District Estimated Urban Residential Capacity: Greenfield – Short-Term – 2023



Source: M.E FPP Residential Capacity Model, 2020.

Figure 4-15: Waipā District Estimated Urban Residential Capacity: Greenfield and Maximum Existing Urban – Short-Term – 2023



Source: M.E FPP Residential Capacity Model, 2020.

4.4.2 Medium-Term Residential Capacity: 2030

There is very little projected change in the plan enabled capacity across Waipā District's main urban areas between the short and medium term. The ODP is used to calculate the plan enabled capacity across all three assessment time periods, meaning that there is no change to the total zoned capacity for residential development.

There is a small projected increase in the area served by infrastructure in Cambridge between the time periods. The increase in infrastructure served plan enabled capacity amount to an increase of 500 additional dwellings in Cambridge, bringing Cambridge's infrastructure served greenfield capacity to an additional 4,000 dwellings.

In total, there is a zoned capacity under the ODP for 15,800 to 19,000 additional dwellings in the main urban areas. When infrastructure constraints are applied, the capacity becomes an additional 8,900 to 12,200 dwellings across the main urban areas (and 9,200 to 13,600 additional dwellings including capacity within the smaller urban settlements).

Table 4-20: Waipā District Plan Enabled Residential Capacity: Medium-Term – 2030

LOCATION	NO INFRASTRUCTURE CONSTRAINTS						MEDIUM-TERM INFRASTRUCTURE PROVISION					
	Max Infill	Max Redevelopment	Max Existing Urban	Greenfield	Greenfield + Infill	Greenfield + Infill + Redevelopment	Max Infill	Max Redevelopment	Max Existing Urban	Greenfield	Greenfield + Infill	Greenfield + Infill + Redevelopment
Main Urban Areas												
Cambridge	400	2,100	2,100	8,500	8,900	10,600	400	2,100	2,100	4,000	4,500	6,100
Te Awamutu	800	2,000	2,000	5,800	6,500	7,800	800	2,000	2,000	3,400	4,200	5,400
Kihikihi	200	500	500	100	300	600	200	500	500	100	300	600
Total Main Urban Areas	**1,400**	**4,600**	**4,600**	**14,400**	**15,800**	**19,000**	**1,400**	**4,600**	**4,600**	**7,600**	**8,900**	**12,200**
Total Settlements	300	1,400	1,400	-	300	1,400	300	1,400	1,400	-	300	1,400
TOTAL URBAN	**1,700**	**6,000**	**6,000**	**14,400**	**16,100**	**20,400**	**1,700**	**6,000**	**6,000**	**7,600**	**9,200**	**13,600**

Source: M.E FPP Residential Capacity Model, 2020.

In the medium-term, there is a projected feasible capacity for an additional 6,300 to 6,900 additional dwellings within the main urban areas. The RER component amounts to around 4,900 to 5,100 additional dwellings.

The estimated commercially feasible capacity is projected to increase by around 400 additional dwellings within Cambridge with the small extension in the plan enabled area served by infrastructure. In holding the market constant through using current prices, there is no change to the projected feasible capacity within the existing urban area.

There is an increase (+500 dwellings) in the RER share of the greenfield commercially feasible capacity between the short and medium-term, to reach a total of 4,700 additional dwellings within the greenfield areas. Most of this occurs through the expansion of infrastructure in Cambridge (+450 dwellings). There are also some increases in the RER yields across the feasible areas as a result of gradual increases in the greenfield development density through time.

The modelling also estimates a small increase in the commercially feasible development options that represent RER capacity within the medium-term. When prices are held constant, the total amount of feasible capacity remains constant, with the RER share increasing to 200 to 300 dwellings. This amounts to around 7% of plan-enabled capacity within the existing urban area, and 7% of the total RER capacity.

Table 4-21: Waipā District Commercially Feasible and Reasonably Expected to be Realised Residential Capacity: Medium-Term – 2030

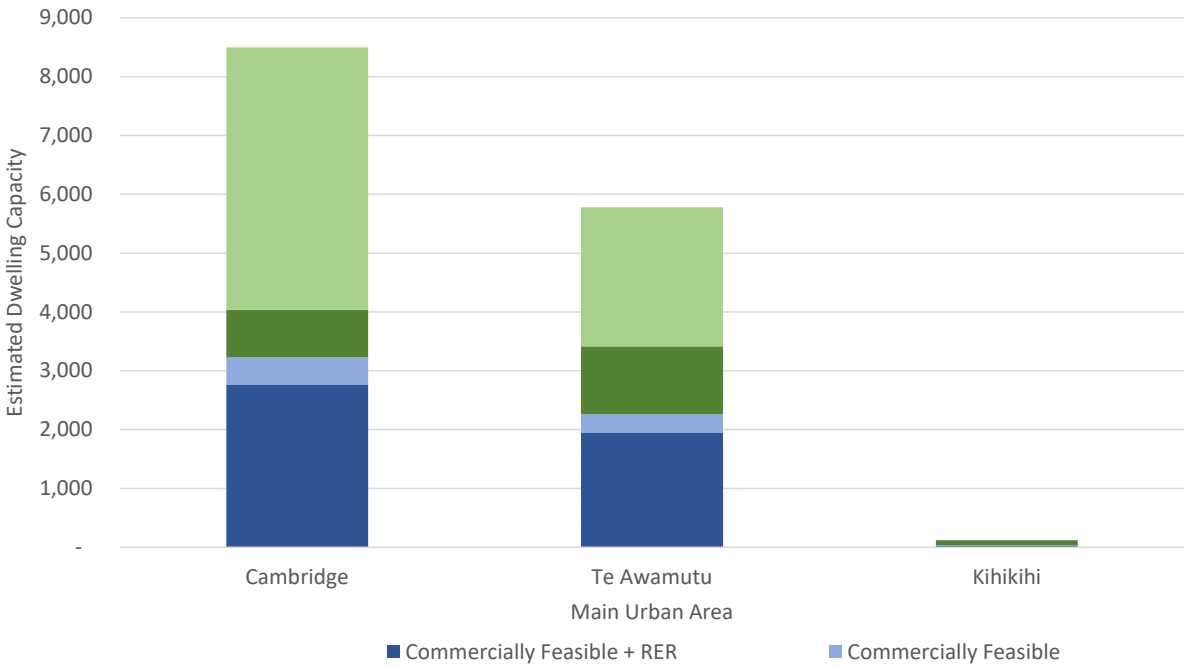
LOCATION	COMMERCIALLY FEASIBLE						REASONABLY REALISED CAPACITY					
	Max Infill	Max Redevelopment	Max Existing Urban	Greenfield	Greenfield + Infill	Greenfield + Infill + Redevelopment	Max Infill	Max Redevelopment	Max Existing Urban	Greenfield	Greenfield + Infill	Greenfield + Infill + Redevelopment
Main Urban Areas												
Cambridge	300	400	600	3,200	3,500	3,800	100	200	300	2,800	2,900	3,100
Te Awamutu	400	200	500	2,300	2,700	2,800	200	100	300	1,900	2,100	2,200
Kihikihi	100	300	300	30	100	300	50	100	100	30	70	200
TOTAL MAIN URBAN	**800**	**900**	**1,400**	**5,500**	**6,300**	**6,900**	**400**	**500**	**700**	**4,700**	**5,100**	**5,400**

Source: M.E FPP Residential Capacity Model, 2020.

The total plan enabled capacity across the main urban areas, and the breakdown by capacity type, is shown in Figure 4-16 (greenfield only) and Figure 4-17 (greenfield and existing urban combined). The total zoned area capacity remains the same across the short and medium-term, and the patterns are very similar to

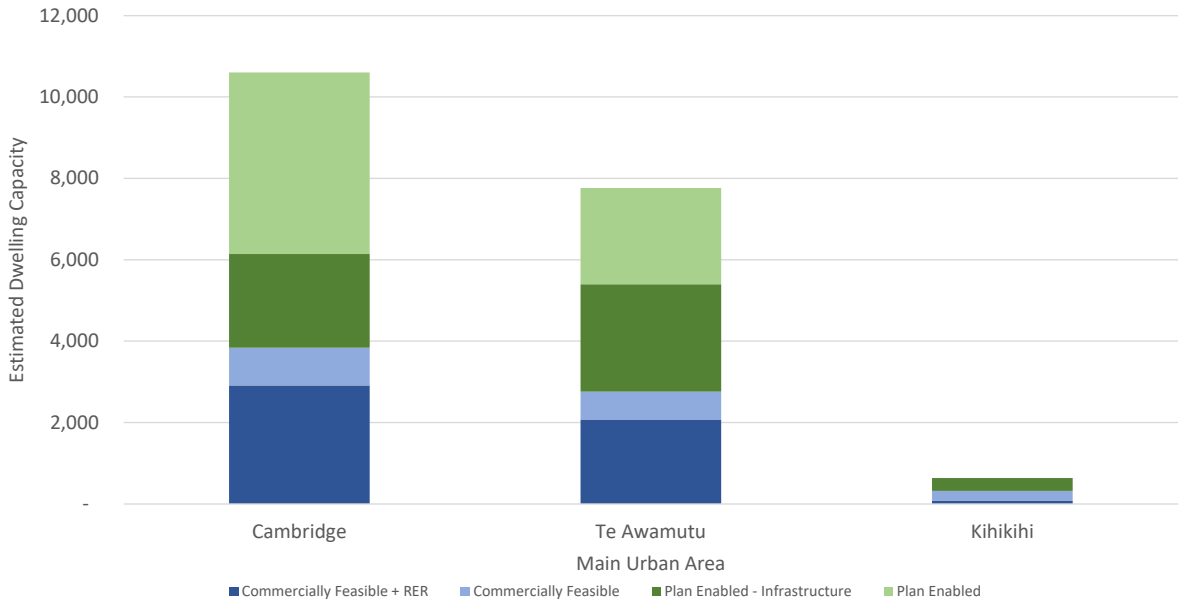
the short-term capacity, with small increases in capacity in Te Awamutu, and a small increase in greenfield RER in Cambridge.

Figure 4-16: Waipā District Estimated Urban Residential Capacity: Greenfield – Medium-Term – 2030



Source: M.E FPP Residential Capacity Model, 2020.

Figure 4-17: Waipā District Estimated Urban Residential Capacity: Greenfield and Maximum Existing Urban – Medium-Term – 2030



Source: M.E FPP Residential Capacity Model, 2020.

4.4.3 Long-Term Residential Capacity: 2050

The total greenfield zoned area remains constant between the medium and long-term as the ODP zoning has been used as the zoning layer in both assessment periods. However, within this, there are sizeable increases in the zoned greenfield areas that are planned to be served by infrastructure in the long-term. The infrastructure served greenfield capacity is projected to increase by around two-thirds between these time periods (+5,100 additional dwellings), to reach a total infrastructure served greenfield capacity of 12,700 additional dwellings by the long-term. Greenfield capacity increases are projected to occur across the main urban areas of Cambridge and Te Awamutu as further growth cell areas are supplied with infrastructure throughout the long-term.

In combination with the existing urban area, there is a projected long-term infrastructure served plan enabled capacity of between 14,100 and 17,300 additional dwellings across the main urban areas. There is a further 300 to 1,400 additional dwelling capacity within the smaller urban settlements, bringing the total long-term plan enabled capacity to between 14,400 and 18,700 additional dwellings.

Table 4-22: Waipā District Plan Enabled Residential Capacity: Long-Term – 2050

LOCATION	NO INFRASTRUCTURE CONSTRAINTS						LONG-TERM INFRASTRUCTURE PROVISION					
	Max Infill	Max Redevelopment	Max Existing Urban	Greenfield	Greenfield + Infill	Greenfield + Infill + Redevelopment	Max Infill	Max Redevelopment	Max Existing Urban	Greenfield	Greenfield + Infill	Greenfield + Infill + Redevelopment
Main Urban Areas												
Cambridge	400	2,100	2,100	8,500	8,900	10,600	400	2,100	2,100	6,800	7,200	8,900
Te Awamutu	800	2,000	2,000	5,800	6,500	7,800	800	2,000	2,000	5,800	6,500	7,800
Kihikihi	200	500	500	100	300	600	200	500	500	100	300	600
Total Main Urban Areas	**1,400**	**4,600**	**4,600**	**14,400**	**15,800**	**19,000**	**1,400**	**4,600**	**4,600**	**12,700**	**14,100**	**17,300**
Total Settlements	300	1,400	1,400	-	300	1,400	300	1,400	1,400	-	300	1,400
TOTAL URBAN	**1,700**	**6,000**	**6,000**	**14,400**	**16,100**	**20,400**	**1,700**	**6,000**	**6,000**	**12,700**	**14,400**	**18,700**

Source: M.E FPP Residential Capacity Model, 2020.

The following tables (Table 4-23 to Table 4-25) show the portion of Waipā District's plan enabled capacity that is projected to represent commercially feasible development options in the long-term and the share which are estimated to represent RER development opportunities. In this section, three scenarios are presented for long-term feasible capacity. Table 4-23 contains the capacity estimates under the current prices scenario where the change in feasible capacity is a function only of infrastructure expansion within the greenfield areas. The alternative scenarios that take into account the effect of demand growth through changing costs and prices and contained in Table 4-24 (Growth Scenario 1) and Table 4-25 (Growth Scenario 2).

Current Prices Scenario

Under the current prices scenario, the greenfield areas that are feasible to develop correspondingly increase across both Cambridge and Te Awamutu with the further expansion of infrastructure from the medium-term. The largest increase occurs in Cambridge, where the further feasible greenfield areas could accommodate an additional 2,500 dwellings, bringing the total feasible greenfield capacity to 5,800 dwellings (and 6,100 to 6,400 additional dwellings with the existing urban area).

The net increase in commercially feasible capacity within Te Awamutu in the long-term is smaller despite similar increases in plan enabled capacity to Cambridge. Part of this is due to the presence of lifestyle block areas (and their associated value) within the areas of infrastructure expansion.

In total, there is a projected capacity of 10,100 to 10,800 additional feasible dwellings across the main urban areas. There is no change to the feasible development opportunity under the current prices scenario as the market is held constant.

Once the RER component is taken into account, this results in a development opportunity capacity of 9,300 to 9,700 additional dwellings across Waipā's main urban areas. The RER development yield across the feasible greenfield areas amounts to an additional 8,900 dwellings, which is around 95% of the maximum potential yield on the feasible greenfield areas, and 70% of the plan enabled yield in the total greenfield area served by infrastructure.

Within the existing urban area, there is an estimated RER of 800 additional dwellings. This equates to just over half (56%) of the development opportunities being taken up that are estimated to be feasible in the current market, and 17% of the total plan-enabled capacity. Under the current prices scenario, the RER only considers the take-up of development opportunity that is estimated to be currently feasible and does not consider any development opportunities that are likely to become feasible in the future.

Table 4-23: Waipā District Commercially Feasible and Reasonably Expected to be Realised Residential Capacity: Long-Term – 2050 (Current Prices)

LOCATION	COMMERCIALLY FEASIBLE						REASONABLY REALISED CAPACITY					
	Max Infill	Max Redevelopment	Max Existing Urban	Greenfield	Greenfield + Infill	Greenfield + Infill + Redevelopment	Max Infill	Max Redevelopment	Max Existing Urban	Greenfield	Greenfield + Infill	Greenfield + Infill + Redevelopment
Main Urban Areas												
Cambridge	300	400	600	5,800	6,100	6,400	200	200	400	5,500	5,700	5,900
Te Awamutu	400	200	500	3,500	3,900	4,000	200	100	300	3,400	3,600	3,700
Kihikihi	100	300	300	30	100	300	40	100	100	30	70	100
TOTAL MAIN URBAN	**800**	**900**	**1,400**	**9,400**	**10,100**	**10,800**	**400**	**500**	**800**	**8,900**	**9,300**	**9,700**

Source: M.E FPP Residential Capacity Model, 2020.

Growth Scenario 1

Under the lower growth scenario (Growth Scenario 1), the commercially feasible capacity increases across Waipā's main urban areas. A greater share of the infrastructure-served greenfield areas become commercially feasible to develop. The potential yield from feasible greenfield areas increases to an additional 11,700 dwellings (up from 9,400 under the current prices scenario) (see Table 4-24). The largest increases occur across Te Awamutu as it becomes feasible to redevelop existing lifestyle block areas with growth in the market.

A greater range of development opportunities also become feasible within the existing urban area. The potentially feasible development opportunities increases to around 900 to 1,900 additional dwellings within the urban area. The largest increase occur within the redevelopment capacity where growth in the market over time makes it feasible to redevelop properties.

When taking account of the RER component of the feasible capacity, Growth Scenario 1 has a total capacity of between 11,700 and 12,200 additional dwellings across the main urban areas. Most of this occurs within the greenfield areas, where the RER yield on the feasible areas is estimated to be around 11,100 additional dwellings.

The RER yield within the existing urban area increases slightly by 100 to 300 additional dwellings (from the current prices scenario), to have a total RER of 500 to 1,100 additional dwellings. The increase is due to a greater range of development options becoming feasible with market growth. Similar rates of take up, to the current prices scenario, across the feasible development options within the existing urban area. In total, it amounts to just over half (56%) of the feasible development opportunities in the long-term and 23% of the plan enabled capacity.

Table 4-24: Waipā District Commercially Feasible and Reasonably Expected to be Realised Residential Capacity: Long-Term – 2050 (Growth Scenario 1)

LOCATION	COMMERCIALLY FEASIBLE						REASONABLY REALISED CAPACITY					
	Max Infill	Max Redevelopment	Max Existing Urban	Greenfield	Greenfield + Infill	Greenfield + Infill + Redevelopment	Max Infill	Max Redevelopment	Max Existing Urban	Greenfield	Greenfield + Infill	Greenfield + Infill + Redevelopment
Main Urban Areas												
Cambridge	300	700	800	6,100	6,400	6,900	200	400	500	5,800	6,000	6,300
Te Awamutu	500	400	700	5,600	6,100	6,300	300	300	400	5,300	5,600	5,700
Kihikihi	100	400	400	30	100	400	40	100	200	30	70	200
TOTAL MAIN URBAN	**900**	**1,500**	**1,900**	**11,700**	**12,600**	**13,600**	**500**	**800**	**1,100**	**11,100**	**11,700**	**12,200**

Source: M.E FPP Residential Capacity Model, 2020.

Growth Scenario 2

The commercially feasible capacity increases further under Growth Scenario 2 to between 13,400 to 14,800 additional dwellings. The feasible greenfield areas increase slightly, with a yield increase of an additional 500 dwellings. The increase is smaller between the growth scenarios as most of the greenfield areas already become feasible to develop under the lower growth scenario. In total, there is a potential yield of 12,200 dwellings on the feasible greenfield areas.

The RER component of the feasible greenfield areas amounts to 11,600 dwellings under the second growth scenario. This is an increase of 400 dwellings from the lower growth scenario.

There is also an increase of the RER component of the feasible capacity within the existing urban area. There is a projected 700 to 1,500 dwellings within this area. This assumes the same level of uptake across the feasible development options, with the increase occurring due to an increase in the number of development options that become feasible. It amounts to just over half (57%) of the feasible development options over the long-term, and 33% of the plan enabled capacity.

Table 4-25: Waipā District Commercially Feasible and Reasonably Expected to be Realised Residential Capacity: Long-Term – 2050 (Growth Scenario 2)

LOCATION	COMMERCIALLY FEASIBLE						REASONABLY REALISED CAPACITY					
	Max Infill	Max Redevelopment	Max Existing Urban	Greenfield	Greenfield + Infill	Greenfield + Infill + Redevelopment	Max Infill	Max Redevelopment	Max Existing Urban	Greenfield	Greenfield + Infill	Greenfield + Infill + Redevelopment
Main Urban Areas												
Cambridge	-	1,000	1,200	6,400	6,800	7,500	200	600	700	6,100	6,300	6,800
Te Awamutu	700	700	1,000	5,700	6,400	6,700	400	400	600	5,400	5,900	6,100
Kihikihi	100	400	400	80	200	500	50	200	200	70	100	200
TOTAL MAIN URBAN	**1,200**	**2,200**	**2,700**	**12,200**	**13,400**	**14,800**	**700**	**1,200**	**1,500**	**11,600**	**12,300**	**13,100**

Source: M.E FPP Residential Capacity Model, 2020.

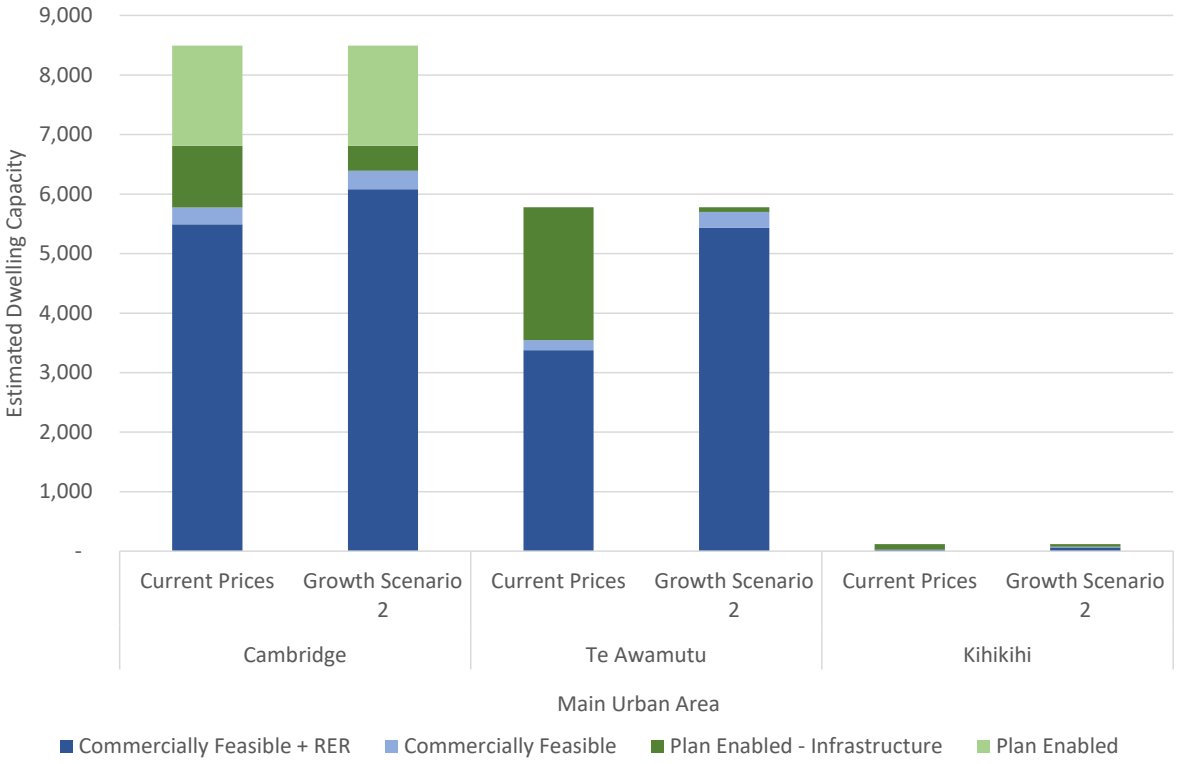
The total plan enabled capacity across the main urban areas, and the breakdown by capacity type, is shown in Figure 4-18 (greenfield only) and Figure 4-19 (greenfield and existing urban combined).

The total zoned area capacity remains the same across the short, medium and long-term. However, the total feasible and RER capacity increases. The difference in capacity between Cambridge and Te Awamutu increases in the long-term, under the current prices scenario, as the feasibility of capacity around Te Awamutu is lower in the long-term relative to Cambridge. With some market growth in Growth Scenario 2,

almost all of the infrastructure served greenfield areas become feasible to develop in both Cambridge and Te Awamutu.

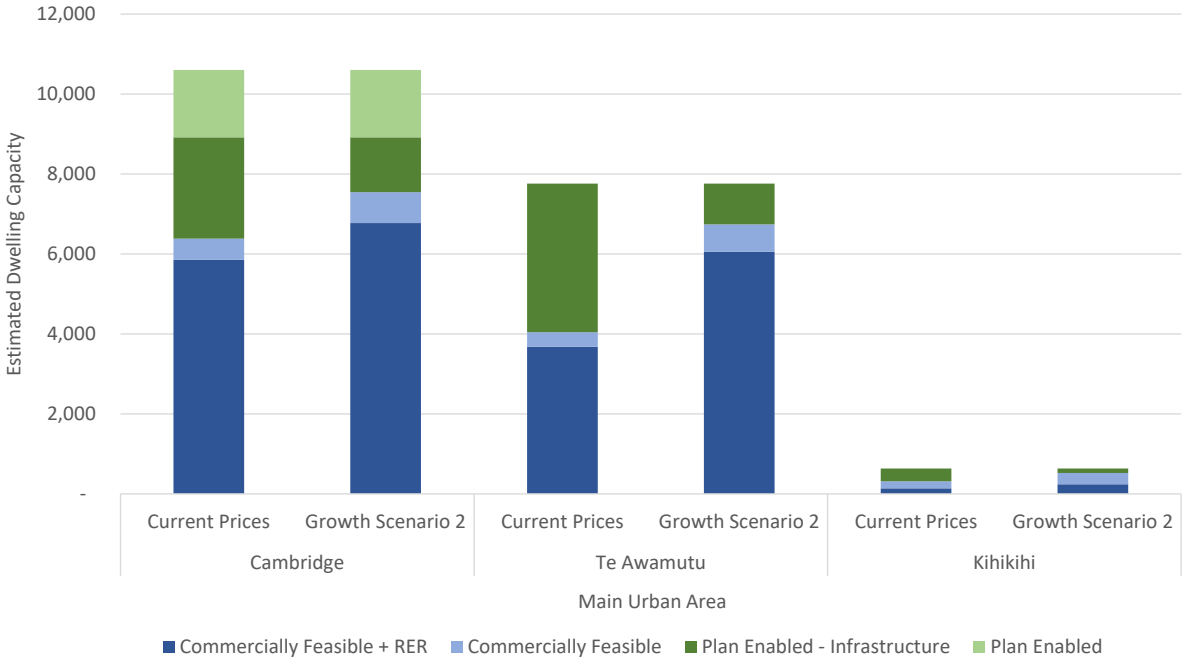
The graphs show that all of the plan enabled greenfield capacity in Te Awamutu is planned to be served by infrastructure in the long-term. However, a significant portion of the greenfield capacity around Cambridge is not planned to be served by infrastructure. Both areas have significant areas of infrastructure served greenfield capacity that are not projected to be commercially feasible to develop (at a 20%+ margin) in the long-term under the current prices scenario. This is mainly due to the presence of existing lifestyle block land uses in these areas. However, these areas largely become feasible to develop with market growth under the growth scenarios.

Figure 4-18: Waipā District Estimated Urban Residential Capacity: Greenfield – Long-Term – 2050



Source: M.E FPP Residential Capacity Model, 2020.

Figure 4-19: Waipā District Estimated Urban Residential Capacity: Greenfield and Maximum Existing Urban – Long-Term – 2050



Source: M.E FPP Residential Capacity Model, 2020.

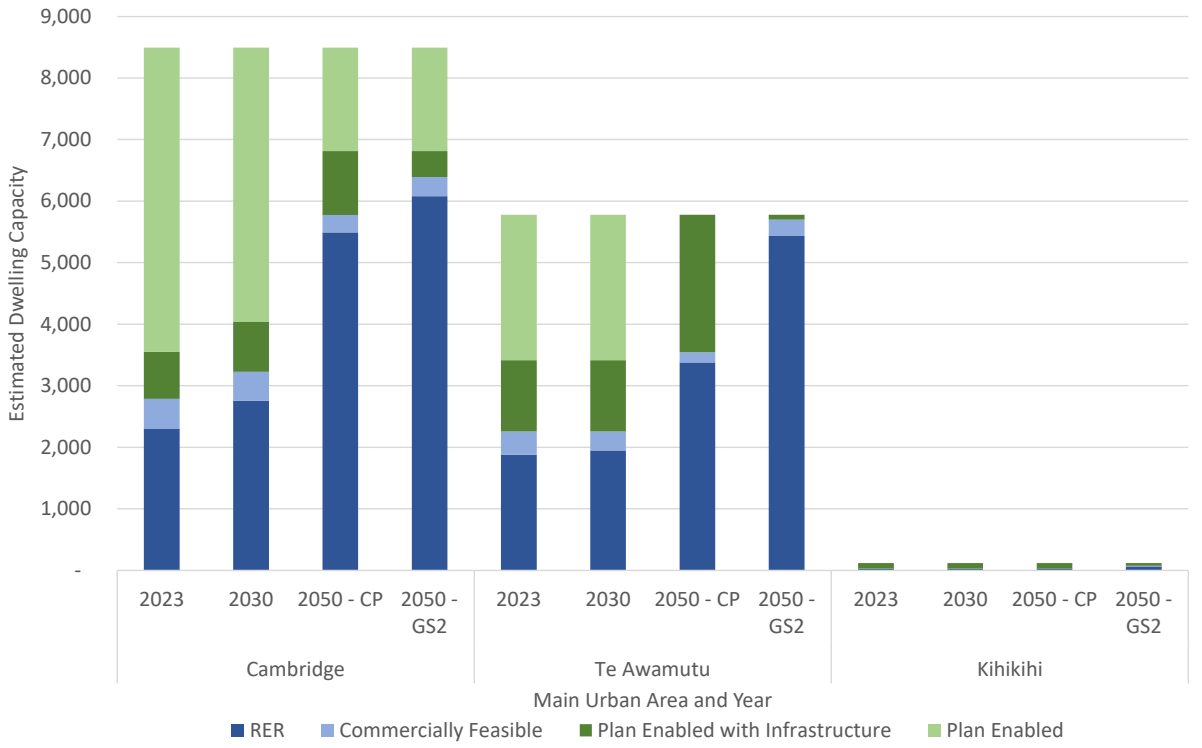
4.4.4 Residential Capacity: Short, Medium and Long-Term

The following graphs (Figure 4-20 and Figure 4-21) summarise the change in projected capacity through time across the district's main urban areas. Figure 4-20 shows the greenfield capacity only, and Figure 4-21 both the greenfield and existing urban capacity.

The additional projected capacity is distributed across the main urban areas of Cambridge and Te Awamutu, with a minor share in Kihikihi. These areas contain the main residential growth cells that have planned infrastructure supply through time. Much of the growth capacity for Kihikihi is supplied as large lot residential zones to accommodate lifestyle dwelling demand, which is outside the scope of the urban capacity assessment.

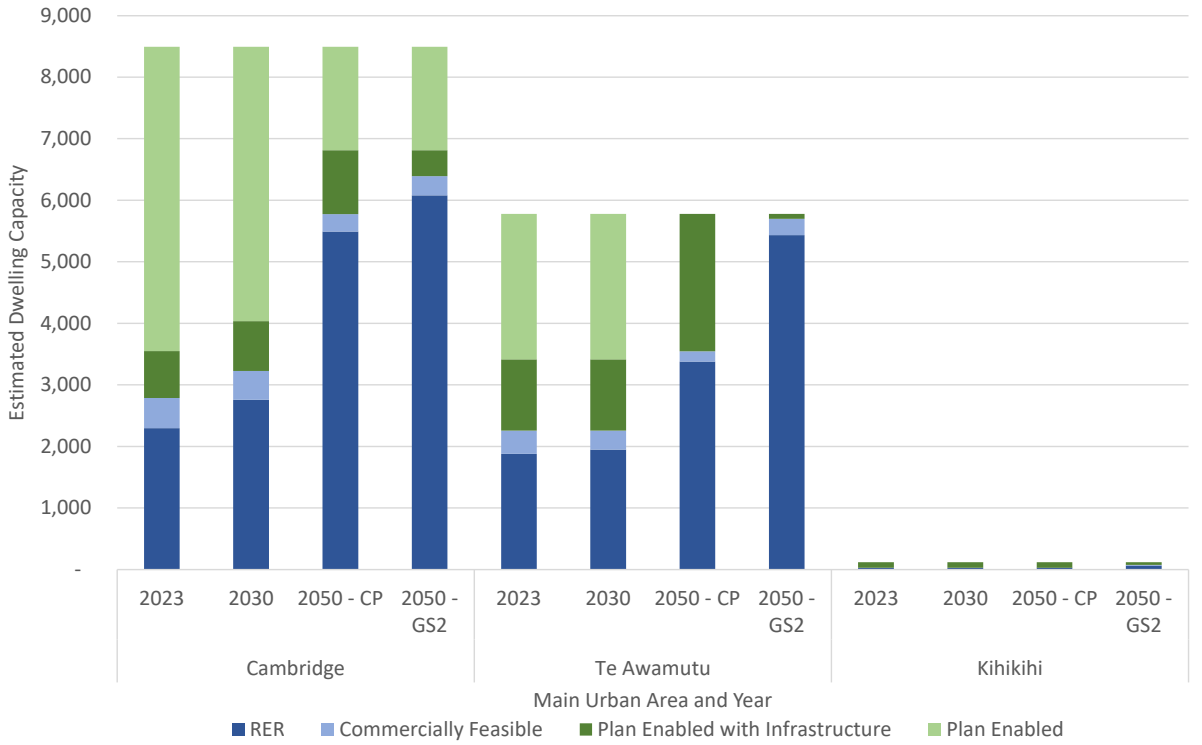
Higher shares of the greenfield capacity is projected to be feasible within Cambridge than Te Awamutu under the current prices scenario, with similar shares in the growth scenario.

Figure 4-20: Waipā District Estimated Urban Residential Capacity: Greenfield 2023-2050



Source: M.E FPP Residential Capacity Model, 2020.

Figure 4-21: Waipā District Estimated Urban Residential Capacity: Greenfield and Maximum Existing Urban 2023-2050



Source: M.E FPP Residential Capacity Model, 2020.

5 Sufficiency of Capacity

5.1 Introduction

The NPS-UD requires an assessment of the sufficiency of the estimated capacity to meet future demand. The policy statement considers that sufficient capacity needs to be supplied to meet demand over the short, medium and long-term as well as an additional margin to ensure that there are likely to be a range of development options within which the market can operate.

This section contains the sufficiency assessment for each of the FPP areas over the short, medium and long-term. It draws together the capacity calculations within Section 4 and the demand for dwellings in Section 3.

5.2 Approach

A sufficiency assessment has been conducted for each of the FPP areas. The assessments compare the urban capacity with urban demand, as set out in Sections 3 and 4. The assessment have been undertaken at the scale at which the main markets within the FPP area operate. This is important because the districts cover a large geographic area where location is not substitutable across the extent of the area to meet demand[39]. The assessments compare the demand arising within each part of the districts with the capacity which is likely to represent a suitable geographic market within which to meet the demand. Within this, the urban areas identified in the previous sections have been aggregated into geographic groupings. This is also important to enable the market sufficient flexibility to take up capacity options across these areas.

Within the Waikato District, sufficiency is assessed across the following geographic areas:

- Pōkeno/Tuakau – northern urban areas of the district.
- Te Kauwhata/Ngāruawāhia/Huntly/Taupiri – mid-district urban areas.
- Raglan.

Within Waipā District, sufficiency is assessed across the following geographic areas:

- Cambridge.
- Te Awamutu/Kihikihi.

Hamilton City is treated as one urban market where household demand is met across different types of location within the urban area. The feasibility modelling disaggregates the market into different types of locations, corresponding with dwelling values constructed in each type of area. When this analysis is compared to demand by dwelling value band, it assesses whether there are sufficient dwelling capacity options across Hamilton to meet the demand for different value locations.

[39] For example, the modelling assumes that demand arising within the northern part of the Waikato district needs to be met within the northern urban areas of Pōkeno/Tuakau and is not able to be met further south across the urban areas within the mid part of the district. It appropriately spatially matches demand with capacity.

The sufficiency assessment disaggregates the capacity by types of location within Hamilton to show the relative contribution of each type of location to the sufficiency of capacity in each value band. These include the City Centre, the rest of the existing urban area and the greenfield areas.

In accordance with the NPS-UD, the sufficiency assessment compares the RER capacity with the demand and demand margin. In the short-term, the RER capacity must be plan-enabled (under an Operative District Plan), have existing infrastructure in place, and be commercially feasible to develop. In the medium-term, the RER capacity must be plan enabled (either under an Operative or Proposed District Plan), served by infrastructure (either existing infrastructure or have funding identified in a long-term plan), and be commercially feasible to develop. Within the existing urban area, the assessment uses the maximum feasible RER capacity from a combination of the infill and redevelopment development options.

The NPS-UD requires that under the short and medium-term assessments, the capacity must be feasible in today's market, using current prices. It must be compared to the expected demand for dwellings, plus a 20% competitiveness margin on the net increase in demand.

In the long-term, the NPS-UD allows assessment of RER capacity that is feasible at a range of different market growth assumptions, including a scenario of no market change – i.e. where long-term demand is compared to the capacity which is current feasible within the market. Alternative scenarios are able to be included, which allow a level of growth to occur within the market. Over the long-term, capacity must be compared to the net increase in demand plus a 15% competitiveness margin (on the net increase in dwelling demand).

Our assessment provides the required current prices comparisons for the short, medium and long-term. In addition, it provides a sufficiency assessment for the two growth scenarios outlined in Section 4. We have also included these results as additional information within the short and medium-term assessments to show the sensitivity of the analysis to holding prices constant. This is important because it contributes to an understanding of which aspects of the process may be contributing to any identified shortfalls in capacity.

In undertaking our sufficiency assessments, we also consider the volume of further capacity at each classification. For instance, we subsequently also show the total amount of commercially feasible and plan-enabled capacity in relation to the demand (plus a margin). This is important because it helps to identify whether there are any supply constraints in relation to either the quantity of development opportunity supplied within the planning framework, or within the market.

Within each of the main urban areas our analysis disaggregates the sufficiency assessment by dwelling value band. This shows whether there are any shortfalls or surpluses within different value band parts of the market. While a surplus or shortfall may be present at the total level, there may be differences of sufficiency within different parts of the market.

Importantly, our value band assessment considers the total market rather than just the marginal addition of new dwelling stock and new household formation. It is critical to take this approach when assessing the sufficiency of different value bands as there is significant movement within the marketplace. This is a key sorting mechanism through which the different and changing needs are met within the market. It would be incorrect to simply compare new dwelling stock with the new households formed. A large portion of the (particularly higher value) dwelling stock is likely to be occupied through the movement of existing

households into these dwellings. Correspondingly, a high share of the newly formed households' demand for dwellings is likely to be met within lower value dwellings within the existing stock.

It is important to be aware that by nature, the sufficiency assessments are likely to overstate shortfalls in capacity within the lower dwelling value bands, and overstate capacity surpluses in the higher dwelling value bands. The requirement is to compare demand with feasible capacity at a snapshot in time, where the capacity assessment identifies the capacity that is feasible to construct at the snapshot point in time. This is an important distinction from a growth modelling assessment (which is outside the scope of the NPS-UD capacity assessment) whereby capacity is gradually taken up through time.

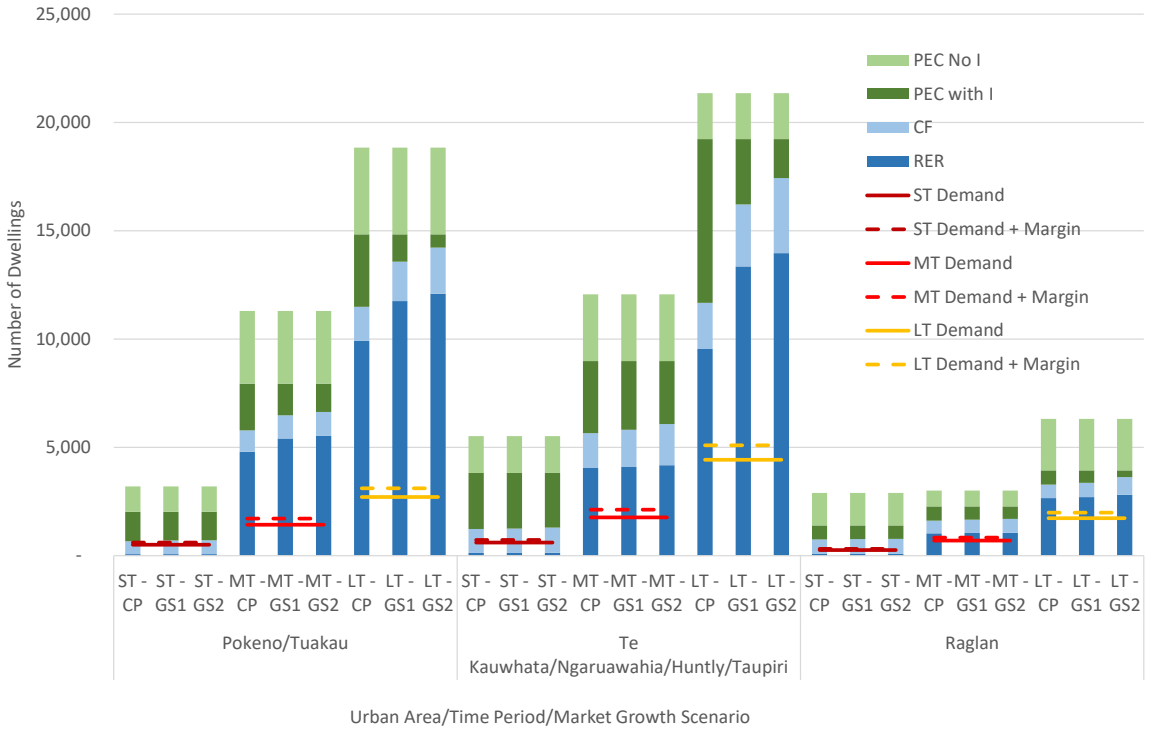
The prices at which capacity is constructed change through time, with capacity taken up at the start of each time period likely to be at lower prices. This is not reflected in a snapshot approach where demand is compared to feasible capacity at a particular point in time. As such, the modelling does not capture the lower values at which a share of the stock would be added through time. It therefore understates the likely future dwelling stock within the lower to mid value bands and correspondingly, overstates any shortfalls which may occur within these bands. Conversely, the total feasible capacity estimated within higher value bands is typically overstated, where a share of the capacity is likely to have already been constructed earlier on at lower prices.

5.3 Waikato District Sufficiency Assessment

5.3.1 District Level Urban Summary

The graph below (Figure 5-1) summarises the sufficiency of potential future dwelling capacity across each of Waikato District's main urban areas in the short, medium and long-term. It includes the capacity across both the existing urban and potential future greenfield areas. The bars show the estimated additional future capacity, while the lines show the projected net increase in dwelling demand. The three modelled scenarios (current prices, growth scenario 1, and growth scenario 2) are shown for each time period. However, in accordance with the NPS-UD requirements, sufficiency is assessed only in relation to the current prices scenario for the short and medium-term. The other scenarios have been shown for information purposes.

Figure 5-1: Projected Urban Residential Dwelling Capacity and Urban Dwelling Demand by Waikato District Urban Area and Market Growth Scenario: Short, Medium and Long-Term



Source: M.E FPP Dwelling Capacity Model, 2020 and Housing Demand Model, 2021.

The capacity bars in the graph follow the same structure as the capacity graphs in Section 4.The full extent of the bars show the total plan-enabled capacity across the greenfield and existing urban areas combined. The bars are disaggregated into different categories of capacity, which are additive to the full extent of the bar (i.e. the total capacity enabled under the Plan). The light green portions of the bars show the capacity that is enabled under the Plan, but is not served by infrastructure. The dark green sections show the plan-enabled capacity that is served by infrastructure, but is not estimated to be commercially feasible to develop. The light blue sections show the plan-enabled capacity that is estimated to be commercially feasible to develop, but does not fall within the reasonably expected to be realised (RER) estimate. The dark blue sections of the bars show the component of the feasible capacity that is estimated to be RER.

The lines on the graph show the projected demand for dwellings across each time period. The solid lines show the net increase in demand across the time period (from 2020). The dashed lines show the net increase in demand together with the margin required on the NPS-UD. A 20% margin is applied in the short and medium-terms, while a 15% margin is applied across the long-term.

The sufficiency assessment compares the demand plus a margin with the RER capacity within each time period.

In the short-term, the sufficiency assessment suggests that there are shortfalls in potential future capacity across all of the urban areas in the district. There are capacity shortfalls of around 600 dwellings across the mid-district urban areas (combined) of Te Kauwhata, Ngāruawāhia, Huntly and Taupiri where the RER capacity estimates compare to a demand (plus margin) for an additional 700 dwellings. A similar shortfall

is projected to occur in the northern urban areas of Pōkeno and Tuakau of around 500 dwellings, and a shortfall of around 200 dwellings in Raglan.

The short-term shortfalls in these areas occur as no greenfield capacity is included within the short-term assessment. Information supplied on the greenfield areas showed there were no greenfield areas that already have infrastructure in place. The RER capacity is estimated entirely from the potential uptake of a share of the feasible development opportunities within the existing urban areas.

There are significant development opportunities that are projected to be currently feasible within the existing urban areas of these centres. In all cases, they exceed the projected shortfalls in capacity. However, in Pōkeno/Tuakau, the estimated feasible options within the existing urban area only exceeds the projected demand by a minor amount. This largely occurs as much of the existing urban area has been developed relatively recently, and therefore, at intensities that either do not allow significant further infill, or where the value of the relatively new existing dwellings makes redevelopment options infeasible. It is likely that some of the short-term shortfalls in capacity will be met through a greater uptake of the feasible development options within the existing urban areas.

In the medium and long-terms, the north and mid-district main urban areas have a sizeable projected surplus in the capacity sufficiency assessment. This is due to the large expansion of infrastructure-served future greenfield areas under the PDP and Waikato 2070 Plans. It is projected that large parts of this capacity are likely to represent feasible development options.

In the medium-term, the largest surpluses are projected to occur across Pōkeno and Tuakau, with a combined surplus of around 3,100 dwellings. A further surplus of around 1,900 dwellings is projected to occur across the main urban areas of the mid part of the district. The surplus is smaller (around 200 dwellings) in Raglan.

In the long-term, there are large amounts of further infrastructure-served greenfield expansion under the Waikato 2070 Plan. There are also limited areas of zoned intensification within the existing urban areas, in the long-term. However, this assessment only captures a share of the future intensification areas as these were not available at the time of modelling. The main areas of intensification modelled are in Huntly and Ngāruawāhia.

There are large projected surpluses across the district in the long-term. Together, these amount to 11,900 to 18,700 dwellings across the main urban areas. The surpluses occur largely as a result of the expansion of the greenfield areas in the medium and long-terms. In comparison, the total demand, across these urban areas, amounts to around 8,900 additional dwellings in the long-term (10,200 additional urban dwellings with a margin)[40].

The following sub-sections provide further examination of the sufficiency of capacity by dwelling value band in the short, medium and long-term.

[40] As set out in Section 3, this includes the demand for urban dwellings. Total growth for the district is projected to be higher as it also includes a significant component of non-urban (lifestyle and rural) dwelling demand growth.

5.3.2 Short-Term Sufficiency: 2023

The sufficiency of capacity by dwelling value band is shown in Table 5-1 to Table 5-3 below. Each row of the table represents a dwelling value band. As set out in Section 5.2, it is important to assess the total dwelling stock (current plus potential future estate) in relation to the total household demand (current plus potential future households) when assessing sufficiency by dwelling value band. The upper part of the tables where RER feasible capacity is displayed form the sufficiency assessment requirements.

While not included as part of the sufficiency assessment, the comparison of demand to the total projected feasible development capacity options are also shown. These follow the same structure as the sufficiency assessment tables. It is important also to understand the value band distribution of the total feasible capacity as this estimates the potentially feasible development option for the commercial market. These are displayed in the lower half of the tables below.

The first part of the tables (yellow columns) show the total and potential future demand (including the margin) for dwellings within each of the dwelling value bands. The middle (blue columns) section of the table shows the total dwelling capacity across each of the district's main urban areas. The first column shows the existing base, while the middle three columns show the potential additional dwelling capacity (RER component), with the final blue column showing the current and potential future dwelling estate combined. This final blue column is compared to the final yellow column (demand plus margin) to produce the final sufficiency (orange section) part of the table. The sufficiency section shows the net difference between the total potential capacity and potential demand within each value band (first column), with this number expressed as a percentage of the total dwelling stock in the final column.

Table 5-1: Sufficiency of Projected Dwelling Capacity by Dwelling Value Band: Pōkeno/Tuakau – Short-Term – Current Prices Scenario

	DEMAND			CAPACITY (RER)					SUFFICIENCY	
Dwelling Value Band	Existing Households	2023 Demand	2023 Demand (with margin)	Existing Estate	Existing Urban Area	Greenfield	Additional Future Potential	Total Potential Future Estate	Net Difference to Demand	% of Demand
Up to $200k	70	90	90	70	-	-	-	70	-20	81%
$200k to $300k	70	90	90	70	-	-	-	70	-20	81%
$300k to $400k	100	100	100	100	-	-	-	100	-30	81%
$400k to $500k	500	600	600	500	-	-	-	500	-100	81%
$500k to $600k	600	700	700	600	-	-	-	600	-100	81%
$600k to $700k	600	700	700	600	20	-	20	600	-100	84%
$700k to $800k	600	800	800	600	40	-	40	700	-100	87%
$800k to $900k	60	70	70	60	-	-	-	60	-10	86%
$900k to $1m	10	20	20	10	-	-	-	10	0	81%
$1m+	10	10	10	10	-	-	-	10	0	81%
TOTAL	**2,600**	**3,100**	**3,200**	**2,600**	**70**	**-**	**70**	**2,700**	**-500**	**83%**
	DEMAND			**CAPACITY (COMMERCIALLY FEASIBLE)**					**SUFFICIENCY**	
Up to $200k	70	90	90	70	-	-	-	70	-20	81%
$200k to $300k	70	90	90	70	-	-	-	70	-20	81%
$300k to $400k	100	100	100	100	-	-	-	100	-30	81%
$400k to $500k	500	600	600	500	-	-	-	500	-100	81%
$500k to $600k	600	700	700	600	-	-	-	600	-100	81%
$600k to $700k	600	700	700	600	200	-	200	800	70	110%
$700k to $800k	600	800	800	600	400	-	400	1,100	300	136%
$800k to $900k	60	70	70	60	30	-	30	90	20	129%
$900k to $1m	10	20	20	10	-	-	-	10	0	81%
$1m+	10	10	10	10	-	-	-	10	0	81%
TOTAL	**2,600**	**3,100**	**3,200**	**2,600**	**700**	**-**	**700**	**3,300**	**60**	**102%**

Source: M.E. FPP Dwelling Capacity Model, 2020 and Housing Demand Model, 2021.

Table 5-2: Sufficiency of Projected Dwelling Capacity by Dwelling Value Band: Te Kauwhata/Ngāruawāhia/Huntly/Taupiri – Short-Term – Current Prices Scenario

	DEMAND			CAPACITY (RER)					SUFFICIENCY	
Dwelling Value Band	Existing Households	2023 Demand	2023 Demand (with margin)	Existing Estate	Existing Urban Area	Greenfield	Additional Future Potential	Total Potential Future Estate	Net Difference to Demand	% of Demand
Up to $200k	400	400	400	400	-	-	-	400	-40	89%
$200k to $300k	1,400	1,500	1,600	1,400	-	-	-	1,400	-200	89%
$300k to $400k	2,000	2,200	2,300	2,000	-	-	-	2,000	-300	89%
$400k to $500k	1,100	1,200	1,200	1,100	-	-	-	1,100	-100	89%
$500k to $600k	600	600	600	600	20	-	20	600	-50	93%
$600k to $700k	300	300	300	300	80	-	80	400	40	113%
$700k to $800k	80	90	100	80	20	-	20	100	10	109%
$800k to $900k	20	20	20	20	-	-	-	20	0	89%
$900k to $1m	10	10	10	10	-	-	-	10	0	96%
$1m+	10	10	10	10	-	-	-	10	0	98%
TOTAL	**5,800**	**6,400**	**6,600**	**5,800**	**100**	**-**	**100**	**6,000**	**-600**	**91%**
	DEMAND			**CAPACITY (COMMERCIALLY FEASIBLE)**					**SUFFICIENCY**	
Up to $200k	400	400	400	400	-	-	-	400	-40	89%
$200k to $300k	1,400	1,500	1,600	1,400	-	-	-	1,400	-200	89%
$300k to $400k	2,000	2,200	2,300	2,000	-	-	-	2,000	-300	89%
$400k to $500k	1,100	1,200	1,200	1,100	-	-	-	1,100	-100	89%
$500k to $600k	600	600	600	600	200	-	200	800	200	127%
$600k to $700k	300	300	300	300	800	-	800	1,100	800	334%
$700k to $800k	80	90	100	80	200	-	200	300	200	294%
$800k to $900k	20	20	20	20	-	-	-	20	0	89%
$900k to $1m	10	10	10	10	10	-	10	10	10	161%
$1m+	10	10	10	10	10	-	10	10	0	177%
TOTAL	**5,800**	**6,400**	**6,600**	**5,800**	**1,200**	**-**	**1,200**	**7,100**	**500**	**108%**

Source: M.E. FPP Dwelling Capacity Model, 2020 and Housing Demand Model, 2021.

Table 5-3: Sufficiency of Projected Dwelling Capacity by Dwelling Value Band: Raglan – Short-Term – Current Prices Scenario

	DEMAND			CAPACITY (RER)					SUFFICIENCY	
Dwelling Value Band	Existing Households	2023 Demand	2023 Demand (with margin)	Existing Estate	Existing Urban Area	Greenfield	Additional Future Potential	Total Potential Future Estate	Net Difference to Demand	% of Demand
Up to $200k	-	-	-	-	-	-	-	-	0	85%
$200k to $300k	70	80	80	70	-	-	-	70	-10	85%
$300k to $400k	200	200	200	200	-	-	-	200	-30	85%
$400k to $500k	400	500	500	400	-	-	-	400	-80	85%
$500k to $600k	400	400	400	400	-	-	-	400	-60	85%
$600k to $700k	300	400	400	300	20	-	20	300	-40	90%
$700k to $800k	200	200	200	200	40	-	40	200	10	103%
$800k to $900k	100	100	100	100	20	-	20	100	0	103%
$900k to $1m	70	80	80	70	-	-	-	70	-10	85%
$1m+	100	100	100	100	-	-	-	100	-20	85%
TOTAL	**1,800**	**2,100**	**2,200**	**1,800**	**70**	**-**	**70**	**1,900**	**-200**	**89%**
	DEMAND			**CAPACITY (COMMERCIALLY FEASIBLE)**					**SUFFICIENCY**	
Up to $200k	-	-	-	-	-	-	-	-	0	85%
$200k to $300k	70	80	80	70	-	-	-	70	-10	85%
$300k to $400k	200	200	200	200	-	-	-	200	-30	85%
$400k to $500k	400	500	500	400	-	-	-	400	-80	85%
$500k to $600k	400	400	400	400	-	-	-	400	-60	85%
$600k to $700k	300	400	400	300	200	-	200	500	100	132%
$700k to $800k	200	200	200	200	400	-	400	500	300	257%
$800k to $900k	100	100	100	100	200	-	200	300	200	261%
$900k to $1m	70	80	80	70	-	-	-	70	-10	85%
$1m+	100	100	100	100	-	-	-	100	-20	85%
TOTAL	**1,800**	**2,100**	**2,200**	**1,800**	**700**	**-**	**700**	**2,600**	**400**	**120%**

Source: M.E. FPP Dwelling Capacity Model, 2020 and Housing Demand Model, 2021.

In the short-term, the capacity shortfalls across the districts main urban areas occur across almost all dwelling value bands. In Pōkeno/Tuakau, the shortfalls are largest in the low to mid value bands ($400k to $800k), with some capacity projected to occur within these value bands within the existing urban area (which includes the further uptake of vacant lots within new areas that have already been urbanised). The overall short-term sufficiency of capacity Pōkeno/Tuakau is estimated to be 83%. However, there are significant amounts of feasible development options in Pōkeno within the mid dwelling value bands ($600k to $900k). It is likely that some of the feasible capacity within these value bands could be taken up to meet a share of the shortfall in the adjacent lower value bands.

Shortfalls in capacity are projected to be concentrated into the lower dwelling value bands (up to $500k) within the mid-district main urban areas (Te Kauwhata, Ngāruawāhia, Huntly and Taupiri). This is predominantly due to the existing lower dwelling value band profile of demand within these areas. There are further amounts of feasible capacity within these areas within the upper mid dwelling value bands ($500k to $800k), with no additional capacity projected to be feasible in the lower dwelling value bands. It is likely that a share of the feasible capacity within these value bands could meet some of the shortfalls within the adjacent lower dwelling value bands.

It is likely that the assessment has overstated the projected shortfalls in the lower dwelling value bands in the mid to upper urban areas of the district. A conservative approach has been taken that assumes that the dwelling demand profile of new households is consistent with the existing household base. However, in some areas (particularly Pōkeno) a higher proportion of the demand is likely to occur through the

overflow of growth pressures from the adjacent Auckland Region where households fall within the upper mid value bands, seeking newly constructed dwellings in these locations.

The projected shortfalls in capacity are also spread across nearly all dwelling value bands within Raglan. The assessment shows that there is additional capacity (beyond that estimated to be RER) within the upper-mid dwelling value bands ($600k to $900k), with additional capacity projected to be feasible in the lower value bands. Some of this capacity may be able to meet capacity shortfalls in the adjacent lower dwelling value bands.

It is important to note that the current prices scenario also holds the dwelling value demand of each household constant through time. It assumes a 0% rate of household income growth, which affects the value of dwellings demanded. While outside the parameters of the NPS-UD, when household incomes gradually increase through time under growth scenarios 1 and 2, on balance[41], the shortfall of potential feasible capacity within the lower dwelling value bands decreases. While no additional supply is generally feasible within the lower dwelling value bands, a share of the households within these dwelling value bands shift up to higher dwelling value bands as their total household incomes increase. The modelling suggests that if these were taken into account in the short-term, then the lower value band capacity shortfalls in the mid-district urban areas would be likely to decrease slightly.

5.3.3 Medium-Term Sufficiency: 2030

The medium-term sufficiency by dwelling value band across the district's main urban areas is shown in Table 5-4 to Table 5-6 for the current prices scenario. At the total level, there are surplus in each area, with overall sufficiency ranging from 108% (Raglan) to 171% (Pōkeno/Tuakau) (with the mid-district urban areas at 124%). However, all three areas continue to show significant shortfalls in capacity across the lower to mid dwelling value bands (up to $500k to $700k).

[41] Gradual market growth within these scenarios applies to both household incomes (demand) as well as the value of dwelling capacity (supply).

Table 5-4: Sufficiency of Projected Dwelling Capacity by Dwelling Value Band: Pōkeno/Tuakau – Medium-Term – Current Prices Scenario

	DEMAND			CAPACITY (RER)					SUFFICIENCY	
Dwelling Value Band	Existing Households	2030 Demand	2030 Demand (with margin)	Existing Estate	Existing Urban Area	Greenfield	Additional Future Potential	Total Potential Future Estate	Net Difference to Demand	% of Demand
Up to $200k	70	100	100	70	-	-	-	70	-50	60%
$200k to $300k	70	100	100	70	-	-	-	70	-50	60%
$300k to $400k	100	200	200	100	-	-	-	100	-80	60%
$400k to $500k	500	800	800	500	-	-	-	500	-300	60%
$500k to $600k	600	900	1,000	600	-	-	-	600	-400	60%
$600k to $700k	600	900	900	600	-	-	-	700	-200	77%
$700k to $800k	600	1,000	1,000	600	200	4,600	4,800	5,200	4,200	500%
$800k to $900k	60	90	100	60	10	10	20	100	0	103%
$900k to $1m	10	20	20	10	-	-	-	10	-10	60%
$1m+	10	10	10	10	-	-	-	10	0	60%
TOTAL	**2,600**	**4,000**	**4,300**	**2,600**	**200**	**4,600**	**4,800**	**7,400**	**3,100**	**171%**
	DEMAND			**CAPACITY (COMMERCIALLY FEASIBLE)**					**SUFFICIENCY**	
Up to $200k	70	100	100	70	-	-	-	70	-50	60%
$200k to $300k	70	100	100	70	-	-	-	70	-50	60%
$300k to $400k	100	200	200	100	-	-	-	100	-80	60%
$400k to $500k	500	800	800	500	-	-	-	500	-300	60%
$500k to $600k	600	900	1,000	600	-	-	-	600	-400	60%
$600k to $700k	600	900	900	600	-	-	-	700	-200	77%
$700k to $800k	600	1,000	1,000	600	800	4,900	5,700	6,100	5,100	588%
$800k to $900k	60	90	100	60	50	-	50	100	40	137%
$900k to $1m	10	20	20	10	-	-	-	10	-10	60%
$1m+	10	10	10	10	-	-	-	10	0	60%
TOTAL	**2,600**	**4,000**	**4,300**	**2,600**	**800**	**4,900**	**5,700**	**8,300**	**4,000**	**193%**

Source: M.E. FPP Dwelling Capacity Model, 2020 and Housing Demand Model, 2021.

Table 5-5: Sufficiency of Projected Dwelling Capacity by Dwelling Value Band: Te Kauwhata/Ngāruawāhia/Huntly/Taupiri – Medium-Term – Current Prices Scenario

	DEMAND			CAPACITY (RER)					SUFFICIENCY	
Dwelling Value Band	Existing Households	2030 Demand	2030 Demand (with margin)	Existing Estate	Existing Urban Area	Greenfield	Additional Future Potential	Total Potential Future Estate	Net Difference to Demand	% of Demand
Up to $200k	400	500	500	400	-	-	-	400	-100	73%
$200k to $300k	1,400	1,800	1,900	1,400	-	-	-	1,400	-500	73%
$300k to $400k	2,000	2,600	2,700	2,000	-	-	-	2,000	-700	73%
$400k to $500k	1,100	1,400	1,500	1,100	-	-	-	1,100	-400	73%
$500k to $600k	600	700	800	600	100	2,700	2,800	3,100	2,300	399%
$600k to $700k	300	400	400	300	100	700	900	1,400	1,000	356%
$700k to $800k	80	100	100	80	40	400	400	500	400	441%
$800k to $900k	20	30	30	20	-	-	-	20	-10	73%
$900k to $1m	10	10	10	10	-	-	-	10	0	102%
$1m+	10	10	10	10	-	-	-	10	0	109%
TOTAL	**5,800**	**7,600**	**8,000**	**5,800**	**300**	**3,800**	**4,000**	**9,900**	**1,900**	**124%**
	DEMAND			**CAPACITY (COMMERCIALLY FEASIBLE)**					**SUFFICIENCY**	
Up to $200k	400	500	500	400	-	-	-	400	-100	73%
$200k to $300k	1,400	1,800	1,900	1,400	-	-	-	1,400	-500	73%
$300k to $400k	2,000	2,600	2,700	2,000	-	-	-	2,000	-700	73%
$400k to $500k	1,100	1,400	1,500	1,100	-	-	-	1,100	-400	73%
$500k to $600k	600	700	800	600	500	3,000	3,500	3,600	2,900	473%
$600k to $700k	300	400	400	300	700	1,300	2,000	2,400	2,000	608%
$700k to $800k	80	100	100	80	200	-	200	300	200	289%
$800k to $900k	20	30	30	20	-	-	-	20	-10	73%
$900k to $1m	10	10	10	10	-	-	-	10	0	102%
$1m+	10	10	10	10	-	-	-	10	0	109%
TOTAL	**5,800**	**7,600**	**8,000**	**5,800**	**1,400**	**4,200**	**5,700**	**11,300**	**3,300**	**142%**

Source: M.E. FPP Dwelling Capacity Model, 2020 and Housing Demand Model, 2021.

Table 5-6: Sufficiency of Projected Dwelling Capacity by Dwelling Value Band: Raglan – Medium-Term – Current Prices Scenario

	DEMAND			CAPACITY (RER)					SUFFICIENCY	
Dwelling Value Band	Existing Households	2030 Demand	2030 Demand (with margin)	Existing Estate	Existing Urban Area	Greenfield	Additional Future Potential	Total Potential Future Estate	Net Difference to Demand	% of Demand
Up to $200k	-	-	-	-	-	-	-	-	0	69%
$200k to $300k	70	90	100	70	-	-	-	70	-30	69%
$300k to $400k	200	200	300	200	-	-	-	200	-80	69%
$400k to $500k	400	600	700	400	-	-	-	400	-200	69%
$500k to $600k	400	500	500	400	-	-	-	400	-200	69%
$600k to $700k	300	400	400	300	-	-	-	400	-80	82%
$700k to $800k	200	200	300	200	70	-	70	400	90	137%
$800k to $900k	100	100	200	100	60	900	1,000	900	800	577%
$900k to $1m	70	100	100	70	-	-	-	70	-30	69%
$1m+	100	200	200	100	-	-	-	100	-50	69%
TOTAL	**1,800**	**2,500**	**2,700**	**1,800**	**100**	**900**	**1,000**	**2,900**	**200**	**108%**
	DEMAND			**CAPACITY (COMMERCIALLY FEASIBLE)**					**SUFFICIENCY**	
Up to $200k	-	-	-	-	-	-	-	-	0	69%
$200k to $300k	70	90	100	70	-	-	-	70	-30	69%
$300k to $400k	200	200	300	200	-	-	-	200	-80	69%
$400k to $500k	400	600	700	400	-	-	-	400	-200	69%
$500k to $600k	400	500	500	400	-	-	-	400	-200	69%
$600k to $700k	300	400	400	300	-	-	-	400	-80	82%
$700k to $800k	200	200	300	200	300	1,000	1,300	1,400	1,200	553%
$800k to $900k	100	100	200	100	300	-	300	400	300	272%
$900k to $1m	70	100	100	70	-	-	-	70	-30	69%
$1m+	100	200	200	100	-	-	-	100	-50	69%
TOTAL	**1,800**	**2,500**	**2,700**	**1,800**	**600**	**1,000**	**1,600**	**3,500**	**800**	**129%**

Source: M.E. FPP Dwelling Capacity Model, 2020 and Housing Demand Model, 2021.

The sufficiency in these dwelling value bands ranges from 65% to 73% across the districts main urban areas. The overall capacity surpluses across these areas are driven by surpluses in the upper mid dwelling value bands. Nearly all of the feasible greenfield capacity in these areas is estimated to occur within these value bands. In Pōkeno/Tuakau and Raglan, greenfield capacity is projected to be feasible and RER in the $700k to $900k range. In the mid-district urban areas, greenfield capacity is projected to be feasible and RER in the $500k to $800k range under the current prices scenario.

A comparison to the total feasible capacity for each area is also included in the tables for the current prices scenario. These tables show that there is limited potential for the market to meet the shortfalls in demand in the lower dwelling value bands. There is no projected additional feasible capacity within the lower dwelling value bands.

Although outside the scope of the NPS-UD parameters, the assessment indicates that a portion of the capacity shortfalls within the lower dwelling value bands are reduced if gradual growth in the market is assessed over the medium-term. While additional capacity does not become feasible in the lower dwelling value bands, a share of the households shift up the value profile through growth in household income, thus reducing the shortfalls in the lower dwelling value bands.

5.3.4 Long-Term Sufficiency: 2050

The long-term sufficiency by dwelling value band is shown for each of the reported scenarios for each of the district's main urban areas in Table 5-7 to Table 5-15 at the end of this sub-section. At the total level, there are capacity surpluses across all of the main urban areas, even under the current prices scenario. This is predominately due to the large increase in supply of infrastructure-served greenfield areas.

It is important to note that the increase in greenfield supply of these areas does not reduce the value bands of feasible capacity. Rather, it increases the range of locations which are likely to be feasible to develop. The value bands of the feasible capacity are limited by the total development costs of the capacity, including the cost to urbanise the land.

In the long-term, the sufficiency of capacity within Pōkeno/Tuakau is estimated at 219% to 257%. In the mid-district urban areas, the sufficiency is between 141% to 181%. The supply of infrastructure-served greenfield capacity far exceeds the projected demand across the same timeframe.

In Raglan, the surplus is smaller, with sufficiency between 118% and 121%. This equates to a surplus of between 700 and 800 dwellings in the long-term. However, some of this capacity may be constrained by local conditions and constraints, which were not available at the time of modelling.

Despite the large total surpluses in capacity, the assessment suggests that there are likely to continue to be shortfalls in capacity across the lower dwelling value bands across some of the district's main urban areas under some growth scenarios. Under the current prices and lower growth scenarios, the shortfalls across the lower to mid value bands are projected to be largest. The main area of shortfall is projected to occur within the mid-district urban areas, where a higher share of the household base is in the lower to mid dwelling value bands. A smaller shortfall is projected to occur across the lower to mid value bands is also projected to occur within Pōkeno/Tuakau, however, it is likely that the actual dwelling value demand profile will be higher due to higher income overflow demand from the Auckland Region.

Under Growth Scenario 2, the shortfalls in capacity within many of the urban areas are projected to partly resolve in the long-term. This is due to the household income growth applied across existing households within the growth scenario, where demand gradually shifts up in value bands. The largest shortfalls across the low to mid value bands remain in the mid district areas. Under this scenario, there are also shortfalls in Pōkeno/Tuakau and Raglan within the $900k to $1m dwelling value band, however, some of this may be able to be met through the large surplus in capacity in the adjacent higher dwelling value band.

As stated in Section 5.2, the nature of a snapshot sufficiency assessment is such that capacity within lower to mid dwelling value bands is likely to be under-stated, correspondingly overstating shortfalls within these bands. Under a growth modelling approach (outside the scope of the NPS-UD sufficiency assessment), the capacity would be gradually taken up through time, with a share of capacity at lower prices towards the start of the assessment period.

Table 5-7: Sufficiency of Projected Dwelling Capacity by Dwelling Value Band: Pōkeno/Tuakau – Long-Term – Current Prices Scenario

	DEMAND			CAPACITY (RER)					SUFFICIENCY	
Dwelling Value Band	Existing Households	2050 Demand	2050 Demand (with margin)	Existing Estate	Existing Urban Area	Greenfield	Additional Future Potential	Total Potential Future Estate	Net Difference to Demand	% of Demand
Up to $200k	70	100	200	70	-	-	-	70	-90	46%
$200k to $300k	70	100	200	70	-	-	-	70	-90	46%
$300k to $400k	100	200	300	100	-	-	-	100	-100	46%
$400k to $500k	500	1,000	1,100	500	-	-	-	500	-600	46%
$500k to $600k	600	1,200	1,300	600	-	-	-	600	-700	46%
$600k to $700k	600	1,100	1,200	600	-	400	400	1,100	-100	89%
$700k to $800k	600	1,300	1,400	600	400	9,000	9,500	10,000	8,600	721%
$800k to $900k	60	100	100	60	20	10	20	100	-20	85%
$900k to $1m	10	30	30	10	-	-	-	10	-20	46%
$1m+	10	10	10	10	-	-	-	10	-10	46%
TOTAL	**2,600**	**5,300**	**5,700**	**2,600**	**400**	**9,500**	**9,900**	**12,500**	**6,800**	**219%**
	DEMAND			**CAPACITY (COMMERCIALLY FEASIBLE)**					**SUFFICIENCY**	
Up to $200k	70	100	200	70	-	-	-	70	-90	46%
$200k to $300k	70	100	200	70	-	-	-	70	-90	46%
$300k to $400k	100	200	300	100	-	-	-	100	-100	46%
$400k to $500k	500	1,000	1,100	500	-	-	-	500	-600	46%
$500k to $600k	600	1,200	1,300	600	-	500	500	1,000	-300	79%
$600k to $700k	600	1,100	1,200	600	-	-	-	700	-500	58%
$700k to $800k	600	1,300	1,400	600	1,100	9,900	11,000	11,500	10,100	829%
$800k to $900k	60	100	100	60	40	-	40	100	0	101%
$900k to $1m	10	30	30	10	-	-	-	10	-20	46%
$1m+	10	10	10	10	-	-	-	10	-10	46%
TOTAL	**2,600**	**5,300**	**5,700**	**2,600**	**1,100**	**10,400**	**11,500**	**14,100**	**8,400**	**246%**

Source: M.E. FPP Dwelling Capacity Model, 2020 and Housing Demand Model, 2021.

Table 5-8: Sufficiency of Projected Dwelling Capacity by Dwelling Value Band: Pōkeno/Tuakau – Long-Term – Growth Scenario 1

	DEMAND			CAPACITY (RER)					SUFFICIENCY	
Dwelling Value Band	Existing Households	2050 Demand	2050 Demand (with margin)	Existing Estate	Existing Urban Area	Greenfield	Additional Future Potential	Total Potential Future Estate	Net Difference to Demand	% of Demand
Up to $200k	70	100	100	60	-	-	-	70	-50	55%
$200k to $300k	70	40	40	20	-	-	-	30	-10	82%
$300k to $400k	100	90	100	60	-	-	-	60	-40	56%
$400k to $500k	500	70	70	100	-	-	-	70	0	99%
$500k to $600k	600	200	300	300	-	-	-	300	70	129%
$600k to $700k	600	500	500	300	-	-	-	400	-100	74%
$700k to $800k	600	500	600	500	-	-	-	400	-200	67%
$800k to $900k	60	1,100	1,200	400	-	-	-	500	-700	41%
$900k to $1m	10	500	500	400	-	400	400	1,100	600	211%
$1m+	10	2,200	2,300	400	500	10,800	11,300	11,500	9,100	492%
TOTAL	**2,600**	**5,300**	**5,700**	**2,600**	**500**	**11,300**	**11,800**	**14,400**	**8,600**	**251%**
	DEMAND			**CAPACITY (COMMERCIALLY FEASIBLE)**					**SUFFICIENCY**	
Up to $200k	70	100	100	60	-	-	-	70	-50	55%
$200k to $300k	70	40	40	20	-	-	-	30	-10	82%
$300k to $400k	100	90	100	60	-	-	-	60	-40	56%
$400k to $500k	500	70	70	100	-	-	-	70	0	99%
$500k to $600k	600	200	300	300	-	-	-	300	70	129%
$600k to $700k	600	500	500	300	-	-	-	400	-100	74%
$700k to $800k	600	500	600	500	-	-	-	400	-200	67%
$800k to $900k	60	1,100	1,200	400	-	-	-	500	-700	41%
$900k to $1m	10	500	500	400	-	500	500	1,100	600	219%
$1m+	10	2,200	2,300	400	1,200	11,900	13,100	13,200	10,900	568%
TOTAL	**2,600**	**5,300**	**5,700**	**2,600**	**1,200**	**12,400**	**13,600**	**16,200**	**10,500**	**283%**

Source: M.E. FPP Dwelling Capacity Model, 2020 and Housing Demand Model, 2021.

Table 5-9: Sufficiency of Projected Dwelling Capacity by Dwelling Value Band: Pōkeno/Tuakau – Long-Term – Growth Scenario 2

	DEMAND			CAPACITY (RER)					SUFFICIENCY	
Dwelling Value Band	Existing Households	2050 Demand	2050 Demand (with margin)	Existing Estate	Existing Urban Area	Greenfield	Additional Future Potential	Total Potential Future Estate	Net Difference to Demand	% of Demand
Up to $200k	70	70	70	50	-	-	-	60	-20	75%
$200k to $300k	70	80	80	20	-	-	-	10	-70	15%
$300k to $400k	100	-	-	20	-	-	-	50	40	1167%
$400k to $500k	500	40	40	50	-	-	-	40	0	103%
$500k to $600k	600	100	100	80	-	-	-	60	-60	47%
$600k to $700k	600	40	40	40	-	-	-	100	90	310%
$700k to $800k	600	200	200	500	-	-	-	300	80	137%
$800k to $900k	60	50	60	200	-	-	-	300	200	514%
$900k to $1m	10	900	1,000	400	-	-	-	400	-600	39%
$1m+	10	3,800	4,100	1,300	700	11,400	12,100	13,400	9,300	330%
TOTAL	**2,600**	**5,300**	**5,700**	**2,600**	**700**	**11,400**	**12,100**	**14,700**	**9,000**	**257%**
	DEMAND			**CAPACITY (COMMERCIALLY FEASIBLE)**					**SUFFICIENCY**	
Up to $200k	70	70	70	50	-	-	-	60	-20	75%
$200k to $300k	70	80	80	20	-	-	-	10	-70	15%
$300k to $400k	100	-	-	20	-	-	-	50	40	1167%
$400k to $500k	500	40	40	50	-	-	-	40	0	103%
$500k to $600k	600	100	100	80	-	-	-	60	-60	47%
$600k to $700k	600	40	40	40	-	-	-	100	90	310%
$700k to $800k	600	200	200	500	-	-	-	300	80	137%
$800k to $900k	60	50	60	200	-	-	-	300	200	514%
$900k to $1m	10	900	1,000	400	-	-	-	400	-600	39%
$1m+	10	3,800	4,100	1,300	1,700	12,500	14,200	15,500	11,400	382%
TOTAL	**2,600**	**5,300**	**5,700**	**2,600**	**1,700**	**12,500**	**14,200**	**16,800**	**11,100**	**294%**

Source: M.E. FPP Dwelling Capacity Model, 2020 and Housing Demand Model, 2021.

Table 5-10: Sufficiency of Projected Dwelling Capacity by Dwelling Value Band: Te Kauwhata/Ngāruawāhia/Huntly/Taupiri – Long-Term – Current Prices Scenario

	DEMAND			CAPACITY (RER)					SUFFICIENCY	
Dwelling Value Band	Existing Households	2050 Demand	2050 Demand (with margin)	Existing Estate	Existing Urban Area	Greenfield	Additional Future Potential	Total Potential Future Estate	Net Difference to Demand	% of Demand
Up to $200k	400	600	700	400	-	-	-	400	-300	53%
$200k to $300k	1,400	2,400	2,600	1,400	-	-	-	1,400	-1,200	53%
$300k to $400k	2,000	3,500	3,800	2,000	-	-	-	2,000	-1,800	53%
$400k to $500k	1,100	1,900	2,100	1,100	100	-	100	1,200	-900	59%
$500k to $600k	600	1,000	1,100	600	200	20	200	1,700	600	158%
$600k to $700k	300	500	500	300	300	2,900	3,100	3,500	2,900	640%
$700k to $800k	80	100	200	80	60	6,000	6,100	5,200	5,100	3291%
$800k to $900k	20	30	40	20	-	-	-	20	-20	53%
$900k to $1m	10	10	10	10	-	-	-	10	0	74%
$1m+	10	10	10	10	-	-	-	10	0	79%
TOTAL	**5,800**	**10,300**	**10,900**	**5,800**	**700**	**8,900**	**9,500**	**15,400**	**4,400**	**141%**
	DEMAND			**CAPACITY (COMMERCIALLY FEASIBLE)**					**SUFFICIENCY**	
Up to $200k	400	600	700	400	-	-	-	400	-300	53%
$200k to $300k	1,400	2,400	2,600	1,400	-	-	-	1,400	-1,200	53%
$300k to $400k	2,000	3,500	3,800	2,000	-	-	-	2,000	-1,800	53%
$400k to $500k	1,100	1,900	2,100	1,100	400	1,700	2,100	2,900	800	140%
$500k to $600k	600	1,000	1,100	600	500	1,000	1,500	2,700	1,700	256%
$600k to $700k	300	500	500	300	700	7,200	7,900	7,800	7,300	1447%
$700k to $800k	80	100	200	80	200	10	200	400	200	223%
$800k to $900k	20	30	40	20	-	-	-	20	-20	53%
$900k to $1m	10	10	10	10	-	-	-	10	0	74%
$1m+	10	10	10	10	-	-	-	10	0	79%
TOTAL	**5,800**	**10,300**	**10,900**	**5,800**	**1,700**	**10,000**	**11,700**	**17,600**	**6,600**	**161%**

Source: M.E. FPP Dwelling Capacity Model, 2020 and Housing Demand Model, 2021.

Table 5-11: Sufficiency of Projected Dwelling Capacity by Dwelling Value Band: Te Kauwhata/Ngāruawāhia/Huntly/Taupiri – Long-Term – Growth Scenario 1

	DEMAND			CAPACITY (RER)					SUFFICIENCY	
Dwelling Value Band	Existing Households	2050 Demand	2050 Demand (with margin)	Existing Estate	Existing Urban Area	Greenfield	Additional Future Potential	Total Potential Future Estate	Net Difference to Demand	% of Demand
Up to $200k	400	500	500	300	-	-	-	300	-200	65%
$200k to $300k	1,400	200	200	300	-	-	-	600	400	319%
$300k to $400k	2,000	1,500	1,600	1,200	-	-	-	1,000	-600	62%
$400k to $500k	1,100	1,100	1,200	1,700	-	-	-	1,200	70	106%
$500k to $600k	600	3,400	3,600	800	-	-	-	1,300	-2,300	36%
$600k to $700k	300	900	1,000	600	-	-	-	700	-300	67%
$700k to $800k	80	1,000	1,100	500	200	2,000	2,100	2,700	1,700	252%
$800k to $900k	20	900	1,000	200	200	800	1,000	1,600	600	163%
$900k to $1m	10	200	300	100	200	1,300	1,400	1,600	1,400	639%
$1m+	10	500	600	80	400	8,400	8,800	8,100	7,600	1452%
TOTAL	**5,800**	**10,300**	**10,900**	**5,800**	**900**	**12,400**	**13,400**	**19,200**	**8,300**	**176%**
	DEMAND			**CAPACITY (COMMERCIALLY FEASIBLE)**					**SUFFICIENCY**	
Up to $200k	400	500	500	300	-	-	-	300	-200	65%
$200k to $300k	1,400	200	200	300	-	-	-	600	400	319%
$300k to $400k	2,000	1,500	1,600	1,200	-	-	-	1,000	-600	62%
$400k to $500k	1,100	1,100	1,200	1,700	-	-	-	1,200	70	106%
$500k to $600k	600	3,400	3,600	800	-	-	-	1,300	-2,300	36%
$600k to $700k	300	900	1,000	600	-	-	-	700	-300	67%
$700k to $800k	80	1,000	1,100	500	500	2,100	2,600	3,100	2,000	288%
$800k to $900k	20	900	1,000	200	500	1,100	1,600	2,300	1,300	228%
$900k to $1m	10	200	300	100	400	1,300	1,800	2,100	1,900	840%
$1m+	10	500	600	80	1,000	9,400	10,500	9,600	9,100	1720%
TOTAL	**5,800**	**10,300**	**10,900**	**5,800**	**2,500**	**13,900**	**16,400**	**22,300**	**11,300**	**204%**

Source: M.E. FPP Dwelling Capacity Model, 2020 and Housing Demand Model, 2021.

Table 5-12: Sufficiency of Projected Dwelling Capacity by Dwelling Value Band: Te Kauwhata/Ngāruawāhia/Huntly/Taupiri – Long-Term – Growth Scenario 2

	DEMAND			CAPACITY (RER)					SUFFICIENCY	
Dwelling Value Band	Existing Households	2050 Demand	2050 Demand (with margin)	Existing Estate	Existing Urban Area	Greenfield	Additional Future Potential	Total Potential Future Estate	Net Difference to Demand	% of Demand
Up to $200k	400	300	300	200	-	-	-	300	-40	88%
$200k to $300k	1,400	300	300	100	-	-	-	60	-300	17%
$300k to $400k	2,000	20	20	400	-	-	-	800	800	4812%
$400k to $500k	1,100	600	700	1,000	-	-	-	800	80	112%
$500k to $600k	600	1,800	1,900	1,300	-	-	-	800	-1,100	41%
$600k to $700k	300	600	600	700	-	-	-	1,200	600	205%
$700k to $800k	80	3,000	3,200	1,100	-	-	-	700	-2,500	22%
$800k to $900k	20	100	100	100	-	-	-	500	400	429%
$900k to $1m	10	1,800	2,000	400	200	-	200	600	-1,300	31%
$1m+	10	1,700	1,800	400	1,100	12,700	13,800	14,100	12,300	775%
TOTAL	**5,800**	**10,300**	**10,900**	**5,800**	**1,300**	**12,700**	**14,000**	**19,800**	**8,900**	**181%**
	DEMAND			**CAPACITY (COMMERCIALLY FEASIBLE)**					**SUFFICIENCY**	
Up to $200k	400	300	300	200	-	-	-	300	-40	88%
$200k to $300k	1,400	300	300	100	-	-	-	60	-300	17%
$300k to $400k	2,000	20	20	400	-	-	-	800	800	4812%
$400k to $500k	1,100	600	700	1,000	-	-	-	800	80	112%
$500k to $600k	600	1,800	1,900	1,300	-	-	-	800	-1,100	41%
$600k to $700k	300	600	600	700	-	-	-	1,200	600	205%
$700k to $800k	80	3,000	3,200	1,100	-	-	-	700	-2,500	22%
$800k to $900k	20	100	100	100	-	-	-	600	500	524%
$900k to $1m	10	1,800	2,000	400	500	2,100	2,600	3,000	1,100	154%
$1m+	10	1,700	1,800	400	3,000	12,100	15,100	15,300	13,500	841%
TOTAL	**5,800**	**10,300**	**10,900**	**5,800**	**3,500**	**14,200**	**17,700**	**23,500**	**12,600**	**215%**

Source: M.E. FPP Dwelling Capacity Model, 2020 and Housing Demand Model, 2021.

Table 5-13: Sufficiency of Projected Dwelling Capacity by Dwelling Value Band: Raglan – Long-Term – Current Prices Scenario

	DEMAND			CAPACITY (RER)					SUFFICIENCY	
Dwelling Value Band	Existing Households	2050 Demand	2050 Demand (with margin)	Existing Estate	Existing Urban Area	Greenfield	Additional Future Potential	Total Potential Future Estate	Net Difference to Demand	% of Demand
Up to $200k	-	-	-	-	-	-	-	-	0	48%
$200k to $300k	70	100	100	70	-	-	-	70	-70	48%
$300k to $400k	200	300	400	200	-	-	-	200	-200	48%
$400k to $500k	400	900	900	400	-	-	-	400	-500	48%
$500k to $600k	400	700	800	400	-	-	-	400	-400	48%
$600k to $700k	300	600	600	300	-	-	-	400	-300	57%
$700k to $800k	200	300	400	200	100	-	100	400	50	114%
$800k to $900k	100	200	200	100	100	2,400	2,500	2,500	2,200	1095%
$900k to $1m	70	100	100	70	-	-	-	70	-80	48%
$1m+	100	200	300	100	-	-	-	100	-100	48%
TOTAL	**1,800**	**3,600**	**3,800**	**1,800**	**200**	**2,400**	**2,700**	**4,500**	**700**	**118%**
	DEMAND			**CAPACITY (COMMERCIALLY FEASIBLE)**					**SUFFICIENCY**	
Up to $200k	-	-	-	-	-	-	-	-	0	48%
$200k to $300k	70	100	100	70	-	-	-	70	-70	48%
$300k to $400k	200	300	400	200	-	-	-	200	-200	48%
$400k to $500k	400	900	900	400	-	-	-	400	-500	48%
$500k to $600k	400	700	800	400	-	-	-	400	-400	48%
$600k to $700k	300	600	600	300	-	-	-	400	-300	57%
$700k to $800k	200	300	400	200	300	2,700	3,000	3,000	2,700	827%
$800k to $900k	100	200	200	100	300	-	300	500	200	210%
$900k to $1m	70	100	100	70	-	-	-	70	-80	48%
$1m+	100	200	300	100	-	-	-	100	-100	48%
TOTAL	**1,800**	**3,600**	**3,800**	**1,800**	**600**	**2,700**	**3,300**	**5,100**	**1,300**	**134%**

Source: M.E. FPP Dwelling Capacity Model, 2020 and Housing Demand Model, 2021.

Table 5-14: Sufficiency of Projected Dwelling Capacity by Dwelling Value Band: Raglan – Long-Term – Growth Scenario 1

	DEMAND			CAPACITY (RER)					SUFFICIENCY	
Dwelling Value Band	Existing Households	2050 Demand	2050 Demand (with margin)	Existing Estate	Existing Urban Area	Greenfield	Additional Future Potential	Total Potential Future Estate	Net Difference to Demand	% of Demand
Up to $200k	-	-	-	-	-	-	-	-	0	58%
$200k to $300k	70	-	-	10	-	-	-	30	20	2569%
$300k to $400k	200	80	90	60	-	-	-	60	-20	72%
$400k to $500k	400	70	70	100	-	-	-	100	30	141%
$500k to $600k	400	300	300	200	-	-	-	300	-30	91%
$600k to $700k	300	400	400	300	-	-	-	300	-200	66%
$700k to $800k	200	500	500	300	-	-	-	200	-200	49%
$800k to $900k	100	700	700	200	-	-	-	200	-500	33%
$900k to $1m	70	300	300	100	-	-	-	200	-60	80%
$1m+	100	1,300	1,400	400	300	2,400	2,700	3,000	1,700	218%
TOTAL	**1,800**	**3,600**	**3,800**	**1,800**	**300**	**2,400**	**2,700**	**4,500**	**700**	**119%**
	DEMAND			**CAPACITY (COMMERCIALLY FEASIBLE)**					**SUFFICIENCY**	
Up to $200k	-	-	-	-	-	-	-	-	0	58%
$200k to $300k	70	-	-	10	-	-	-	30	20	2569%
$300k to $400k	200	80	90	60	-	-	-	60	-20	72%
$400k to $500k	400	70	70	100	-	-	-	100	30	141%
$500k to $600k	400	300	300	200	-	-	-	300	-30	91%
$600k to $700k	300	400	400	300	-	-	-	300	-200	66%
$700k to $800k	200	500	500	300	-	-	-	200	-200	49%
$800k to $900k	100	700	700	200	-	-	-	200	-500	33%
$900k to $1m	70	300	300	100	-	-	-	200	-60	80%
$1m+	100	1,300	1,400	400	600	2,700	3,400	3,700	2,300	266%
TOTAL	**1,800**	**3,600**	**3,800**	**1,800**	**600**	**2,700**	**3,400**	**5,200**	**1,400**	**136%**

Source: M.E. FPP Dwelling Capacity Model, 2020 and Housing Demand Model, 2021.

Table 5-15: Sufficiency of Projected Dwelling Capacity by Dwelling Value Band: Raglan – Long-Term – Growth Scenario 2

	DEMAND			CAPACITY (RER)					SUFFICIENCY	
Dwelling Value Band	Existing Households	2050 Demand	2050 Demand (with margin)	Existing Estate	Existing Urban Area	Greenfield	Additional Future Potential	Total Potential Future Estate	Net Difference to Demand	% of Demand
Up to $200k	-	-	-	-	-	-	-	-	0	79%
$200k to $300k	70	-	-	-	-	-	-	-	0	16%
$300k to $400k	200	-	-	20	-	-	-	40	40	39660%
$400k to $500k	400	30	40	50	-	-	-	50	20	147%
$500k to $600k	400	100	100	100	-	-	-	70	-30	66%
$600k to $700k	300	50	60	60	-	-	-	200	100	266%
$700k to $800k	200	300	300	400	-	-	-	300	-30	91%
$800k to $900k	100	50	50	100	-	-	-	200	200	440%
$900k to $1m	70	800	900	300	-	-	-	300	-600	29%
$1m+	100	2,200	2,400	800	400	2,500	2,800	3,600	1,200	150%
TOTAL	**1,800**	**3,600**	**3,800**	**1,800**	**400**	**2,500**	**2,800**	**4,700**	**800**	**121%**
	DEMAND			**CAPACITY (COMMERCIALLY FEASIBLE)**					**SUFFICIENCY**	
Up to $200k	-	-	-	-	-	-	-	-	0	79%
$200k to $300k	70	-	-	-	-	-	-	-	0	16%
$300k to $400k	200	-	-	20	-	-	-	40	40	39660%
$400k to $500k	400	30	40	50	-	-	-	50	20	147%
$500k to $600k	400	100	100	100	-	-	-	70	-30	66%
$600k to $700k	300	50	60	60	-	-	-	200	100	266%
$700k to $800k	200	300	300	400	-	-	-	300	-30	91%
$800k to $900k	100	50	50	100	-	-	-	200	200	440%
$900k to $1m	70	800	900	300	-	-	-	300	-600	29%
$1m+	100	2,200	2,400	800	900	2,700	3,600	4,400	2,000	184%
TOTAL	**1,800**	**3,600**	**3,800**	**1,800**	**900**	**2,700**	**3,600**	**5,500**	**1,600**	**143%**

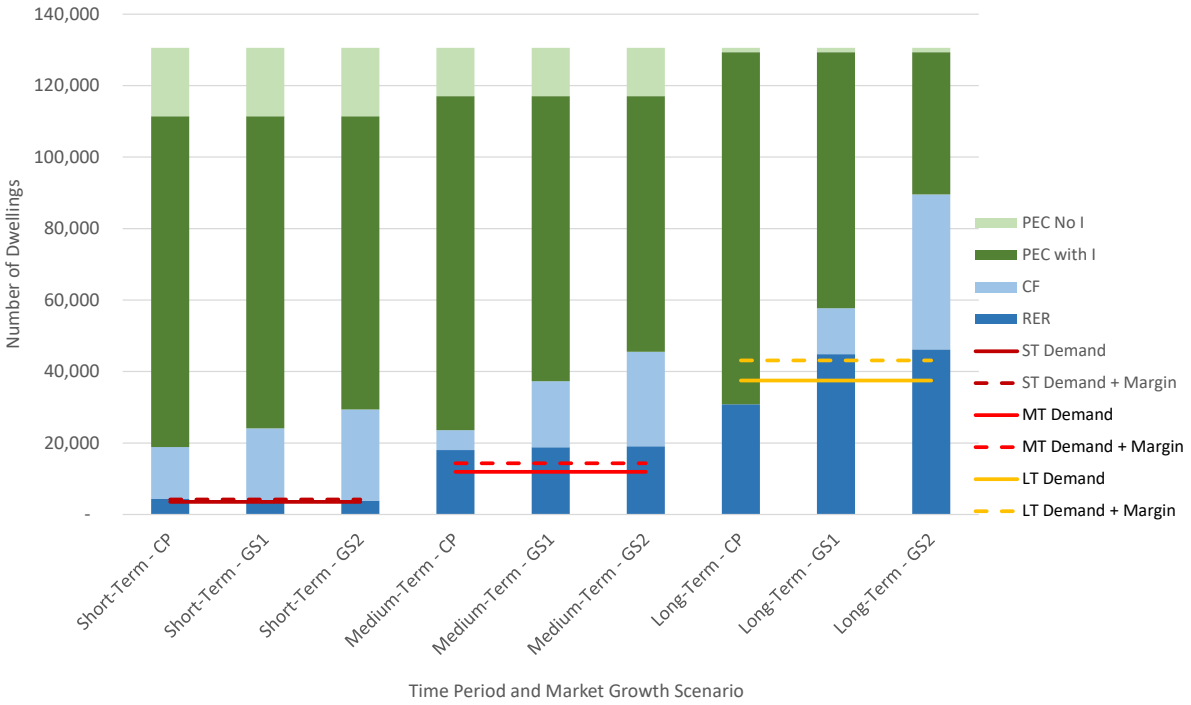
Source: M.E. FPP Dwelling Capacity Model, 2020 and Housing Demand Model, 2021.

5.4 Hamilton City Sufficiency Assessment

5.4.1 City Level Summary

The graph below (Figure 5-2) summarises the sufficiency of potential future dwelling capacity for Hamilton City in the short, medium and long-term. It includes the capacity across both the existing urban and potential future greenfield areas. The bars show the estimated additional future capacity, while the lines show the projected net increase in dwelling demand. The three modelled scenarios (current prices, growth scenario 1, and growth scenario 2) are shown for each time period. However, in accordance with the NPS-UD requirements, sufficiency is assessed only in relation to the current prices scenario for the short and medium-term. The other scenarios have been shown for information purposes.

Figure 5-2: Projected Urban Residential Dwelling Capacity and Urban Dwelling Demand in Hamilton City by Market Growth Scenario: Short, Medium and Long-Term



Source: M.E FPP Dwelling Capacity Model, 2020 and Housing Demand Model, 2021.

The capacity bars in the graph follow the same structure as the capacity graphs in Section 4.The full extent of the bars show the total plan-enabled capacity across the greenfield and existing urban areas combined. The bars are disaggregated into different categories of capacity, which are additive to the full extent of the bar (i.e. the total capacity enabled under the Plan). The light green portions of the bars show the capacity that is enabled under the Plan, but is not served by infrastructure. The dark green sections show the plan-enabled capacity that is served by infrastructure, but is not estimated to be commercially feasible to develop. The light blue sections show the plan-enabled capacity that is estimated to be commercially feasible to develop, but does not fall within the reasonably expected to be realised (RER) estimate. The dark blue sections of the bars show the component of the feasible capacity that is estimated to be RER.

The lines on the graph show the projected demand for dwellings across each time period. The solid lines show the net increase in demand across the time period (from 2020). The dashed lines show the net increase in demand together with the margin required on the NPS-UD. A 20% margin is applied in the short and medium-terms, while a 15% margin is applied across the long-term.

The sufficiency assessment compares the demand plus a margin with the RER capacity within each time period.

In the short-term, the assessment indicates that Hamilton City has a small capacity surplus of around 600 dwellings. When considered together with the total dwelling estate (i.e. existing estate plus potential future estate vs. current plus potential future households), this represents a sufficiency level of 100%. There is a total demand for an additional 3,500 dwellings. With a margin applied, this becomes 4,200 additional dwellings. There is an estimated RER capacity for an additional 4,300 dwellings within the short-term.

Figure 5-2 shows that there is a large amount of development opportunities that are projected to be feasible in the short-term within Hamilton. There is an estimated further feasible development capacity of around 14,500 dwellings beyond the component which is estimated to be RER within the short-term. Beyond that, there are a further 92,600 dwellings which are enabled by the Plan in areas served by infrastructure. This suggests that there is no significant constraint to the capacity arising from the development opportunities provided by the Plan.

The RER capacity estimate across the entire urban area is limited by the extent of the greenfield plan-enabled capacity that already has infrastructure in place. As set out in Section 4.1.5, the RER capacity assumes that the infill take up will be relatively equal to the greenfield take-up within the short-term. While there is only capacity for 2,500 dwellings within the greenfield areas that already have infrastructure in place, there are a large number of feasible development options within the existing urban area. These represent a sizeable number of feasible development options within the existing urban area. Moreover, there are significant additional areas of greenfield capacity that will be served by infrastructure by the end of the short-term. However, these are not included within the short-term assessment in line with the policy requirements.

In the medium-term Hamilton's RER capacity exceeds the demand (+ margin), resulting in a capacity surplus of around 3,700 dwellings. When considered at the total estate level, this equates to a sufficiency level of 105%. There is a total demand for 11,900 additional dwellings in medium-term (2020-2030), which becomes 14,300 additional dwellings when a margin is applied. This compares to an estimated RER capacity of around 18,000 dwellings. There is further 5,800 feasible dwelling capacity within the existing urban area beyond the RER estimate, and a further 93,500 dwellings enabled by the Plan in areas served by infrastructure.

If the market is held constant at current prices for the next 30 years (while simultaneously increasing the number of households), then there is a projected shortfall of around 12,300 dwellings in Hamilton in the long-term under the current prices scenario. For this to occur, only the development opportunities that are currently feasible (in 2020) would be feasible in 2050, with no further development opportunities becoming feasible. The 2050 RER within the urban area is therefore constrained to only the development options that were feasible within 2020.

The additional scenarios (growth scenarios 1 and 2) instead show the projected capacity when a gradual level of growth is applied within the market. Under these scenarios, there is a projected surplus of around 1,700 to 3,100 dwellings in the long-term, equating to a total sufficiency of 102% to 103%. This amounts to a RER capacity of 7,400 to 8,700 dwellings above the projected long-term net increase in demand. There is a further capacity of around 13,000 to 43,000 dwellings within Hamilton that represent feasible development opportunities beyond the estimated RER capacity. Beyond this, there is a further infrastructure-served, plan-enabled capacity of 72,000 to 40,000 additional dwellings.

The following sub-sections provide further examination of the sufficiency of capacity by dwelling value band in the short, medium and long-term.

5.4.2 Short-Term Sufficiency: 2023

The sufficiency of capacity by dwelling value band is shown in Table 5-16 below. Each row of the table represents a dwelling value band. As set out in Section 5.2, it is important to assess the total dwelling stock

(current plus potential future estate) in relation to the total household demand (current plus potential future households) when assessing sufficiency by dwelling value band. The upper part of the tables where RER feasible capacity is displayed form the sufficiency assessment requirements.

The first part of the table (yellow columns) show the total and potential future demand (including the margin) for dwellings within each of the dwelling value bands. The middle (blue columns) section of the table shows the total dwelling capacity across Hamilton City. The first column shows the existing base, while the middle four columns show the potential additional dwelling capacity (RER component), with the final blue column showing the current and potential future dwelling estate combined. This final blue column is compared to the final yellow column (demand plus margin) to produce the final sufficiency (orange section) part of the table. The sufficiency section shows the net difference between the total potential capacity and potential demand within each value band (first column), with this number expressed as a percentage of the total dwelling stock in the final column.

Table 5-16: Sufficiency of Projected Dwelling Capacity by Dwelling Value Band: Hamilton City – Short-Term – Current Prices Scenario

	DEMAND			CAPACITY (RER)						SUFFICIENCY	
Dwelling Value Band	Existing Households	2023 Demand	2023 Demand (with margin)	Existing Base	City Centre	Other Existing Urban Area	Greenfield	Total Additional Future Potential	Total Potential Future Estate	Net Difference to Demand	% of Demand
Up to $200k	500	600	600	500	-	-	-	-	500	-100	78%
$200k to $300k	800	1,400	1,400	800	-	-	-	-	800	-600	57%
$300k to $400k	5,300	6,200	6,200	5,300	-	-	-	-	5,300	-1,000	84%
$400k to $500k	12,700	13,100	13,200	12,700	200	100	-	300	13,000	-200	99%
$500k to $600k	13,600	13,800	14,000	13,600	40	500	70	600	14,100	100	101%
$600k to $700k	10,600	11,400	11,500	10,600	30	300	10	300	10,900	-600	95%
$700k to $800k	9,800	9,500	9,700	9,800	10	200	600	800	10,600	900	110%
$800k to $900k	2,900	3,300	3,400	2,900	-	200	1,200	1,400	4,300	900	127%
$900k to $1m	1,800	1,900	1,900	1,800	-	200	-	200	1,900	-20	99%
$1m+	2,800	3,000	3,000	2,800	-	200	600	800	3,600	600	120%
TOTAL	**60,800**	**64,300**	**65,000**	**60,800**	**300**	**1,600**	**2,500**	**4,300**	**65,100**	**90**	**100%**
	DEMAND			**CAPACITY (COMMERCIALLY FEASIBLE)**						**SUFFICIENCY**	
Up to $200k	500	600	600	500	-	-	-	-	500	-100	78%
$200k to $300k	800	1,400	1,400	800	-	-	-	-	800	-600	57%
$300k to $400k	5,300	6,200	6,200	5,300	-	-	-	-	5,300	-1,000	84%
$400k to $500k	12,700	13,100	13,200	12,700	3,200	900	-	4,100	16,800	3,600	127%
$500k to $600k	13,600	13,800	14,000	13,600	600	3,500	70	4,100	17,700	3,700	127%
$600k to $700k	10,600	11,400	11,500	10,600	400	2,300	10	2,700	13,200	1,700	115%
$700k to $800k	9,800	9,500	9,700	9,800	90	1,300	600	2,000	11,800	2,100	122%
$800k to $900k	2,900	3,300	3,400	2,900	-	1,500	1,200	2,700	5,700	2,300	168%
$900k to $1m	1,800	1,900	1,900	1,800	-	1,200	-	1,200	3,000	1,000	152%
$1m+	2,800	3,000	3,000	2,800	-	1,300	600	2,000	4,800	1,800	159%
TOTAL	**60,800**	**64,300**	**65,000**	**60,800**	**4,300**	**12,000**	**2,600**	**18,800**	**79,600**	**14,600**	**122%**

Source: M.E FPP Dwelling Capacity Model, 2020 and Housing Demand Model, 2021.

In the short-term, there is a small overall surplus of around 90 dwellings for Hamilton City. When assessed by dwelling value band, there are shortfalls in capacity that predominantly occur within the lower dwelling value bands (up to $500k). Within these bands, there is a projected shortfall of around 1,900 dwellings. There is also a shortfall of around 600 dwellings within the $600k to $700k dwelling value bands, however, it is likely that demand within this band could be met through the surpluses in adjacent dwelling value bands. Under this scenario, there are surpluses of capacity within the mid and high dwelling value bands as most of the potential additional future capacity is supplied within these dwelling value ranges.

The RER greenfield capacity is mostly in the dwelling value bands of $700k or over. Capacity within the existing urban area accounts for most of the potential additional stock below $700k, where a greater range of smaller, higher density development options are feasible. Under this scenario, the City Centre makes only a small contribution to the overall RER capacity, but is concentrated into the lower dwelling value bands.

Although not part of the sufficiency assessment, it is important also to understand the value band distribution of the total feasible capacity as this estimates the potentially feasible development option for the commercial market. The lower sections of the tables below include the results for the total feasible capacity.

When all feasible development options are considered, there are sizeable surpluses across all dwelling value bands over $400k. The shortfall in the lower dwelling value bands remain, but narrows to dwellings under $400k. Most of the feasible capacity within the lower dwelling value band of $400k to $500k occurs as apartments within the City Centre, with a significant, albeit smaller, number of options within the rest of the existing urban area.

It is important to note that the current prices scenario also holds the dwelling value demand of each household constant through time. It assumes a 0% rate of household income growth, which affects the value of dwellings demanded. While outside the parameters of the NPS-UD, when household incomes gradually increase through time under growth scenarios 1 and 2, on balance[42], the shortfall of potential feasible capacity within the lower dwelling value bands decreases. While no additional supply is feasible within the lower dwelling value bands (up to $400k), a share of the households within these dwelling value bands shift up to higher dwelling value bands as their total household incomes increase.

5.4.3 Medium-Term Sufficiency: 2030

The medium-term sufficiency by dwelling value band in Hamilton City is shown in Table 5-17 for the current prices scenario. Overall, it shows a surplus of around 3,700 dwellings at the total level, equating to a sufficiency of 105%. However, there are projected shortfalls across the lower dwelling value bands, and surpluses within the higher value bands. There is a projected shortfall of around 5,500 dwellings within the lower bands up to $500k. The sufficiency across these value bands amounts to 79%.

[42] Gradual market growth within these scenarios applies to both household incomes (demand) as well as the value of dwelling capacity (supply).

Table 5-17: Sufficiency of Projected Dwelling Capacity by Dwelling Value Band: Hamilton City – Medium-Term – Current Prices Scenario

	DEMAND			CAPACITY (RER)						SUFFICIENCY	
Dwelling Value Band	Existing Households	2030 Demand	2030 Demand (with margin)	Existing Base	City Centre	Other Existing Urban Area	Greenfield	Total Additional Future Potential	Total Potential Future Estate	Net Difference to Demand	% of Demand
Up to $200k	500	900	1,000	500	-	-	-	-	500	-500	51%
$200k to $300k	800	2,300	2,300	800	-	-	-	-	800	-1,500	34%
$300k to $400k	5,300	7,700	8,000	5,300	-	-	-	-	5,300	-2,700	66%
$400k to $500k	12,700	14,800	15,300	12,700	1,200	700	-	1,900	14,500	-700	95%
$500k to $600k	13,600	15,100	15,600	13,600	200	2,600	2,500	5,800	18,700	3,100	120%
$600k to $700k	10,600	12,300	12,700	10,600	100	1,700	800	2,700	13,100	400	103%
$700k to $800k	9,800	10,300	10,600	9,800	30	900	300	1,300	11,400	800	108%
$800k to $900k	2,900	3,900	4,000	2,900	-	1,100	300	1,400	5,100	1,100	128%
$900k to $1m	1,800	2,200	2,300	1,800	-	900	400	1,300	3,000	700	130%
$1m+	2,800	3,300	3,400	2,800	-	1,000	2,300	3,700	6,400	3,000	189%
TOTAL	**60,800**	**72,700**	**75,100**	**60,800**	**1,600**	**8,900**	**6,500**	**18,000**	**78,800**	**3,700**	**105%**
	DEMAND			**CAPACITY (COMMERCIALLY FEASIBLE)**						**SUFFICIENCY**	
Up to $200k	500	900	1,000	500	-	-	-	-	500	-500	51%
$200k to $300k	800	2,300	2,300	800	-	-	-	-	800	-1,500	34%
$300k to $400k	5,300	7,700	8,000	5,300	-	-	-	-	5,300	-2,700	66%
$400k to $500k	12,700	14,800	15,300	12,700	3,200	900	-	4,100	17,000	1,700	111%
$500k to $600k	13,600	15,100	15,600	13,600	600	3,500	2,900	7,000	20,300	4,700	130%
$600k to $700k	10,600	12,300	12,700	10,600	400	2,300	900	3,500	14,100	1,400	111%
$700k to $800k	9,800	10,300	10,600	9,800	90	1,300	300	1,700	11,600	1,000	109%
$800k to $900k	2,900	3,900	4,000	2,900	-	1,500	300	1,800	5,000	1,000	125%
$900k to $1m	1,800	2,200	2,300	1,800	-	1,200	400	1,600	3,300	1,100	147%
$1m+	2,800	3,300	3,400	2,800	-	1,300	2,600	3,900	6,600	3,200	193%
TOTAL	**60,800**	**72,700**	**75,100**	**60,800**	**4,300**	**12,000**	**7,400**	**23,600**	**84,300**	**9,300**	**112%**

Source: M.E FPP Dwelling Capacity Model, 2020 and Housing Demand Model, 2021.

It is likely that some of the shortfall in the upper part of the lower value dwelling bands could be met through the surplus (+3,100 dwellings) in the adjacent $500k to $600k dwelling value band. The surplus in this band occurs from both capacity in the existing urban and greenfield areas.

Under this scenario, there are surpluses across all other dwelling value bands over $500k. Most of the capacity occurs in value bands above $400k. Greenfield capacity is spread across a range of dwelling value bands, including the lower value bands through the provision of smaller dwellings. A significant proportion of the lower value greenfield dwelling capacity in the medium-term is projected to occur within Peacocke.

The table also contains the rest of the feasible development options within each dwelling value band. If this capacity is included, it removes the shortfall in the $400k to $500k dwelling value band. This predominantly occurs through the presence of feasible development options within the City Centre.

If gradual growth is allowed to occur in the market, then the shortfall of capacity within the lower value bands decreases. This occurs through a combination of household income growth and an increase in the number of development options that become feasible. Under these scenarios (growth scenarios 1 and 2), the City Centre accounts for a large share of the lower value ($400k to $600k) additional dwelling capacity. Larger amounts of additional development options become feasible within the City Centre with market growth.

5.4.4 Long-Term Sufficiency: 2050

The long-term sufficiency by dwelling value band is shown for each of the reported scenarios in Table 5-18 to Table 5-20. When the market is held constant, a shortfall of around 12,300 dwellings occurs in the long-term overall. This equates to an overall sufficiency of 88%. If growth gradually occurs within the market, then a surplus of between 1,700 and 3,100 dwellings occurs over the long-term (an overall sufficiency of 102% to 103%).

Table 5-18: Sufficiency of Projected Dwelling Capacity by Dwelling Value Band: Hamilton City – Long-Term – Current Prices Scenario

	DEMAND			CAPACITY (RER)						SUFFICIENCY	
Dwelling Value Band	Existing Households	2050 Demand	2050 Demand (with margin)	Existing Base	City Centre	Other Existing Urban Area	Greenfield	Total Additional Future Potential	Total Potential Future Estate	Net Difference to Demand	% of Demand
Up to $200k	500	1,800	1,900	500	-	-	-	-	500	-1,400	26%
$200k to $300k	800	4,800	5,100	800	-	-	-	-	800	-4,300	16%
$300k to $400k	5,300	12,400	13,100	5,300	-	-	-	-	5,300	-7,800	40%
$400k to $500k	12,700	20,000	21,100	12,700	3,200	900	-	4,100	16,400	-4,700	78%
$500k to $600k	13,600	18,900	20,000	13,600	600	3,500	200	4,300	19,400	-600	97%
$600k to $700k	10,600	15,300	16,100	10,600	400	2,300	2,800	5,400	15,500	-700	96%
$700k to $800k	9,800	12,500	13,200	9,800	90	1,300	6,600	7,900	15,900	2,600	120%
$800k to $900k	2,900	5,400	5,700	2,900	-	1,500	4,200	5,700	8,100	2,500	143%
$900k to $1m	1,800	3,100	3,200	1,800	-	1,200	600	1,800	3,600	400	111%
$1m+	2,800	4,200	4,400	2,800	-	1,400	300	1,600	6,200	1,700	139%
TOTAL	**60,800**	**98,300**	**103,900**	**60,800**	**4,300**	**12,000**	**14,600**	**30,800**	**91,600**	**-12,300**	**88%**
	DEMAND			**CAPACITY (COMMERCIALLY FEASIBLE)**						**SUFFICIENCY**	
Up to $200k	500	1,800	1,900	500	-	-	-	-	500	-1,400	26%
$200k to $300k	800	4,800	5,100	800	-	-	-	-	800	-4,300	16%
$300k to $400k	5,300	12,400	13,100	5,300	-	-	-	-	5,300	-7,800	40%
$400k to $500k	12,700	20,000	21,100	12,700	3,200	900	-	4,100	17,500	-3,700	83%
$500k to $600k	13,600	18,900	20,000	13,600	600	3,500	200	4,200	19,400	-600	97%
$600k to $700k	10,600	15,300	16,100	10,600	400	2,300	2,700	5,300	15,600	-600	96%
$700k to $800k	9,800	12,500	13,200	9,800	90	1,300	6,400	7,700	15,400	2,200	117%
$800k to $900k	2,900	5,400	5,700	2,900	-	1,500	4,100	5,600	7,500	1,800	132%
$900k to $1m	1,800	3,100	3,200	1,800	-	1,200	600	1,700	3,600	400	112%
$1m+	2,800	4,200	4,400	2,800	-	1,300	300	1,600	5,600	1,200	126%
TOTAL	**60,800**	**98,300**	**103,900**	**60,800**	**4,300**	**12,000**	**14,100**	**30,400**	**91,100**	**-12,800**	**88%**

Source: M.E FPP Dwelling Capacity Model, 2020 and Housing Demand Model, 2021.

Table 5-19: Sufficiency of Projected Dwelling Capacity by Dwelling Value Band: Hamilton City – Long-Term – Growth Scenario 1

	DEMAND			CAPACITY (RER)						SUFFICIENCY	
Dwelling Value Band	Existing Households	2050 Demand	2050 Demand (with margin)	Existing Base	City Centre	Other Existing Urban Area	Greenfield	Total Additional Future Potential	Total Potential Future Estate	Net Difference to Demand	% of Demand
Up to $200k	500	600	700	400	-	-	-	-	500	-200	67%
$200k to $300k	800	1,100	1,200	200	-	-	-	-	300	-900	28%
$300k to $400k	5,300	2,900	3,100	700	-	-	-	-	1,300	-1,700	43%
$400k to $500k	12,700	5,200	5,500	4,400	-	-	-	-	2,800	-2,700	50%
$500k to $600k	13,600	9,400	9,900	6,900	-	-	-	-	9,600	-300	97%
$600k to $700k	10,600	14,600	15,500	8,100	2,800	70	-	2,900	12,500	-3,000	81%
$700k to $800k	9,800	14,000	14,800	12,100	3,900	2,100	90	6,100	14,200	-600	96%
$800k to $900k	2,900	12,700	13,500	8,300	10	4,700	200	4,900	13,100	-300	97%
$900k to $1m	1,800	9,400	9,900	6,400	-	4,300	100	4,400	11,400	1,500	115%
$1m+	2,800	28,300	29,900	13,200	20	11,600	14,900	26,500	40,000	10,000	133%
TOTAL	**60,800**	**98,300**	**103,900**	**60,800**	**6,700**	**22,900**	**15,200**	**44,900**	**105,600**	**1,800**	**102%**
	DEMAND			**CAPACITY (COMMERCIALLY FEASIBLE)**						**SUFFICIENCY**	
Up to $200k	500	600	700	400	-	-	-	-	500	-200	67%
$200k to $300k	800	1,100	1,200	200	-	-	-	-	300	-900	28%
$300k to $400k	5,300	2,900	3,100	700	-	-	-	-	1,300	-1,700	43%
$400k to $500k	12,700	5,200	5,500	4,400	-	-	-	-	2,800	-2,700	50%
$500k to $600k	13,600	9,400	9,900	6,900	-	-	-	-	10,400	500	105%
$600k to $700k	10,600	14,600	15,500	8,100	6,600	90	-	6,700	16,500	1,000	107%
$700k to $800k	9,800	14,000	14,800	12,100	9,100	2,500	90	11,700	19,100	4,300	129%
$800k to $900k	2,900	12,700	13,500	8,300	20	5,600	200	5,800	14,000	500	104%
$900k to $1m	1,800	9,400	9,900	6,400	10	5,100	100	5,200	12,200	2,300	123%
$1m+	2,800	28,300	29,900	13,200	50	13,700	14,500	28,300	41,400	11,500	138%
TOTAL	**60,800**	**98,300**	**103,900**	**60,800**	**15,900**	**26,900**	**14,900**	**57,700**	**118,500**	**14,600**	**114%**

Source: M.E FPP Dwelling Capacity Model, 2020 and Housing Demand Model, 2021.

Table 5-20: Sufficiency of Projected Dwelling Capacity by Dwelling Value Band: Hamilton City – Long-Term – Growth Scenario 2

	DEMAND			CAPACITY (RER)						SUFFICIENCY	
Dwelling Value Band	Existing Households	2050 Demand	2050 Demand (with margin)	Existing Base	City Centre	Other Existing Urban Area	Greenfield	Total Additional Future Potential	Total Potential Future Estate	Net Difference to Demand	% of Demand
Up to $200k	500	500	500	300	-	-	-	-	400	-100	77%
$200k to $300k	800	300	300	200	-	-	-	-	80	-200	31%
$300k to $400k	5,300	1,100	1,200	300	-	-	-	-	500	-700	43%
$400k to $500k	12,700	1,500	1,600	500	-	-	-	-	1,300	-300	83%
$500k to $600k	13,600	3,900	4,100	3,300	-	-	-	-	1,800	-2,300	44%
$600k to $700k	10,600	6,000	6,400	1,900	-	-	-	-	4,600	-1,800	72%
$700k to $800k	9,800	8,500	9,000	12,700	-	-	-	-	8,800	-200	98%
$800k to $900k	2,900	10,000	10,600	3,600	5,600	-	-	5,600	12,200	1,600	115%
$900k to $1m	1,800	12,000	12,700	10,000	4,500	400	-	4,900	14,200	1,500	112%
$1m+	2,800	54,500	57,600	27,900	10	20,000	15,700	35,700	63,100	5,500	109%
TOTAL	**60,800**	**98,300**	**103,900**	**60,800**	**10,100**	**20,400**	**15,700**	**46,200**	**107,000**	**3,100**	**103%**
	DEMAND			**CAPACITY (COMMERCIALLY FEASIBLE)**						**SUFFICIENCY**	
Up to $200k	500	500	500	300	-	-	-	-	400	-100	77%
$200k to $300k	800	300	300	200	-	-	-	-	80	-200	31%
$300k to $400k	5,300	1,100	1,200	300	-	-	-	-	500	-700	43%
$400k to $500k	12,700	1,500	1,600	500	-	-	-	-	1,300	-300	83%
$500k to $600k	13,600	3,900	4,100	3,300	-	-	-	-	1,900	-2,200	45%
$600k to $700k	10,600	6,000	6,400	1,900	-	-	-	-	4,800	-1,600	75%
$700k to $800k	9,800	8,500	9,000	12,700	-	-	-	-	10,000	1,000	111%
$800k to $900k	2,900	10,000	10,600	3,600	20,500	10	-	20,500	26,100	15,600	247%
$900k to $1m	1,800	12,000	12,700	10,000	16,300	700	-	17,000	25,200	12,500	198%
$1m+	2,800	54,500	57,600	27,900	20	36,500	15,500	52,100	80,100	22,500	139%
TOTAL	**60,800**	**98,300**	**103,900**	**60,800**	**36,800**	**37,200**	**15,500**	**89,600**	**150,300**	**46,500**	**145%**

Source: M.E FPP Dwelling Capacity Model, 2020 and Housing Demand Model, 2021.

Under all scenarios, there are large shortfalls in capacity across the lower dwelling value bands. Under the current prices scenario, there is a shortfall of around 19,500 dwellings in the value bands up to $700k. The dwelling value band range of the shortfall increases under the growth scenarios to occur across dwellings in value bands up to $800k to $900k. However, the overall size of the shortfall across these bands decreases to between 5,500 to 9,700 dwellings as a greater range of development options become feasible. Under all scenarios there are surpluses in capacity within the higher dwelling value bands. Capacity within the greenfield areas is concentrated into the higher dwelling value bands under the growth scenarios, with the City Centre accounting for large shares of the lower value capacity.

As stated in Section 5.2, the nature of a snapshot sufficiency assessment is such that capacity within lower to mid dwelling value bands is likely to be under-stated, correspondingly overstating shortfalls within these bands. Under a growth modelling approach (outside the scope of the NPS-UD sufficiency assessment), the capacity would be gradually taken up through time, with a share of capacity at lower prices towards the start of the assessment period.

The tables above also examine the total capacity by value band that is projected to represent feasible development options. If total feasible capacity is considered, then some of the shortfalls within the mid dwelling value bands is removed under the current prices and lower growth scenarios. Under the growth scenarios, the shortfall in capacity would reduce to around 5,000 to 5,500 dwellings, and would occur across a smaller range of dwelling value bands (up to $500k to $700k). It is important to note however, that a substantial share of the additional feasible development capacity within the lowest end of the market occurs within the City Centre.

5.5 Waipā District Sufficiency Assessment

5.5.1 District Level Urban Summary

The graph below (Figure 5-3) summarises the sufficiency of potential future dwelling capacity across the Waipā District's two main urban areas (Cambridge and Te Awamutu/Kihikihi) in the short, medium and long-term. It includes the capacity across both the existing urban and potential future greenfield areas. The bars show the estimated additional future capacity, while the lines show the projected net increase in dwelling demand. The three modelled scenarios (current prices, growth scenario 1, and growth scenario 2) are shown for each time period. However, in accordance with the NPS-UD requirements, sufficiency is assessed only in relation to the current prices scenario for the short and medium-term. The other scenarios have been shown for information purposes.

Figure 5-3: Projected Urban Residential Dwelling Capacity and Urban Dwelling Demand by Waipā District Urban Area and Market Growth Scenario: Short, Medium and Long-Term

Source: M.E FPP Dwelling Capacity Model, 2020 and Housing Demand Model,

The capacity bars in the graph follow the same structure as the capacity graphs in Section 4.The full extent of the bars show the total plan-enabled capacity across the greenfield and existing urban areas combined. The bars are disaggregated into different categories of capacity, which are additive to the full extent of the bar (i.e. the total capacity enabled under the Plan). The light green portions of the bars show the capacity that is enabled under the Plan, but is not served by infrastructure. The dark green sections show the plan-enabled capacity that is served by infrastructure, but is not estimated to be commercially feasible to develop. The light blue sections show the plan-enabled capacity that is estimated to be commercially feasible to develop, but does not fall within the reasonably expected to be realised (RER) estimate. The dark blue sections of the bars show the component of the feasible capacity that is estimated to be RER.

The lines on the graph show the projected demand for dwellings across each time period. The solid lines show the net increase in demand across the time period (from 2020). The dashed lines show the net increase in demand together with the margin required on the NPS-UD. A 20% margin is applied in the short and medium-terms, while a 15% margin is applied across the long-term.

The sufficiency assessment compares the demand plus a margin with the RER capacity within each time period.

In the short-term, the sufficiency assessment suggests that there are large surpluses of potential future capacity across both of the main urban areas. In Cambridge, the there is a surplus capacity of around 1,700 dwellings, with sufficiency at 121% of the total potential future dwelling demand base. A similar surplus is projected for Te Awamutu/Kihikihi, where there is a surplus of around 1,400 dwellings (with sufficiency at 122%).

The short-term surpluses in these areas are largely driven by the large availability of infrastructure-served greenfield capacity, with further capacity available within the existing urban areas. Across the two urban centres, there is greenfield land currently served by infrastructure with a plan-enabled capacity of around 7,100 dwellings. Most of this land is estimated to represent feasible development options (capacity of around 5,900 dwellings), with a RER yield of around 4,200 dwellings taking into account likely development yields and densities. This compares to a demand for around 1,200 additional dwellings across the urban areas.

There are also sizeable surpluses projected for the medium-term across both of the main urban areas. The currently feasible capacity on the infrastructure-served greenfield areas (taking into account likely yields) also substantially exceeds the projected medium-term demand. In the medium-term, there is a projected surplus of around 1,400 dwellings across the areas combined, under the current prices scenario. Although outside of the NPS-UD medium-term sufficiency assessment, if gradual market growth were modelled, then the surplus would increase to around 2,400 to 2,600 dwellings.

In the long-term, there are predominantly still significant capacity surpluses within the modelling. The modelling suggests that there is a surplus of between 500 to 3,000 dwellings in Te Awamutu/Kihikihi. The lower end of this range occurs in the current prices scenario, where no growth in the market is allowed to occur. This scenario assumes that only capacity that is feasible in 2020 will be feasible in 2050. Conversely, if gradual growth is modelled to occur in the market through time, then there is a projected surplus of around 2,600 to 3,000 dwellings.

In Cambridge, the surpluses are projected to be smaller, largely due to the higher projected demand. Under the current prices scenario, there is a small projected shortfall of around 150 dwellings. However, the RER capacity still significantly exceeds the projected demand, with the shortfall occurring when the margin is applied. Moreover, this scenario assumes no change in the market over the long-term. Under the modelled scenarios of gradual market growth, a surplus of around 300 to 800 dwellings is projected to occur in the long-term.

The following sub-sections provide further examination of the sufficiency of capacity by dwelling value band in the short, medium and long-term.

5.5.2 Short-Term Sufficiency: 2023

The sufficiency of capacity by dwelling value band is shown in Table 5-21 and Table 5-22 below. Each row of the table represents a dwelling value band. As set out in Section 5.2, it is important to assess the total dwelling stock (current plus potential future estate) in relation to the total household demand (current plus potential future households) when assessing sufficiency by dwelling value band. The upper part of the tables where RER feasible capacity is displayed form the sufficiency assessment requirements.

While not included as part of the sufficiency assessment, the comparison of demand to the total projected feasible development capacity options are also shown. These follow the same structure as the sufficiency assessment tables. It is important also to understand the value band distribution of the total feasible capacity as this estimates the potentially feasible development option for the commercial market. These are displayed in the lower half of the tables below.

The first part of the tables (yellow columns) show the total and potential future demand (including the margin) for dwellings within each of the dwelling value bands. The middle (blue columns) section of the table shows the total dwelling capacity across each of the district's main urban areas. The first column shows the existing base, while the middle three columns show the potential additional dwelling capacity (RER component), with the final blue column showing the current and potential future dwelling estate combined. This final blue column is compared to the final yellow column (demand plus margin) to produce the final sufficiency (orange section) part of the table. The sufficiency section shows the net difference between the total potential capacity and potential demand within each value band (first column), with this number expressed as a percentage of the total dwelling stock in the final column.

Table 5-21: Sufficiency of Projected Dwelling Capacity by Dwelling Value Band: Cambridge – Short-Term – Current Prices Scenario

	DEMAND			CAPACITY (RER)					SUFFICIENCY	
Dwelling Value Band	Existing Households	2023 Demand	2023 Demand (with margin)	Existing Estate	Existing Urban Area	Greenfield	Additional Future Potential	Total Potential Future Estate	Net Difference to Demand	% of Demand
Up to $200k	50	50	50	50	-	-	-	50	0	92%
$200k to $300k	200	200	200	200	-	-	-	200	-20	92%
$300k to $400k	300	300	300	300	-	-	-	300	-30	92%
$400k to $500k	700	800	800	700	-	-	-	700	-60	92%
$500k to $600k	1,300	1,400	1,500	1,300	-	-	-	1,300	-100	92%
$600k to $700k	1,400	1,500	1,600	1,400	-	-	-	1,400	-100	92%
$700k to $800k	1,100	1,200	1,200	1,100	40	400	500	1,600	400	133%
$800k to $900k	900	1,000	1,000	900	40	1,300	1,300	2,300	1,200	220%
$900k to $1m	500	600	600	500	-	600	600	1,100	500	191%
$1m+	800	800	800	800	-	-	-	800	-70	92%
TOTAL	**7,400**	**7,900**	**8,000**	**7,400**	**90**	**2,300**	**2,400**	**9,800**	**1,700**	**121%**
	DEMAND			**CAPACITY (COMMERCIALLY FEASIBLE)**					**SUFFICIENCY**	
Up to $200k	50	50	50	50	-	-	-	50	0	92%
$200k to $300k	200	200	200	200	-	-	-	200	-20	92%
$300k to $400k	300	300	300	300	-	-	-	300	-30	92%
$400k to $500k	700	800	800	700	-	-	-	700	-60	92%
$500k to $600k	1,300	1,400	1,500	1,300	-	-	-	1,300	-100	92%
$600k to $700k	1,400	1,500	1,600	1,400	-	-	-	1,400	-100	92%
$700k to $800k	1,100	1,200	1,200	1,100	300	600	900	1,900	800	163%
$800k to $900k	900	1,000	1,000	900	300	2,200	2,500	3,500	2,400	337%
$900k to $1m	500	600	600	500	30	10	30	600	-20	97%
$1m+	800	800	800	800	-	-	-	800	-70	92%
TOTAL	**7,400**	**7,900**	**8,000**	**7,400**	**600**	**2,800**	**3,400**	**10,800**	**2,700**	**134%**

Source: M.E. FPP Dwelling Capacity Model, 2020 and Housing Demand Model, 2021.

Table 5-22: Sufficiency of Projected Dwelling Capacity by Dwelling Value Band: Te Awamutu/Kihikihi – Short-Term – Current Prices Scenario

Dwelling Value Band	DEMAND			CAPACITY (RER)					SUFFICIENCY	
	Existing Households	2023 Demand	2023 Demand (with margin)	Existing Estate	Existing Urban Area	Greenfield	Additional Future Potential	Total Potential Future Estate	Net Difference to Demand	% of Demand
Up to $200k	50	100	100	50	-	-	-	100	-10	91%
$200k to $300k	200	100	100	200	-	-	-	100	-10	91%
$300k to $400k	300	1,100	1,100	300	-	-	-	1,000	-100	91%
$400k to $500k	700	2,200	2,300	700	-	-	-	2,100	-200	91%
$500k to $600k	1,300	1,500	1,500	1,300	60	20	80	1,500	-50	96%
$600k to $700k	1,400	800	800	1,400	60	1,900	1,900	2,600	1,900	344%
$700k to $800k	1,100	300	300	1,100	-	-	-	300	-30	91%
$800k to $900k	900	100	100	900	-	-	-	100	-10	91%
$900k to $1m	500	40	40	500	-	-	-	30	0	91%
$1m+	800	80	80	800	-	-	-	70	-10	91%
TOTAL	**7,400**	**6,300**	**6,400**	**7,400**	**100**	**1,900**	**2,000**	**7,900**	**1,400**	**122%**
	DEMAND			**CAPACITY (COMMERCIALLY FEASIBLE)**					**SUFFICIENCY**	
Up to $200k	50	100	100	50	-	-	-	100	-10	91%
$200k to $300k	200	100	100	200	-	-	-	100	-10	91%
$300k to $400k	300	1,100	1,100	300	-	-	-	1,000	-100	91%
$400k to $500k	700	2,200	2,300	700	-	-	-	2,100	-200	91%
$500k to $600k	1,300	1,500	1,500	1,300	400	30	400	1,800	300	118%
$600k to $700k	1,400	800	800	1,400	400	2,300	2,700	3,400	2,600	438%
$700k to $800k	1,100	300	300	1,100	10	-	10	300	-20	93%
$800k to $900k	900	100	100	900	-	-	-	100	-10	91%
$900k to $1m	500	40	40	500	-	-	-	30	0	91%
$1m+	800	80	80	800	-	-	-	70	-10	91%
TOTAL	**7,400**	**6,300**	**6,400**	**7,400**	**800**	**2,300**	**3,100**	**8,900**	**2,500**	**139%**

Source: M.E. FPP Dwelling Capacity Model, 2020 and Housing Demand Model, 2021.

Table 5-21 and Table 5-22 show that although both of the main urban areas have overall projected surpluses in the short-term, each area is projected to have shortfalls in capacity across the lower to mid dwelling value bands. In Cambridge, there is a projected shortfall of up to 400 dwellings cross the value bands up to $700k. Sufficiency across these bands equates to 92% of the total market demand. It is likely however, that some of the demand within the mid value bands ($500k to $700k) could be met through the large surplus in the adjacent upper-mid value bands. The feasible capacity is concentrated in value bands above $700k in Cambridge, with the broader HBA assessment finding that a share of the development market is focussed on providing higher quality dwellings to meet the inflow of higher income retirement demand.

Shortfalls are also projected to occur across the lower to lower-mid value bands (up to $600k) within Te Awamutu/Kihikihi in the short-term. Feasible development capacity is projected to be concentrated into the $600k to $700k dwelling value band. The provision of cheaper feasible dwelling capacity is partly limited by the provisions within the Plan which tend toward medium-sized standalone dwellings on full sites.

The modelling suggests that capacity shortfalls are still likely to occur within these value bands, even when considering the overall scale of feasible capacity. Feasible capacity is focussed in the upper mid value bands, with some in the $500k to $600k value bands within Te Awamutu/Kihikihi's existing urban area.

It is important to note that the short-term assessment current prices scenario does not include any provision for household income growth (in accordance with the NPS-UD requirements). Although outside of the scope of the policy requirements, if household income growth were assumed across the short-term,

then the projected shortfalls across the lower value bands would decrease as household demand shifts upward into higher value bands.

5.5.3 Medium-Term Sufficiency: 2030

The modelling shows that the projected shortfalls in the lower to lower-mid value bands are projected to increase across both of the main urban areas into the medium-term under the current prices scenario (see Table 5-23 and Table 5-24). This occurs as no further capacity is projected to be feasible within these value bands, while the demand in these bands continues to grow.

Table 5-23: Sufficiency of Projected Dwelling Capacity by Dwelling Value Band: Cambridge – Medium-Term – Current Prices Scenario

	DEMAND			CAPACITY (RER)					SUFFICIENCY	
Dwelling Value Band	Existing Households	2030 Demand	2030 Demand (with margin)	Existing Estate	Existing Urban Area	Greenfield	Additional Future Potential	Total Potential Future Estate	Net Difference to Demand	% of Demand
Up to $200k	50	60	60	50	-	-	-	50	-10	76%
$200k to $300k	200	300	300	200	-	-	-	200	-70	76%
$300k to $400k	300	400	400	300	-	-	-	300	-90	76%
$400k to $500k	700	900	900	700	-	-	-	700	-200	76%
$500k to $600k	1,300	1,700	1,800	1,300	-	-	-	1,300	-400	76%
$600k to $700k	1,400	1,800	1,900	1,400	-	-	-	1,400	-400	76%
$700k to $800k	1,100	1,400	1,400	1,100	70	500	500	1,600	200	115%
$800k to $900k	900	1,200	1,200	900	70	2,200	2,300	3,100	1,900	250%
$900k to $1m	500	700	700	500	10	80	90	700	40	105%
$1m+	800	1,000	1,000	800	-	-	-	800	-200	76%
TOTAL	**7,400**	**9,300**	**9,700**	**7,400**	**200**	**2,800**	**2,900**	**10,300**	**600**	**106%**
	DEMAND			**CAPACITY (COMMERCIALLY FEASIBLE)**					**SUFFICIENCY**	
Up to $200k	50	60	60	50	-	-	-	50	-10	76%
$200k to $300k	200	300	300	200	-	-	-	200	-70	76%
$300k to $400k	300	400	400	300	-	-	-	300	-90	76%
$400k to $500k	700	900	900	700	-	-	-	700	-200	76%
$500k to $600k	1,300	1,700	1,800	1,300	-	-	-	1,300	-400	76%
$600k to $700k	1,400	1,800	1,900	1,400	-	-	-	1,400	-400	76%
$700k to $800k	1,100	1,400	1,400	1,100	300	600	900	2,000	500	137%
$800k to $900k	900	1,200	1,200	900	300	2,700	3,000	3,900	2,600	314%
$900k to $1m	500	700	700	500	30	10	30	600	-100	81%
$1m+	800	1,000	1,000	800	-	-	-	800	-200	76%
TOTAL	**7,400**	**9,300**	**9,700**	**7,400**	**600**	**3,200**	**3,800**	**11,200**	**1,500**	**116%**

Source: M.E. FPP Dwelling Capacity Model, 2020 and Housing Demand Model, 2021.

Table 5-24: Sufficiency of Projected Dwelling Capacity by Dwelling Value Band: Te Awamutu/Kihikihi – Medium-Term – Current Prices Scenario

Dwelling Value Band	DEMAND			CAPACITY (RER)					SUFFICIENCY	
	Existing Households	2030 Demand	2030 Demand (with margin)	Existing Estate	Existing Urban Area	Greenfield	Additional Future Potential	Total Potential Future Estate	Net Difference to Demand	% of Demand
Up to $200k	50	100	100	100	-	-	-	100	-20	82%
$200k to $300k	200	100	100	100	-	-	-	100	-30	82%
$300k to $400k	300	1,200	1,200	1,000	-	-	-	1,000	-200	82%
$400k to $500k	700	2,400	2,500	2,100	-	-	-	2,100	-500	82%
$500k to $600k	1,300	1,600	1,700	1,400	80	30	100	1,500	-200	88%
$600k to $700k	1,400	800	900	700	100	1,900	2,000	2,800	1,900	322%
$700k to $800k	1,100	400	400	300	-	-	-	300	-70	82%
$800k to $900k	900	100	200	100	-	-	-	100	-30	82%
$900k to $1m	500	40	40	30	-	-	-	30	-10	82%
$1m+	800	90	90	70	-	-	-	70	-20	82%
TOTAL	**7,400**	**7,000**	**7,200**	**5,900**	**200**	**2,000**	**2,200**	**8,000**	**800**	**112%**
	DEMAND			**CAPACITY (COMMERCIALLY FEASIBLE)**					**SUFFICIENCY**	
Up to $200k	50	100	100	100	-	-	-	100	-20	82%
$200k to $300k	200	100	100	100	-	-	-	100	-30	82%
$300k to $400k	300	1,200	1,200	1,000	-	-	-	1,000	-200	82%
$400k to $500k	700	2,400	2,500	2,100	-	-	-	2,100	-500	82%
$500k to $600k	1,300	1,600	1,700	1,400	400	30	400	1,800	100	106%
$600k to $700k	1,400	800	900	700	400	2,300	2,700	3,400	2,500	393%
$700k to $800k	1,100	400	400	300	10	-	10	300	-60	83%
$800k to $900k	900	100	200	100	-	-	-	100	-30	82%
$900k to $1m	500	40	40	30	-	-	-	30	-10	82%
$1m+	800	90	90	70	-	-	-	70	-20	82%
TOTAL	**7,400**	**7,000**	**7,200**	**5,900**	**800**	**2,300**	**3,100**	**8,900**	**1,800**	**125%**

Source: M.E. FPP Dwelling Capacity Model, 2020 and Housing Demand Model, 2021.

In Cambridge, the shortfalls are projected to increase to around 1,300 dwellings in the low to mid dwelling value bands (up to $700k), with overall sufficiency decreasing to 76% across these value bands. Feasible capacity is projected to occur in value bands over $700k, meaning that there is limited scope for the market to meet demand in the lower dwelling value bands. It is likely that market could meet some of the demand in the mid value bands ($500k to $700k) through the surpluses in the adjacent value bands. Around two-thirds of the shortfall is projected to occur in the $500k to $700k value bands.

The lower value band shortfalls in Cambridge have been modelled under the current prices scenario where it is assumed there is no growth in the dwelling demand value profile as household incomes are held constant. Although it is outside of the NPS-UD assessment criteria, it is important to understand how the shortfalls across these value bands may change if a gradual increase in household income were applied through time.

The modelling suggests that if household incomes increased, then the shortfalls across the lower to lower-mid value bands would become minor. This would occur as a substantial share of the Cambridge household demand is currently located within the mid value bands. This would shift upward to the upper-mid value bands where feasible capacity is focussed, with demand from the lower value bands being met by the existing housing stock dwellings in the mid value bands.

The projected shortfalls in the lower dwelling value bands are also projected to increase within Te Awamutu/Kihikihi into the medium-term. Under the current prices scenario, the shortfall is projected to

increase to around 900 dwellings in value bands up to $600k. This equates to a sufficiency of 84% of total market demand across these value bands.

Some of this shortfall could be met through the large projected surplus in the adjacent $600k to $700k value band, where feasible supply is focussed. However, there is less scope for this to occur within the Te Awamutu/Kihikihi market due to the existing lower value band profile of demand, where a higher share of demand occurs within the lower value bands.

Although outside the parameters of the NPS-UD policy requirements, if gradual growth were modelled in household income, then the shortfalls across the lower dwelling value bands would become minor as households shifted up the dwelling value band demand profile.

5.5.4 Long-Term Sufficiency: 2050

In the long-term, the surpluses are projected to predominantly occur across both urban areas. Both urban areas have substantial amounts of additional infrastructure served green field capacity planned for the long-term. There is also significant potential for intensification within the existing urban area, although a conservative approach has been taken within the modelling to assume that only a minor portion of this capacity as realised.

Overall surpluses are projected to increase in Te Awamutu/Kihikihi under the growth scenarios to between 2,600 and 3,000 dwellings (and is estimated at 500 dwellings if prices are held constant). This equates to a sufficiency of 105% to 132%. Much of the projected surplus increase is due to further greenfield development options becoming feasible where the estimated sales price exceeds the cost of redeveloping existing lifestyle properties.

In Cambridge, the projected surplus is smaller. If prices are held constant, and long-term demand is compared to the currently feasible development options, then a slight shortfall of 100 dwellings is projected. Under the growth scenarios, the projected surplus equates to between 300 and 800 dwellings. The projected increases between the growth scenarios are smaller in Cambridge as much of the greenfield area is projected to represent feasible development options under the current prices and lower growth scenario.

The sufficiency assessment by value bands is shown in Table 5-25 to Table 5-30 (at the end of this sub-section) for Cambridge and Te Awamutu. In the long-term assessment, additional tables are provided to show the outputs of the three growth scenarios modelled. The tables also show the total projected feasible capacity.

In Cambridge, the shortfalls across the lower dwelling value bands are projected to increase under the current prices scenario. The shortfall is projected to increase to 3,400 dwellings across the lower to mid dwelling value bands (up to $800k). This occurs under this scenario as it assumes no increase in the value of dwellings demanded from existing households. The growth scenarios include a level of household income growth together with growth in the dwelling market. Under the growth scenarios, the shortfalls in the lower dwelling value bands largely resolve.

A similar situation is also projected to occur within Te Awamutu/Kihikihi in the long-term. Shortfalls in the lower to mid value bands (up to $600k) are projected to increase to around 2,500 dwellings under the current prices scenario. Under the growth scenarios, the shortfalls across the lower to mid value bands (up to around $600k to $700k) are projected to largely resolve. However, under the lower growth scenario, there is a projected shortfall (-2,300 dwellings) under the upper mid value bands ($600k to $900k). While the additional feasible capacity is concentrated into the upper value bands, it is likely that this will primarily meet demand from existing households moving up the value bands.

As stated in Section 5.2, the nature of a snapshot sufficiency assessment is such that capacity within lower to mid dwelling value bands is likely to be under-stated, correspondingly overstating shortfalls within these bands. Under a growth modelling approach (outside the scope of the NPS-UD sufficiency assessment), the capacity would be gradually taken up through time, with a share of capacity at lower prices towards the start of the assessment period.

Table 5-25: Sufficiency of Projected Dwelling Capacity by Dwelling Value Band: Cambridge – Long-Term – Current Prices Scenario

	DEMAND			CAPACITY (RER)					SUFFICIENCY	
Dwelling Value Band	Existing Households	2050 Demand	2050 Demand (with margin)	Existing Estate	Existing Urban Area	Greenfield	Additional Future Potential	Total Potential Future Estate	Net Difference to Demand	% of Demand
Up to $200k	50	80	90	50	-	-	-	50	-40	55%
$200k to $300k	200	400	400	200	-	-	-	200	-200	55%
$300k to $400k	300	500	500	300	-	-	-	300	-200	55%
$400k to $500k	700	1,200	1,300	700	-	-	-	700	-600	55%
$500k to $600k	1,300	2,300	2,400	1,300	-	-	-	1,300	-1,100	55%
$600k to $700k	1,400	2,400	2,600	1,400	-	-	-	1,400	-1,200	55%
$700k to $800k	1,100	1,900	2,000	1,100	200	500	700	1,900	-50	97%
$800k to $900k	900	1,600	1,700	900	200	5,000	5,100	5,800	4,100	338%
$900k to $1m	500	900	1,000	500	20	10	30	700	-200	75%
$1m+	800	1,300	1,400	800	-	-	-	800	-600	55%
TOTAL	**7,400**	**12,600**	**13,400**	**7,400**	**400**	**5,500**	**5,900**	**13,200**	**-100**	**99%**
	DEMAND			**CAPACITY (COMMERCIALLY FEASIBLE)**					**SUFFICIENCY**	
Up to $200k	50	80	90	50	-	-	-	50	-40	55%
$200k to $300k	200	400	400	200	-	-	-	200	-200	55%
$300k to $400k	300	500	500	300	-	-	-	300	-200	55%
$400k to $500k	700	1,200	1,300	700	-	-	-	700	-600	55%
$500k to $600k	1,300	2,300	2,400	1,300	-	-	-	1,300	-1,100	55%
$600k to $700k	1,400	2,400	2,600	1,400	-	-	-	1,400	-1,200	55%
$700k to $800k	1,100	1,900	2,000	1,100	300	600	900	2,100	100	108%
$800k to $900k	900	1,600	1,700	900	300	5,200	5,500	6,300	4,500	366%
$900k to $1m	500	900	1,000	500	30	10	30	600	-400	59%
$1m+	800	1,300	1,400	800	-	-	-	800	-600	55%
TOTAL	**7,400**	**12,600**	**13,400**	**7,400**	**600**	**5,800**	**6,400**	**13,800**	**400**	**103%**

Source: M.E. FPP Dwelling Capacity Model, 2020 and Housing Demand Model, 2021.

Table 5-26: Sufficiency of Projected Dwelling Capacity by Dwelling Value Band: Cambridge – Long-Term – Growth Scenario 1

Dwelling Value Band	DEMAND			CAPACITY (RER)					SUFFICIENCY	
	Existing Households	2050 Demand	2050 Demand (with margin)	Existing Estate	Existing Urban Area	Greenfield	Additional Future Potential	Total Potential Future Estate	Net Difference to Demand	% of Demand
Up to $200k	50	60	60	40	-	-	-	40	-20	68%
$200k to $300k	200	20	20	40	-	-	-	100	80	459%
$300k to $400k	300	200	300	200	-	-	-	200	-70	73%
$400k to $500k	700	200	200	200	-	-	-	200	30	118%
$500k to $600k	1,300	500	500	400	-	-	-	700	200	137%
$600k to $700k	1,400	600	600	500	-	-	-	1,100	500	174%
$700k to $800k	1,100	600	700	1,200	-	-	-	1,000	300	143%
$800k to $900k	900	2,200	2,300	1,100	-	-	-	1,000	-1,300	43%
$900k to $1m	500	1,000	1,100	800	-	-	-	900	-200	85%
$1m+	800	7,200	7,700	2,900	500	5,800	6,300	8,500	800	110%
TOTAL	**7,400**	**12,600**	**13,400**	**7,400**	**500**	**5,800**	**6,300**	**13,600**	**300**	**102%**
	DEMAND			**CAPACITY (COMMERCIALLY FEASIBLE)**					**SUFFICIENCY**	
Up to $200k	50	60	60	40	-	-	-	40	-20	68%
$200k to $300k	200	20	20	40	-	-	-	100	80	459%
$300k to $400k	300	200	300	200	-	-	-	200	-70	73%
$400k to $500k	700	200	200	200	-	-	-	200	30	118%
$500k to $600k	1,300	500	500	400	-	-	-	700	200	137%
$600k to $700k	1,400	600	600	500	-	-	-	1,100	500	174%
$700k to $800k	1,100	600	700	1,200	-	-	-	1,000	300	143%
$800k to $900k	900	2,200	2,300	1,100	-	-	-	1,000	-1,300	43%
$900k to $1m	500	1,000	1,100	800	-	-	-	900	-100	87%
$1m+	800	7,200	7,700	2,900	800	6,100	6,900	9,100	1,400	118%
TOTAL	**7,400**	**12,600**	**13,400**	**7,400**	**800**	**6,100**	**6,900**	**14,300**	**900**	**107%**

Source: M.E. FPP Dwelling Capacity Model, 2020 and Housing Demand Model, 2021.

Table 5-27: Sufficiency of Projected Dwelling Capacity by Dwelling Value Band: Cambridge – Long-Term – Growth Scenario 2

	DEMAND			CAPACITY (RER)					SUFFICIENCY	
Dwelling Value Band	Existing Households	2050 Demand	2050 Demand (with margin)	Existing Estate	Existing Urban Area	Greenfield	Additional Future Potential	Total Potential Future Estate	Net Difference to Demand	% of Demand
Up to $200k	50	40	40	30	-	-	-	40	0	98%
$200k to $300k	200	40	40	20	-	-	-	10	-40	19%
$300k to $400k	300	-	-	70	-	-	-	200	200	8825%
$400k to $500k	700	100	100	100	-	-	-	100	50	144%
$500k to $600k	1,300	300	300	200	-	-	-	200	-90	70%
$600k to $700k	1,400	80	80	100	-	-	-	500	400	644%
$700k to $800k	1,100	400	400	700	-	-	-	800	400	197%
$800k to $900k	900	60	70	400	-	-	-	700	700	1048%
$900k to $1m	500	1,200	1,200	1,000	-	-	-	900	-300	74%
$1m+	800	10,400	11,100	4,800	700	6,100	6,800	10,600	-500	95%
TOTAL	**7,400**	**12,600**	**13,400**	**7,400**	**700**	**6,100**	**6,800**	**14,100**	**800**	**106%**
	DEMAND			**CAPACITY (COMMERCIALLY FEASIBLE)**					**SUFFICIENCY**	
Up to $200k	50	40	40	30	-	-	-	40	0	98%
$200k to $300k	200	40	40	20	-	-	-	10	-40	19%
$300k to $400k	300	-	-	70	-	-	-	200	200	8825%
$400k to $500k	700	100	100	100	-	-	-	100	50	144%
$500k to $600k	1,300	300	300	200	-	-	-	200	-90	70%
$600k to $700k	1,400	80	80	100	-	-	-	500	400	644%
$700k to $800k	1,100	400	400	700	-	-	-	800	400	197%
$800k to $900k	900	60	70	400	-	-	-	700	700	1048%
$900k to $1m	500	1,200	1,200	1,000	-	-	-	900	-300	74%
$1m+	800	10,400	11,100	4,800	1,200	6,400	7,500	11,300	300	102%
TOTAL	**7,400**	**12,600**	**13,400**	**7,400**	**1,200**	**6,400**	**7,500**	**14,900**	**1,500**	**112%**

Source: M.E. FPP Dwelling Capacity Model, 2020 and Housing Demand Model, 2021.

Table 5-28: Sufficiency of Projected Dwelling Capacity by Dwelling Value Band: Te Awamutu/Kihikihi – Long-Term – Current Prices Scenario

	DEMAND			CAPACITY (RER)					SUFFICIENCY	
Dwelling Value Band	Existing Households	2050 Demand	2050 Demand (with margin)	Existing Estate	Existing Urban Area	Greenfield	Additional Future Potential	Total Potential Future Estate	Net Difference to Demand	% of Demand
Up to $200k	100	200	200	100	-	-	-	100	-60	64%
$200k to $300k	100	200	200	100	-	-	-	100	-60	64%
$300k to $400k	1,000	1,500	1,600	1,000	-	-	-	1,000	-600	64%
$400k to $500k	2,100	3,100	3,200	2,100	-	-	-	2,100	-1,200	64%
$500k to $600k	1,400	2,100	2,200	1,400	200	30	200	1,600	-600	73%
$600k to $700k	700	1,000	1,100	700	200	3,400	3,600	4,300	3,200	394%
$700k to $800k	300	400	500	300	-	-	-	300	-200	64%
$800k to $900k	100	200	200	100	-	-	-	100	-70	64%
$900k to $1m	30	50	50	30	-	-	-	30	-20	64%
$1m+	70	100	100	70	-	-	-	70	-40	64%
TOTAL	**5,900**	**8,800**	**9,200**	**5,900**	**400**	**3,400**	**3,800**	**9,700**	**500**	**105%**
	DEMAND			**CAPACITY (COMMERCIALLY FEASIBLE)**					**SUFFICIENCY**	
Up to $200k	100	200	200	100	-	-	-	100	-60	64%
$200k to $300k	100	200	200	100	-	-	-	100	-60	64%
$300k to $400k	1,000	1,500	1,600	1,000	-	-	-	1,000	-600	64%
$400k to $500k	2,100	3,100	3,200	2,100	-	-	-	2,100	-1,200	64%
$500k to $600k	1,400	2,100	2,200	1,400	400	30	400	1,800	-300	85%
$600k to $700k	700	1,000	1,100	700	400	3,500	3,900	4,600	3,500	419%
$700k to $800k	300	400	500	300	10	-	10	300	-200	65%
$800k to $900k	100	200	200	100	-	-	-	100	-70	64%
$900k to $1m	30	50	50	30	-	-	-	30	-20	64%
$1m+	70	100	100	70	-	-	-	70	-40	64%
TOTAL	**5,900**	**8,800**	**9,200**	**5,900**	**800**	**3,600**	**4,400**	**10,200**	**1,000**	**111%**

Source: M.E. FPP Dwelling Capacity Model, 2020 and Housing Demand Model, 2021.

Table 5-29: Sufficiency of Projected Dwelling Capacity by Dwelling Value Band: Te Awamutu/Kihikihi – Long-Term – Growth Scenario 1

Dwelling Value Band	DEMAND			CAPACITY (RER)					SUFFICIENCY	
	Existing Households	2050 Demand	2050 Demand (with margin)	Existing Estate	Existing Urban Area	Greenfield	Additional Future Potential	Total Potential Future Estate	Net Difference to Demand	% of Demand
Up to $200k	100	100	100	90	-	-	-	90	-30	77%
$200k to $300k	100	40	40	30	-	-	-	50	10	124%
$300k to $400k	1,000	100	100	90	-	-	-	200	100	210%
$400k to $500k	2,100	100	100	800	-	-	-	500	400	353%
$500k to $600k	1,400	1,400	1,500	1,100	-	-	-	1,500	20	101%
$600k to $700k	700	1,500	1,500	1,200	-	-	-	1,200	-300	80%
$700k to $800k	300	1,600	1,700	1,200	-	-	-	800	-900	49%
$800k to $900k	100	2,000	2,000	600	200	30	200	900	-1,100	45%
$900k to $1m	30	500	500	300	50	-	50	700	200	136%
$1m+	70	1,500	1,500	400	300	5,300	5,600	5,700	4,200	374%
TOTAL	**5,900**	**8,800**	**9,200**	**5,900**	**600**	**5,300**	**5,900**	**11,800**	**2,600**	**128%**
	DEMAND			**CAPACITY (COMMERCIALLY FEASIBLE)**					**SUFFICIENCY**	
Up to $200k	100	100	100	90	-	-	-	80	-40	65%
$200k to $300k	100	40	40	30	-	-	-	40	0	104%
$300k to $400k	1,000	100	100	90	-	-	-	200	90	177%
$400k to $500k	2,100	100	100	800	-	-	-	400	300	297%
$500k to $600k	1,400	1,400	1,500	1,100	-	-	-	1,300	-200	85%
$600k to $700k	700	1,500	1,500	1,200	-	-	-	1,000	-500	69%
$700k to $800k	300	1,600	1,700	1,200	-	-	-	700	-1,000	44%
$800k to $900k	100	2,000	2,000	600	400	30	500	1,200	-800	60%
$900k to $1m	30	500	500	300	90	-	90	900	400	175%
$1m+	70	1,500	1,500	400	500	5,600	6,100	5,700	4,100	372%
TOTAL	**5,900**	**8,800**	**9,200**	**5,900**	**1,100**	**5,600**	**6,700**	**11,600**	**2,400**	**126%**

Source: M.E. FPP Dwelling Capacity Model, 2020 and Housing Demand Model, 2021.

Table 5-30: Sufficiency of Projected Dwelling Capacity by Dwelling Value Band: Te Awamutu/Kihikihi – Long-Term – Growth Scenario 2

	DEMAND			CAPACITY (RER)					SUFFICIENCY	
Dwelling Value Band	Existing Households	2050 Demand	2050 Demand (with margin)	Existing Estate	Existing Urban Area	Greenfield	Additional Future Potential	Total Potential Future Estate	Net Difference to Demand	% of Demand
Up to $200k	100	70	70	70	-	-	-	80	0	105%
$200k to $300k	100	80	80	30	-	-	-	20	-60	21%
$300k to $400k	1,000	-	-	40	-	-	-	70	70	1777%
$400k to $500k	2,100	40	50	80	-	-	-	200	200	518%
$500k to $600k	1,400	100	100	600	-	-	-	300	200	251%
$600k to $700k	700	200	200	400	-	-	-	800	600	325%
$700k to $800k	300	1,300	1,300	2,100	-	-	-	1,300	-40	97%
$800k to $900k	100	200	200	400	-	-	-	900	700	526%
$900k to $1m	30	2,900	3,100	1,000	-	-	-	900	-2,100	31%
$1m+	70	3,900	4,100	1,200	800	5,500	6,300	7,500	3,400	184%
TOTAL	**5,900**	**8,800**	**9,200**	**5,900**	**800**	**5,500**	**6,300**	**12,200**	**3,000**	**132%**
	DEMAND			**CAPACITY (COMMERCIALLY FEASIBLE)**					**SUFFICIENCY**	
Up to $200k	100	70	70	70	-	-	-	60	-10	88%
$200k to $300k	100	80	80	30	-	-	-	10	-70	17%
$300k to $400k	1,000	-	-	40	-	-	-	60	60	1495%
$400k to $500k	2,100	40	50	80	-	-	-	200	200	436%
$500k to $600k	1,400	100	100	600	-	-	-	300	100	211%
$600k to $700k	700	200	200	400	-	-	-	700	400	273%
$700k to $800k	300	1,300	1,300	2,100	-	-	-	1,100	-200	82%
$800k to $900k	100	200	200	400	-	-	-	800	600	447%
$900k to $1m	30	2,900	3,100	1,000	-	-	-	800	-2,200	26%
$1m+	70	3,900	4,100	1,200	1,500	5,800	7,300	8,300	4,200	202%
TOTAL	**5,900**	**8,800**	**9,200**	**5,900**	**1,500**	**5,800**	**7,300**	**12,200**	**3,000**	**133%**

Source: M.E. FPP Dwelling Capacity Model, 2020 and Housing Demand Model, 2021.

6 Impact of Planning

6.1 Introduction

This section draws together the analysis of housing demand and feasibility and sufficiency of supply together with other information from developers and selected groups within the housing market. It contains the assessment of how the FPP's planning decisions and provision of infrastructure is likely to affect the competitiveness of the FPP area housing market, and how that may impact on housing affordability in the future. A key requirement is to distinguish between the effects of planning and infrastructure provision, and other influences on affordability.

Our assessment begins by considering the approach to assessing the effects of planning on the housing market competitiveness, setting out how planning may affect the commercial market (Section 6.2). The following sub-sections assess the information sources and assessment within this context. Section 6.3 contains the outputs from M.E's Housing Affordability Model using inputs from the capacity and demand assessments. Information from the Developer Sector survey is contained in Section 6.4. Information on Māori housing is contained in Section 6.5, which will be supplemented by further information obtained by FPP following consultation with Iwi. Section 6.6 then provides the housing market indicators contained in the Ministry for the Environment Urban Development Dashboard.

6.2 Planning and Land and Development Markets

6.2.1 Approach

A key requirement of the NPS-UD work (clause 3.23) is to identify how planning and provision of infrastructure can be expected to affect the affordability of housing.

Housing prices and affordability are affected by a wide range of influences, local, regional and national.

Within those influences, the effects of councils' planning and infrastructure are predominantly local to the district. This is because many arise from the scale, location and timing of land supply for housing, all directly affected by zoning and other plan provisions, and the provision of infrastructure. The Randerson report identifies this as regulatory stringency.

> *"Data and analysis of land prices can be used to measure the extent to which local regulations impact the type of development that is occurring. This is sometimes referred to in urban economics as regulatory stringency."*[43]

[43] Randerson Report, para 130, p353.

While somewhat simplified, since it can be difficult to separate out the effects of regulatory stringency from other effects on supply and development, that is nonetheless useful because it helps place the focus on local (district level) conditions in the first instance.

The challenge is that there is considerable potential for the assessment of affordability to show the effects of regional and national influences, often not directly affected by local planning provisions or infrastructure but which may be the key determinants of housing affordability at the local level – compounding or offsetting the effects of planning and infrastructure provision.

This makes it important to understand the likely effects of planning and infrastructure in and of themselves, to ensure that plan provisions do not impact negatively on housing affordability, while at the same time recognising they may be in the "necessary but not sufficient conditions" category.

To minimise this effect, a two-step assessment structure is undertaken here.

Step 1

Step 1 focuses on the most direct effects of planning and infrastructure provision, and consider these first. Usefully, these arise out of the feasibility assessment required by the NPS-UD, to address both feasibility and sufficiency of housing supply in the short, medium and long terms.

The most immediate effects on the prices of new housing are for the most part reflected in the key assumptions for feasibility and RER assessments. That feasibility analysis requires information on land values, construction costs, housing typologies and sizes, and expected market values, and the effects of location on all of these.

It also establishes the key parameters of the planning outcomes, in terms of zoned and infrastructure capacity in each location. These are critical matters because the most direct effect of planning on housing supply and prices is through the amount and location of land supply, together with the plan provisions of what is enabled on the land, affecting the nature and therefore the cost of new dwelling supply.

Research into urban economies, including previous studies on development feasibility, have established that market growth is commonly associated with growth in the costs and final prices of new housing. A key consequence is that development feasibility tends to improve over time, as cities grow, the existing estate ages, household incomes increase and accumulated wealth improves for substantial segments of the market. To take account of the underlying drivers in the economy, feasibility assessment includes allowance for changes in prices, costs and values which is broadly commensurate with market change.

This means that the feasibility and sufficiency assessment directly identifies by how much new housing prices would need to change from the current values, over short, medium and long terms. That is a critical indicator, because it helps establish the scale of the required change in housing prices. Since the feasibility assessment generally also offers detail on the housing typologies, their location, costs and estimated market values, that information become the key inputs to the affordability analysis.

Most critically, it is the key mechanism to show the effect of the required price shifts on housing affordability, which may be attributed to planning and infrastructure provision.

This may be undertaken by considering the key effects at the local level – taking account of what can be feasible to develop in terms of dwelling options (size and typology), land values, construction, infrastructure and other costs – in terms of the minimum changes required in each. That sets the minimum price growth for feasible sufficiency, taking account of land supply, location and plan provisions. These are the main, local effects of planning and infrastructure.

Step 2

The second, subsequent step is recognition of how wider influences may affect housing affordability, over and above the effects of planning provisions and infrastructure. This can take into account the other influences on affordability, including to illustrate the potential for such wider influences to have effect on affordability irrespective of the plan and infrastructure effects.

We now consider the specific provisions of the NPS-UD.

6.2.2 Competitive Land and Development Markets

NPS-UD Provisions

A key aspect of the NPS-UD is the requirement to support and contribute to "*competitive land and development markets*". That requirement is set out at objective and policy level, and referenced in various clauses:

> ***Objective 2:*** *Planning decisions improve housing affordability by supporting competitive land and development markets.*
>
> ***Policy 1:*** *Planning decisions contribute to well-functioning urban environments, which are urban environments that, as a minimum:*
>
> *d. support, and limit as much as possible adverse impacts on, the competitive operation of land and development markets;*

These aspects underpin the requirements set out in clause ***3.23 Analysis of housing market and impact of planning***, under which:

> *1. Every HBA must include analysis of how the relevant local authority's planning decisions and provision of infrastructure affects the affordability and competitiveness of the local housing market.*
>
> *3. The analysis must be informed by:*
>
> *a. market indicators, including:*
>
> *i. indicators of housing affordability, housing demand, and housing supply; and*
>
> *ii. information about household incomes, housing prices, and rents; and*
>
> *b. price efficiency indicators.*

There are two key elements in Objective 2. First, the core expectation is that planning decisions are able to improve housing affordability. Second, the process for such improvement is supporting land and

development markets to be competitive. Importantly, the NPS-UD wording implies that the main or the only apparent route through which planning decisions may improve housing affordability is by supporting[44] markets to be competitive.

Planning and (Urban) Economies

In order to assess the role and effects of planning in an urban economy, it is important to understand first how that economy functions, and then identify how planning – directly and indirectly – may affect that.

Urban economies are spatial by their nature. Location is never neutral. Nor is time. Economies are characterised by multiple activities, with multiple flow-on and feed-back effects, occurring through time, and across space. Co-location of activity is an essential component of urban economies, yet most activities require their own space, and competition for space and location are critical aspects of how cities function. Cities are characterised by multiple externalities, and activities incur substantial transaction costs including the costs of movement to enable business and social interactions. And the urban part of the economy is characteristically the hub of a wider spatial economy which extends across the hinterland toward other cities.

The operation of urban economies is complex. It is subject to a wide range of influences including social, economic (private and public sector) cultural and especially environmental aspects, at local, regional and national levels.

One component of those influences is the regulatory filter, affecting those social, economic, cultural and environmental aspects both directly and indirectly.

The NPS-UD requires assessment of "planning decisions". Planning and regulation is multi-layered, and applies at local, regional and national levels.

This complexity with multiple influences occurring across space and through time highlight the importance of understanding the ways in which "planning" may have effect and which aspects of "planning" need to be assessed to comply with the NPS-UD provisions. Within those broad effects the requirement is to identify and examine how "planning" may have effects on housing affordability, and the competitiveness of local land markets.

There are two main routes through which "planning" affects affordability and competitiveness, both are through enabling and supporting land use. The nature, scale and location of land uses which make up an (urban) economy are key to the efficiency and sustainability of that economy, and planning has a key role in enabling where and when activity may occur. The spatial (and temporal) efficiency of that activity is a critical influence on productive efficiency and sustainability. The second route is directly related, effectively that from "disenablement" from inefficiencies in the provision for economic activity, primarily from constraints on capacity, and/or poor location. Constraints on capacity typically place upward pressure on the price of land and other resources, with obvious negative effects on affordability (regulatory stringency).

Planning also has a core role in supporting land use by minimising or avoiding externalities; minimising or avoiding transaction costs (especially costs of movement of people and goods); enabling economies of scale

[44] The term *supporting* is not defined, although it presumably equates with 'contributing positively to', or 'having a positive effect on'.

and scope which are essential for efficient urban economies; and seeking efficient use of urban infrastructure (3 waters, transport, social infrastructure).

These are important aspects that substantially affect the efficiency and functioning of urban land markets. The operation of the commercial market plays a core role within the overall land development and housing sector. It is critical to recognise that it is situated within a wider urban market context where effects on urban efficiency go well beyond competitive commercial markets. The role of planning within the market can act to set some of the wider parameters, within which the commercial market can operate. The planning parameters can manage the externalities and efficiencies that are unable to be managed by the commercial market alone.

Defining a Competitive Urban Land Market

The NPS-UD does not contain a definition of competitive land markets, nor is there definition in the documents which support the NPS. However, there is scope for councils to define and develop appropriate methods and practices to achieve NPS-UD compliance. That approach is followed here.

The review of the Resource Management Act does offer a useful definition. That definition is adopted here for the assessment, as follows:

> *Defining a competitive urban land market*
>
> *126. Competitive land markets should not be thought of as a laissez-faire regulatory approach to urban areas. In our view, a competitive urban land market is a well-planned and well-regulated built environment:*
>
> *• by 'competitive', we mean there is ample supply of alternative opportunities for development with the result that the price of land is not artificially inflated through scarcity*
>
> *• by 'well-planned' we mean that infrastructure and land use provision is aligned and timely provision of infrastructure avoids unnecessary costs*
>
> *• by 'well-regulated' we mean that the positive and negative external effects of land and resource use are considered in decision-making, and the costs of regulation are minimised and commensurate with the benefits. Positive effects include economies of agglomeration*, and the benefits of proximity and access to urban amenities. Negative effects include pollution and effects from industry, effects of development on heritage and character features, traffic congestion, and infrastructure costs (where they are not covered by development or user charges).*
>
> **This concept of agglomeration relates to the productivity gains of economies of scale, clustering and network effects.*

The Randerson review acknowledges some key challenges for the NPS-UD around competitive markets, noting (para 134) that *it "...addresses these issues to some extent. In our view, this work should be further developed and refined through national direction under our proposed Natural and Built Environments Act."* (p354)

We have considered carefully the definition in the Randerson review, and we consider that it offers a sound basis. In particular, it acknowledges how urban economies function, and how council planning may affect

competition within the market. Of particular note, it acknowledges that competition is an important aspect, but it does not seek to place reliance for urban planning on the operation of competitive markets alone. Therefore, it is important to adopt a wider view of a competitive development market.

There are many factors that affect the competitiveness of land/housing markets, and the overall delivery of housing. A competitive land market is one influence among many influences on housing affordability. These include both planning and non-planning factors. Examples of non-planning factors include wider economic factors (e.g. macroeconomic factors, patterns of demand, immigration), conditions within the construction sector and labour market, access to finance, level of overseas demand, etc. A critical matter is that planning decisions are one localised influence among many influences on housing affordability, many of which apply at regional, national or international level.

Distinguishing the influence of local planning decisions on housing affordability is a challenging task. However, focusing on the role of Council, there are several ways through which district plan provisions directly and indirectly affect housing prices and affordability. These include:

a. effects on the value of land for housing, which are beyond those effects which arise from the potential use of land and its location
b. the costs of providing housing which are affected by statutory requirements such as building standards, site coverage, building height maxima and bulk and location criteria
c. the volume of housing supply, potentially affected by zoned and serviced land area influencing potential dwelling numbers
d. the location and timing of capacity, as affected especially by zoning and the provision of infrastructure.

The following sub-sections contain information on aspects of our assessment that inform the above effects of planning within the market. These are followed by the presentation of the MfE housing dashboard indicators.

6.3 Future Housing Affordability

6.3.1 Modelling Approach

The analysis above provides important context for examining and understanding the likely future affordability of housing in the FPP area.

Any assessment of future housing affordability must be undertaken with high levels of care and caution. Future projections need to be driven by estimates and projections of the key factors which will drive change in affordability. It is important to recognise that several factors will have effect in combination, and that each factor may have significant influence even on its own. This means that future estimates of housing affordability are necessarily sensitive to the individual assumptions and combinations which are applied.

That is important because of the NPS-UD requirement to look into the long term future (30+ years). Simple projected rates of annual change will compound over time, so that later in the planning period the annual increments can become very large even from apparently modest annual changes. For this reason, the

modelling includes some dampening to limit the effects of growth rates compounding into the medium and long term.

Housing affordability at any point in the future depends on housing values which are driven primarily by the combined effects of changes in land value, improvement (dwelling) value, and housing construction costs. These changes are likely to vary over the planning period. Affordability also depends on household income levels as these affect ability to save for deposits and servicing loans, and accumulated wealth especially any increases in dwelling equity over time for households which are already owners.

All that said, the affordability assessment itself is reasonably straightforward. The numbers of dwellings in each value band (as estimated above) can be calculated according to real change in land and improvement prices, housing construction costs, and allowance for the current and future dwelling estates to age and potentially depreciate (at least relative to land values).

This provides estimates of the value of existing and future dwellings in real $ terms in each year, and accordingly a distribution of values across the dwelling estate at each point in time (future year).

The ability of households to afford to purchase a dwelling is based on their income levels at each point in time (future year) according to projected real change in incomes. The calculation of affordability is described above, for non-owner households.

Through this process, the projections therefore show the numbers of dwellings in each value band, and the numbers of households of each type and income band which are able to afford to purchase those dwellings. The future dollar amounts are inflated for household incomes, and for dwelling values. These income and dwelling value bands are referenced back to the $2020 values, so that future numbers of dwellings and households which can afford to purchase are able to be shown in the base year $2020 terms. The analysis is detailed in terms of the numbers of different dwelling value bands and different household types, but the calculation is fairly straightforward and transparent.

6.3.2 Assessing Affordability within the FPP Area

The assessment of affordability within the FPP area has been undertaken at the city and district total urban level to reflect the data available and provide overall assessments of affordability for each area. Local information on the urban capacity modelling has been combined with the available TLA level information on factors affecting household demand. The dwelling value band profile of the potential future dwelling estate was determined within the capacity assessment[45]. This has been compared to the household income distribution of urban households and the dwelling values affordable to each income band.

The affordability assessment shows the share of the (current and potential future) dwelling stock which is affordable to each household income band. The key outputs of this assessment for each of the growth scenarios are shown in the following sub-sections for each FPP area and future scenario in Figure 6-1 to Figure 6-9. Each line on the graph represents the outputs from a different time period of the assessment.

[45] The future potential dwelling estate value band profile contains further modelling of the capacity assessment outputs. The capacity assessment required a comparison of feasible capacity, as calculated at a point in time, with demand by dwelling value band. Further modelling within the housing affordability assessment allows capacity to be constructed through time at different points and corresponding value bands within the assessment period.

The value of each point on the line shows the share of dwellings of the current (year 2020) or potential future estate (years 2023 to 2050) that are affordable to households within each income bracket.

Changes in the position of the lines show changes in housing affordability through time. A shift of the curves to the left suggests increasing housing affordability as it results in a higher share of the dwelling stock affordable at each household income band. Conversely, a shift of the curves to the right suggests decreasing housing affordability as it results in decreasing shares of the dwelling stock affordable at each household income band.

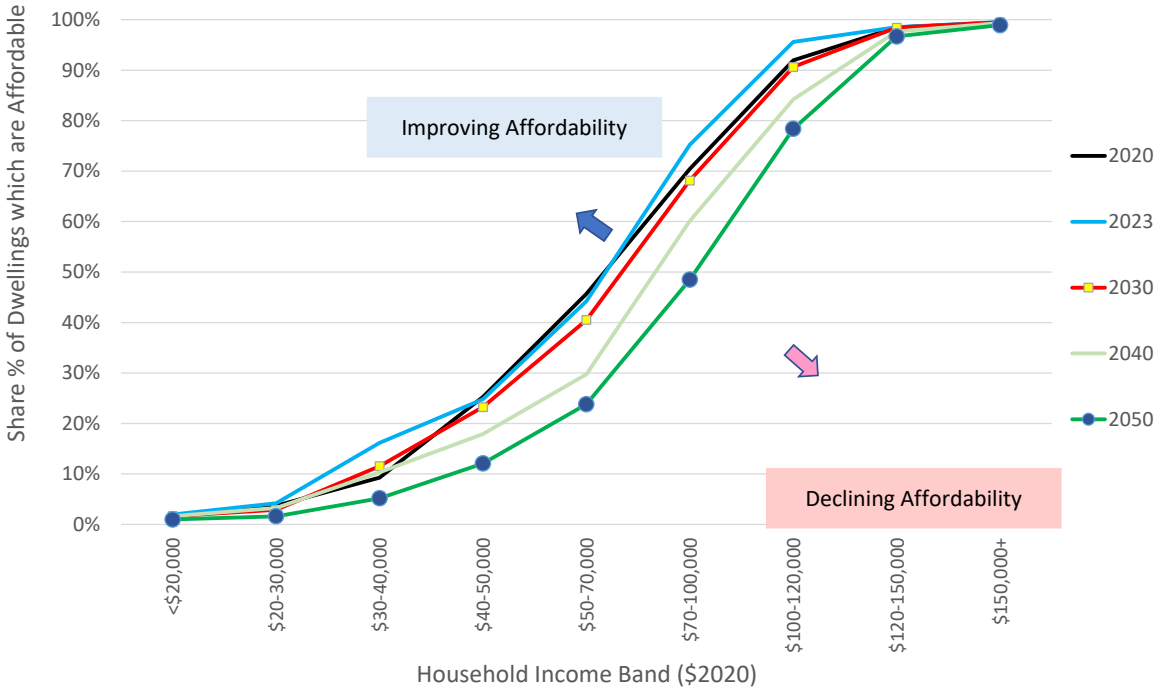
Waikato District Urban Area

The assessment shows that housing affordability generally decreases through time within the urban areas of Waikato District. Under the Current Prices scenario, housing affordability is similar to the current situation in both the short and medium-term, with higher affordability within the short-term. This is because the current prices scenario holds prices constant with affordability being influenced by the part of the dwelling value curve where feasible capacity is taken up as part of the potential future estate (which largely remains fixed through time). In the long-term, affordability declines as additional capacity at higher value bands is added, largely within the greenfield areas, which become served by infrastructure through time.

Housing affordability decreases under growth scenarios 1 and 2, with the largest decreases in growth scenario 2. Price increases in these scenarios mean that decreased shares of the potential future dwelling stock are affordable at each household income band through time.

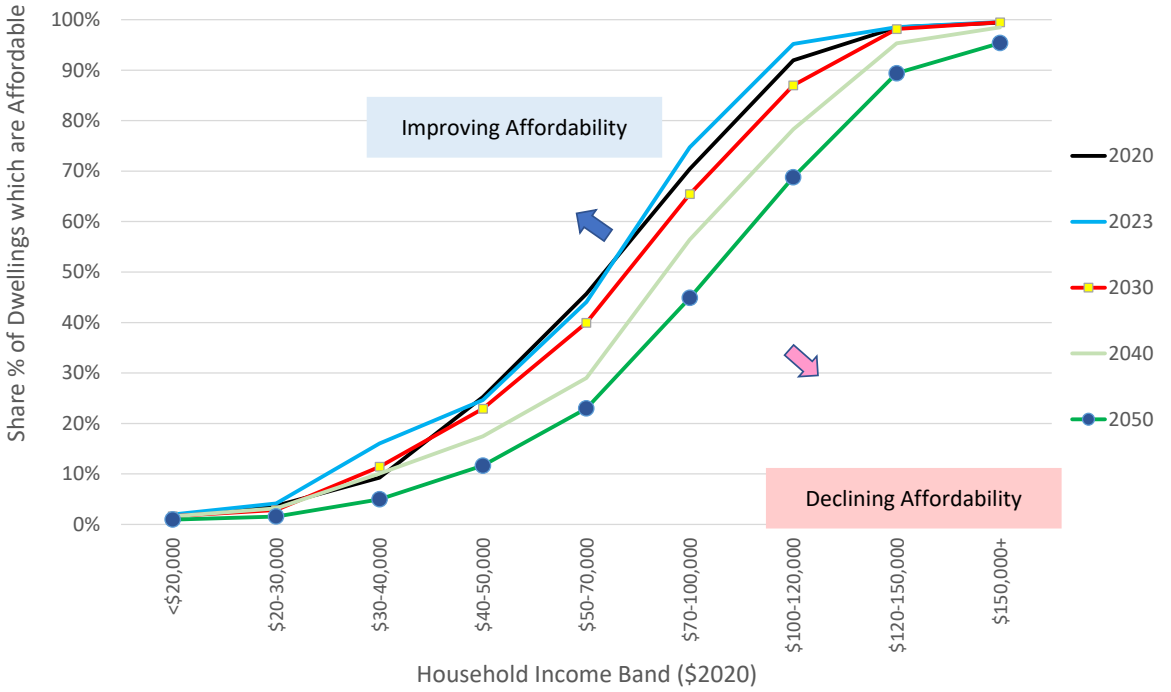
The assessment shows that although affordability decreases through time, Waikato District's urban areas have higher levels of affordability, in the long-term, than in other parts of the FPP area. This is due to the overall value band distribution of the potential future estate. Lower value locations, particularly within the mid parts of the district, mean that higher shares of the potential future state are calculated to be affordable within each household income band.

Figure 6-1: Urban Waikato District Housing Affordability by Household Income Band, 2020-2050: Current Prices Scenario



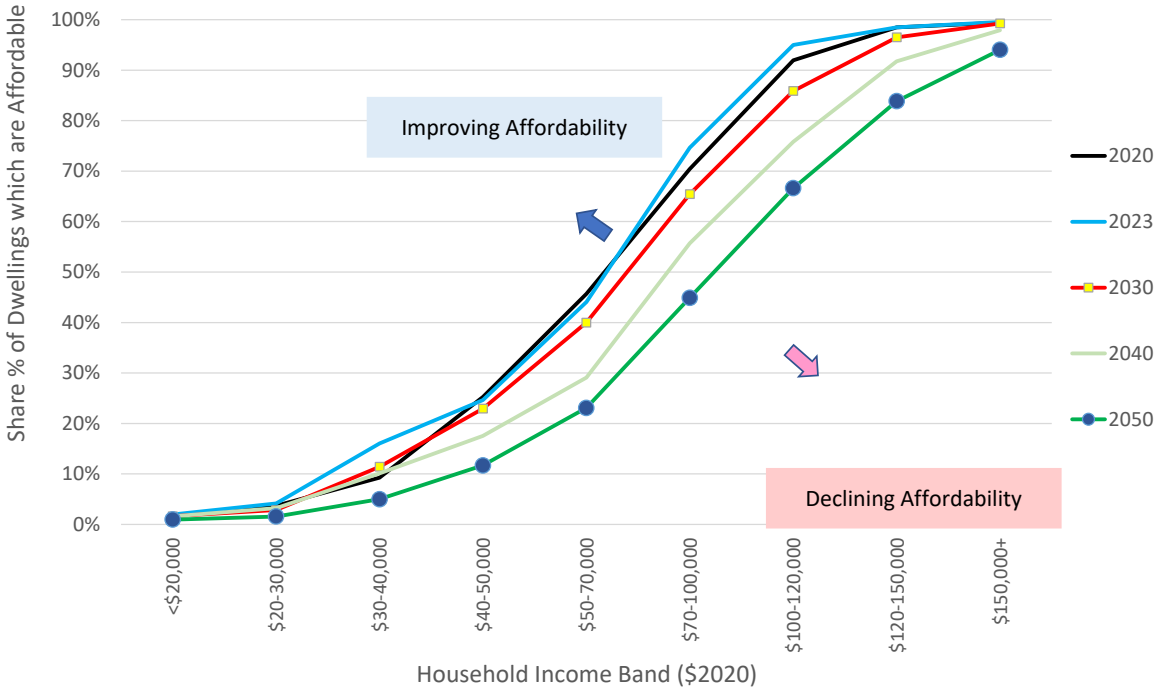
Source: M.E Housing Demand and Affordability Model, 2021.

Figure 6-2: Urban Waikato District Housing Affordability by Household Income Band, 2020-2050: Growth Scenario 1



Source: M.E Housing Demand and Affordability Model, 2021.

Figure 6-3: Urban Waikato District Housing Affordability by Household Income Band, 2020-2050: Growth Scenario 2



Source: M.E Housing Demand and Affordability Model, 2021.

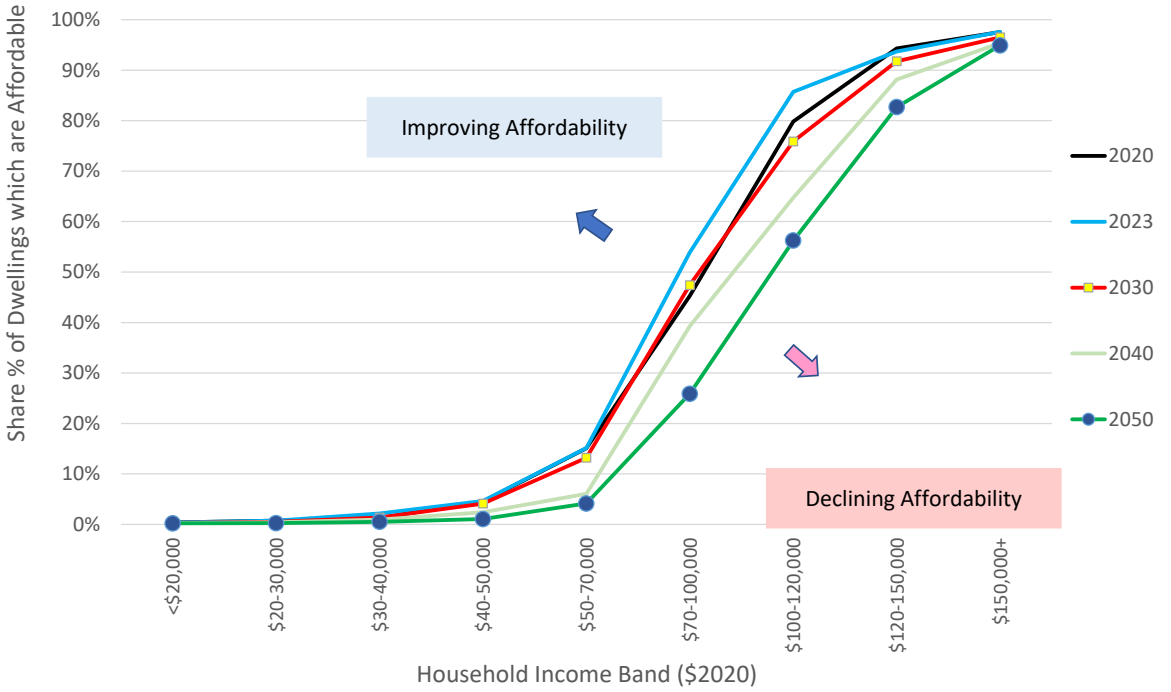
Hamilton City

The assessment shows that housing affordability generally decreases through time within Hamilton City. Under the Current Prices scenario, housing affordability is similar to the current situation in both the short and medium-term, with higher affordability within the short-term. This is because the current prices scenario holds prices constant with affordability being influenced by the part of the dwelling value curve where feasible capacity is taken up as part of the potential future estate (which largely remains fixed through time). In the long-term, affordability declines as additional capacity at higher value bands is added, largely within the greenfield areas, which become served by infrastructure through time.

Housing affordability decreases under growth scenarios 1 and 2, with the largest decreases in growth scenario 2. Price increases in these scenarios mean that decreased shares of the potential future dwelling stock are affordable at each household income band through time.

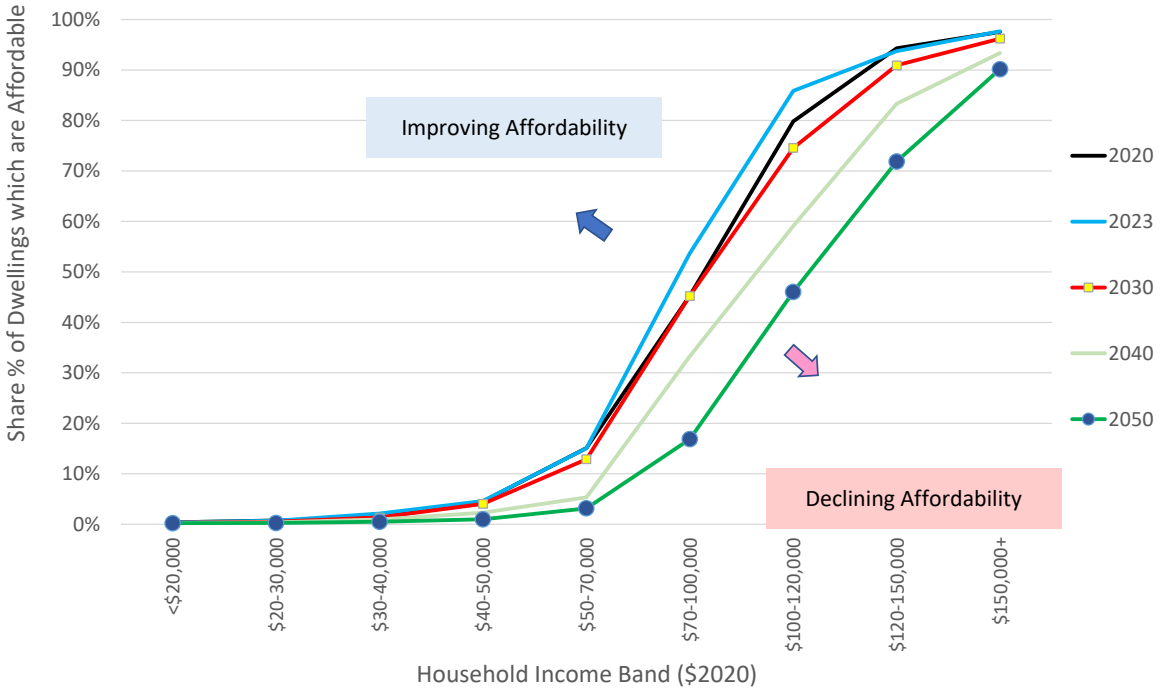
Housing affordability levels within Hamilton City, in the long-term, sit between those of Waikato and Waipā district's urban areas. While dwellings in Hamilton City are more expensive as part of the FPP's main urban area, there are a wider range of potential dwelling development options available. Further differences in the final value distribution also occur due to differences in the rate of take-up across different FPP areas through time.

Figure 6-4: Hamilton City Housing Affordability by Household Income Band, 2020-2050: Current Prices Scenario



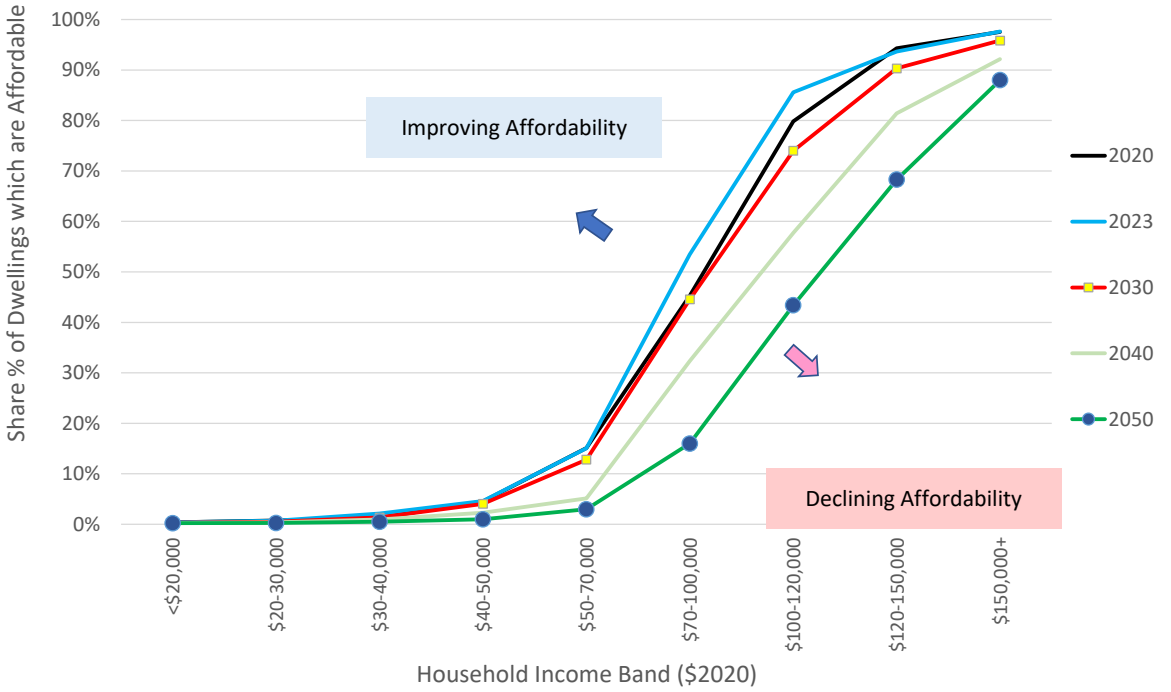
Source: M.E Housing Demand and Affordability Model, 2021.

Figure 6-5: Hamilton City Housing Affordability by Household Income Band, 2020-2050: Growth Scenario 1



Source: M.E Housing Demand and Affordability Model, 2021.

Figure 6-6: Hamilton City Housing Affordability by Household Income Band, 2020-2050: Growth Scenario 2



Source: M.E Housing Demand and Affordability Model, 2021.

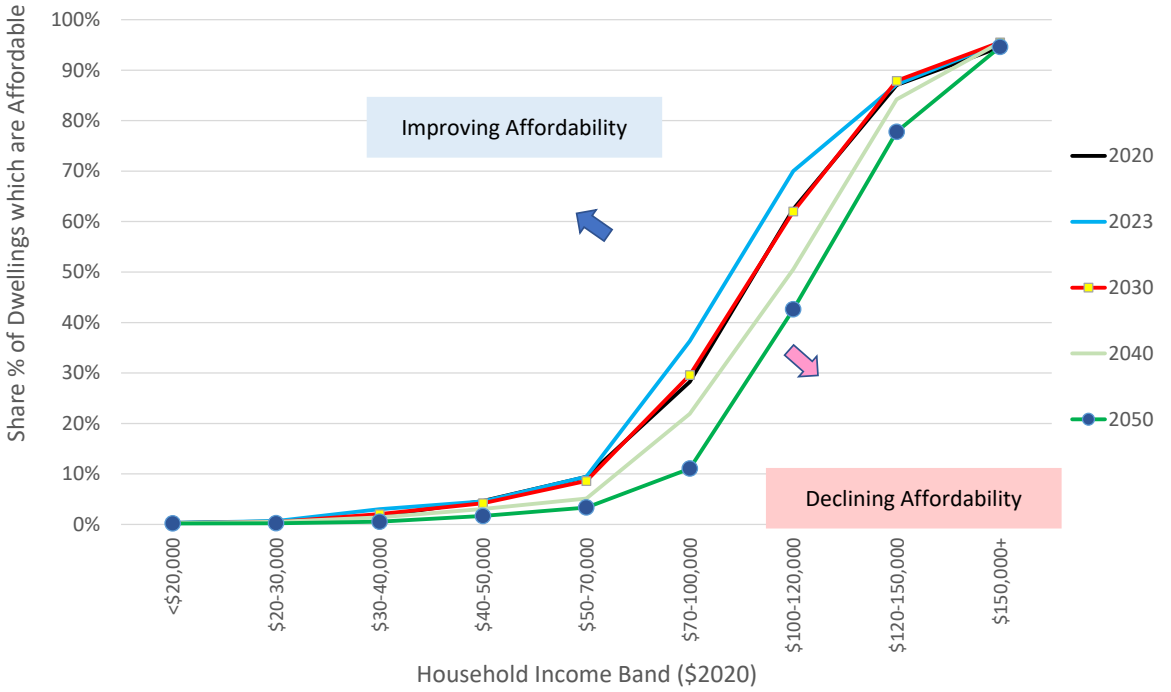
Waipā District Urban Area

The assessment shows that housing affordability generally decreases through time within the urban areas of Waipā District. Under the Current Prices scenario, housing affordability is similar to the current situation in both the short and medium-term, with higher affordability within the short-term. This is because the current prices scenario holds prices constant with affordability being influenced by the part of the dwelling value curve where feasible capacity is taken up as part of the potential future estate (which largely remains fixed through time). In the long-term, affordability declines as additional capacity at higher value bands is added, largely within the greenfield areas, which become served by infrastructure through time.

Housing affordability decreases under growth scenarios 1 and 2, with the largest decreases in growth scenario 2. Price increases in these scenarios mean that decreased shares of the potential future dwelling stock are affordable at each household income band through time.

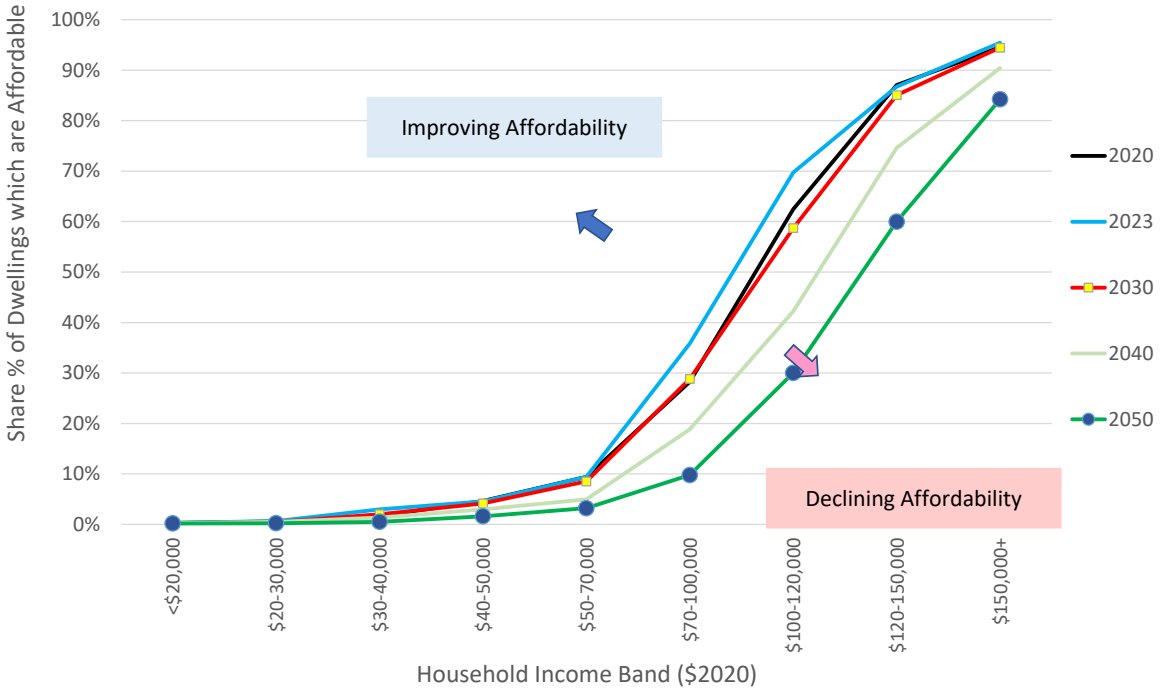
In the long-term, the modelling shows that housing affordability is projected to be generally lower within Waipā District's urban area in comparison to the rest of the FPP area. Part of this is likely to be due to the addition of future dwelling stock within the mid to higher parts of the dwelling value profile. The capacity assessment has found that larger minimum lot sizes combined with higher value demand from outside of the district is likely to result in future potential stock being concentrated into the higher dwelling value bands.

Figure 6-7: Urban Waipā District Housing Affordability by Household Income Band, 2020-2050: Current Prices Scenario



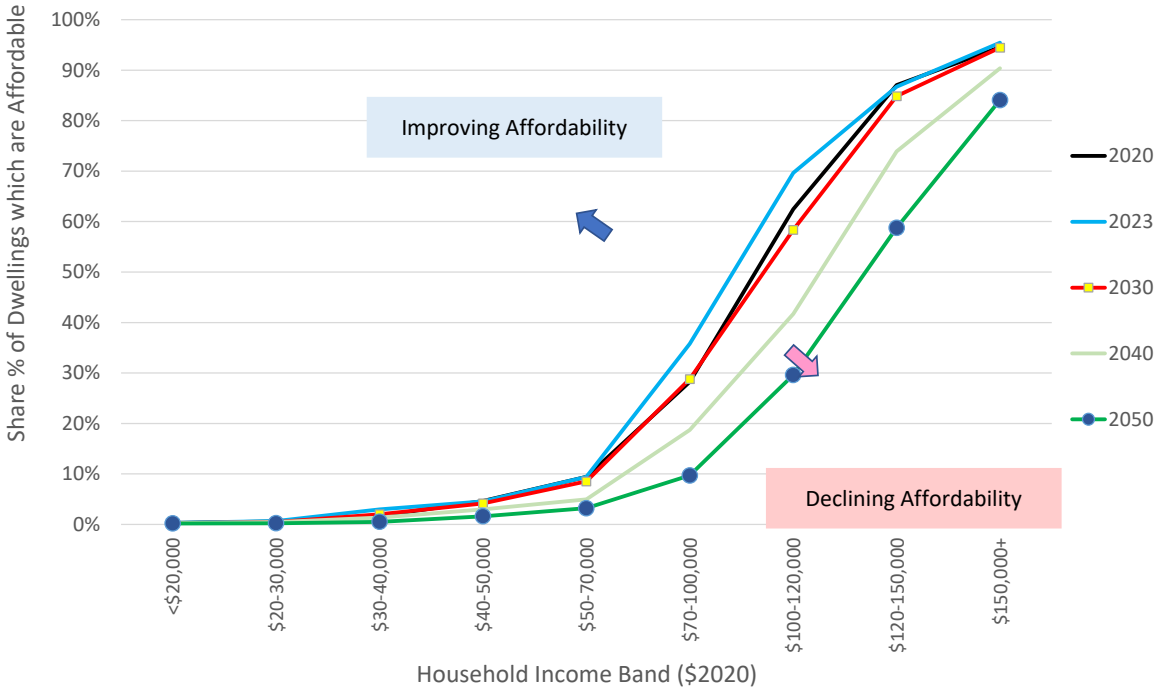
Source: M.E Housing Demand and Affordability Model, 2021.

Figure 6-8: Urban Waipā District Housing Affordability by Household Income Band, 2020-2050: Growth Scenario 1



Source: M.E Housing Demand and Affordability Model, 2021.

Figure 6-9: Urban Waipā District Housing Affordability by Household Income Band, 2020-2050: Growth Scenario 2



Source: M.E Housing Demand and Affordability Model, 2021.

6.4 Developer Sector Survey

Information was obtained from the commercial residential development sector undertaking activity across the FPP area. Responses were obtained from 21 respondents (19 developers and 2 consultancies providing services to developers) through an online survey sent directly to known property developers by each FPP council[46]. The survey outlined the purpose of the NPS-UD assessment and sought information on a range of different factors affecting the development process.

A copy of the developer survey is contained in the Appendix (Section 8.2). The first part of the survey collected information on the type, scale and location of activity of each developer within each of the FPP areas. Respondents were then asked to rate the importance of a range of factors affecting the residential

[46] An online survey was identified as an appropriate approach to obtain the information. Previous workshops held during the 2017 NPS-UDC, between Council's and developers, faced barriers due to Council staff and developer availability; and the reluctance of developers to provide information to Council officers in the presence of other developers, in part, due to commercial competition. An online survey instead enabled developers to provide information within their available time. It also ensured a consistent set of questions were provided to each developer. Importantly, the questions enabled a range of factors to be presented simultaneously to developers, which meant that responses were therefore able to indicate the relative importance of different factors. Developers were able to provide responses anonymously, if desired.

development process. The importance of each factor was rated as 'no effect', 'minor effect', 'some effect', 'large effect' and 'very large effect'. The factors included:

- Access to labour
- Availability of sub-contractors
- Prices within the construction sector (materials and labour)
- Access to finance
- Interest rates/holding costs
- Council fees (e.g. development contributions, consent fees)
- Quantity of zoned land
- Existing land ownership structures
- Provision of infrastructure (three-waters/transport)
- Access to amenities
- Market demand for dwellings
- Patterns of purchaser demand (e.g. type, size and location of dwellings)
- Planning provisions (e.g. dwelling typologies and minimum site sizes)
- Scale of the development
- Competition with other developers
- Wider economic conditions

The survey then asked for further information through open ended questions for respondents to expand on their rated importance of factors, any anticipated changes to their development patterns and the key drivers of change, and the required profit margins.

There were a wide range of responses between developers with differences in the degree to which each factor affected different developers. In some cases a factor had a very large effect on one developer, compared to a minor effect on another. The survey information is summarised for each of the FPP areas in the following sub-sections.

6.4.1 Waikato District

There were nine responses to the Waikato District survey. These included eight developers and one consultancy that provides services to the residential development sector. Most of the respondents undertook greenfield development of various scales (25 to 200 lots/dwellings), with two developers undertaking brownfield development. Nearly all of the developers constructed standalone dwellings, with a three (plus the consultancy) also undertaking higher density dwelling typologies (duplexes and terraced housing/town houses). Most of the developers also have activity within other parts of the Waikato Region and New Zealand.

The respondents collectively undertook development across a wide range of the main urban areas in the district. Several were activity within the main urban centres in the north of the district (Pōkeno and Tuakau) and Te Kauwhata, with responses also covering the other urban areas of Raglan, Taupiri, Ngāruawāhia and Huntly, as well as one developer in Tamahere/Matangi.

The survey yielded varying responses across the main areas, with the level of importance of each factor differing substantially between developers. The key findings by each area are:

- Construction sector factors (labour access, subcontractors and prices) were generally found to have some effect on developers. Construction prices tended to have the largest effect where two-

thirds of respondents reported a large or very large effect. One respondent stated that construction sector prices directly affected the viability of projects.

- Financial factors (access finance and interest rates/holding costs) were also found to have a significant effect on the development process, and to a greater extent generally than construction sector factors. Around two-thirds of respondents stated they had a large or very large effect. Some developers identified that financial factors were affected by the time component of obtaining a resource consent for development.
- Council controlled aspects (fees, zoned land, infrastructure and planning provisions) were reported as one of the largest effects for most developers. All respondents identified the provision of infrastructure as a key requirement for the development process, with some respondents reporting the absence of infrastructure as having been a constraint to development.

  Nearly all respondents also identified the provision of zoned land as a key factor affecting development. Some respondents stated the provision of zoned land was a constraint (one in relation to requested zoning changes) and that this affected the viability of development through land prices.

  Around two-thirds of respondents stated that Council fees and planning provisions had a large or very large effect. The respondents subsequently highlighted the key issues as:
    - Delays in the timeframes of obtaining resource consents (5 respondents), which increased the costs of development.
    - Uncertainty in the interpretation and implementation of planning provisions (5 respondents).
    - Overly restrictive planning provisions (three respondents). It was not clear from the responses which aspects of the provisions these related to.
- Nearly all of the respondents identified demand for dwellings as having a large or very large effect, with most also signalling the high importance of the patterns of demand. Many respondents highlighted the high anticipated growth of the district driving the development process, including the growth pressures from the spill over demand from Auckland.
- There were mixed responses from developers on the effects of land ownership patterns, access to amenities, the scale of development and competition with other developers. Nearly all respondents indicated these factors had at least some effect, with an overall similar level of effect as the construction sector factors. The further responses clarified that these issues affected development, but did not specifically identify them as constraints.
- Wider economic conditions were rated as having a large or very large effect by over half of the respondents. These affected the level of demand and costs, which therefore affects the margins.

Many of the respondents anticipated a move toward higher development densities through a combination of smaller site sizes and higher density dwelling typologies (duplexes, terraced housing and apartments). Respondents stated that these needed to be constructed using good design criteria (such as integrated developments in accessible areas) and close to areas of high amenity. However, in some instances, these were constrained by the existing planning provisions, which they considered did not adequately reflect the higher density requirements.

Some developers indicated they would continue to deliver dwellings at lower densities (600m^2+ site sizes) due to the continued demand for these types of dwellings. Part of this is due to household composition as well as the need to accommodate onsite parking as many of the urban areas are not well served by public transport.

Changes in the development patterns over the short to medium-term are driven by the high growth pressures in the district. Part of this effect is due to demand across this part of the country generally given its' location between the key urban centres of Auckland, Hamilton and Tauranga.

Housing affordability was also a key issue with households seeking more affordable housing options. The underlying demand is for larger sections, but this may need to be met with higher density options due to lack of affordability.

Developers identified a range of different acceptable profit margins. These generally ranged from 15% to 33%, with one developer requiring 40% during favourable economic conditions to cover the effect of poorer conditions. Respondents stated that margins depended on the level of risk and timeframes involved, stating that high margins were required as it is a high risk sector.

6.4.2 Hamilton City

Six developers within Hamilton City responded to the survey, which included a range of greenfield and brownfield (predominantly, redevelopment) developers. Most of the respondents developed around 25 to 100 lots/dwellings per annum within Hamilton, with most also developing more within other parts of the Waikato Region and the rest of New Zealand. Respondents developed a wide range of dwelling typologies. All developed duplex dwellings, with most also developing standalone dwellings and half developing higher density terraced housing or apartments. The respondents undertook development across an extensive range of the Hamilton urban area, with most respondents undertaking activity within the main greenfield areas of Peacocke, Rotokauri and Rototuna.

There was a large amount of variation in the patterns of responses between developers. The responses in each of the key areas are summarised as follows:

- Construction sector factors (labour access, subcontractors and prices) had a variable effect on developers. Some developers rated their effect as minor, while others considered they had a very large effect.
- Financial factors (access finance and interest rates/holding costs) also had a variable effect on developers. Access to finance was a large/very large issue for only half of the respondents, while interest rates and holding costs had at least some effect for most of the respondents.
- Council controlled aspects (fees, zoned land, infrastructure and planning provisions) was reported as a key area of effect for most developers, with most developers reporting an effect on at least one aspect. However, the effect of each individual factor varies among developers, with some reporting large effects, while some reported only minor effects.

  Council fees, the provision of zoned land and the effect of planning provisions contained the largest number of respondents reporting a large or very large effect, with the greatest consistency in responses across the council fees and planning provisions. Respondents expanded on this to state that planning provisions did not adequately reflect the need for higher density. They asserted that minimum site sizes were too large, resulting in more expensive dwellings. Compliance issues and extended timeframes were also identified as aspects affecting the development process.

While only half of the respondents rated the provision of infrastructure as having a large or very large effect, most identified the provision of serviced, zoned land as a key requirement to the development process.

- Dwelling demand factors (total demand and purchaser patterns) and wider economic conditions also had mixed responses, although wider economic conditions were further mentioned as important in the open-ended responses by several developers.
- Lesser importance, overall, was placed by developers on the scale of development, competition with other developers, amenity access and land ownership patterns (although these were very important to some developers). Developers did note the effect of scale on margins, where larger projects often either required larger margins (due to higher risk), or were able to achieve higher margins due to the scale economies able to be achieved within the development costs.

There was a strong pattern toward continued shifts toward higher density development types across nearly all of the respondents. This is anticipated to occur through a combination of smaller lot sizes as well as the delivery of higher density (vertical) dwelling typologies. Developers stated that increasing costs meant that dwellings were becoming more expensive to construct. In response, developers needed to construct smaller dwellings on smaller lot sizes. This would enable developers to achieve higher yields within subdivisions (and therefore increase margins) as well as provide smaller, more affordable dwellings to the market. Housing affordability was also identified as a key driver of this trend as the cost growth of larger dwellings is above the rate of household income growth.

Respondents also mentioned the desire to deliver more sustainable and affordable dwellings, which could be achieved through higher density. In some cases, this was limited by the effect of planning provisions on higher density developments.

In contrast, one respondent considered that creating urban spread with lower density dwelling typologies on larger sections would enable people to meet all their needs within their communities. This would eliminate the need to travel into town. They considered that alignment with house price budgets could be achieved through the provision of smaller houses on large sites.

Developers identified a range of acceptable profit margins. These ranged from 12% to 30%, with most towards the lower to mid part of the range (15% to 20%). Respondents reported that acceptable margins depended upon the level of risk and funding availability with many funding sources requiring minimum margins.

6.4.3 Waipā District

Six responses were received to the survey in Waipā District, including one from a consultancy providing services to the development sector (with the remaining five from developers). All of the developers were greenfield developers constructing/lots with standalone dwellings at up to 50 dwellings per year. Most of the developers were active only within the Waipā District, with two active within the wider Waikato Region and one in Auckland. Within the Waipā District, all the developers' activity was focussed on the main urban centres of Cambridge and Te Awamutu (including Kihikihi).

A varied range of responses were received in relation to the factors affecting residential development activity. The responses in each of the key areas are summarised as follows:

- Developers reported limited effect from the construction sector (labour access, subcontractors and prices) and finance (access and interest rates/holding costs) factors, with only one respondent reporting these factors had a large effect. Most respondents reported that access to labour had only a minor impact. Access to subcontractors and construction prices were reported to have some effect, with two respondents stating they had only a minor effect.
- Respondents identified the Council controlled aspects (fees, zoned land, infrastructure and planning provisions) as the main area of effect. In particular, nearly all of the respondents rated the provision of zoned land as having a large or very large effect. However, when further expanded upon, the open-ended responses yielded a range of views. Some developers stated that having zoned land was a core requirement for the development process, but did not state whether this was currently a constraint within the Waipā development market.

  In contrast, two respondents stated that they considered that a potential oversupply of zoned land could have a large effect on the feasibility of residential development within the district. They stated that too much land supply would reduce the potential sale prices and thus reduce feasibility. Another developer considered that the land surplus (indicated as the recent additional supply through the growth cells) would put pressure on Council infrastructure.

  Council fees and infrastructure provision were also considered important aspects affecting the development process. These were further mentioned within the open-ended responses.

  Some developers considered that planning regulations restricted their ability to develop smaller lot sizes. The existing focus on larger lot sizes does not adequately reflect more recent demand for smaller, more affordable dwellings, and increase the propensity for urban sprawl. Regulations are making it difficult to undertake brownfield infill development within the existing urban area.

- The results indicated there is a significant level of competition among developers within the market as three developers identified competition with other developers as having a very large effect.
- Other aspects (demand, land ownership, amenities, competition and wider economic conditions) generated varying responses from developers. These ranged from having a minor impact, to a very large effect.

Responses from some developers indicated that a significant portion of the development market within Waipā's main urban areas is driven by retirement demand. This generates demand for higher quality dwellings on sites of at least 600m^2 to 800m^2. Several of the developers indicated they would continue to provide dwellings at these lower densities and higher quality to continue to meet this demand.

In contrast, other developers stated that demand is increasing for smaller dwellings. This is driven by housing affordability issues, and is important to reduce urban sprawl. However, they stated that Council planning regulations were constraining the delivery of smaller lot sizes and better reflected past patterns of development.

Waipā developers provided limited responses on the required margins. They ranged from between 10% to 15%. Margins are higher for larger scale developments and are affected by the level of risk.

6.4.4 Summary – Developer Survey Impact of Planning

Developers identified a range of factors that affected the commercial residential development process. These included factors in the construction sector, financial and economic conditions, council planning and

infrastructure provision, characteristics of population demand, competition within the sector, and local geographic aspects of the market.

The aspects that were directly controlled by Council were identified as key factors affecting the development process across all three areas. Developers consistently identified the provision of zoned and infrastructure serviced land as a fundamental and necessary component that enabled development to occur. Developers stated that the viability of development was sensitive to these factors, and that infrastructure provision needed to align with growth in demand by location. This corresponds to the survey respondents' development patterns, where they are predominantly greenfield developers.

There were mixed responses in relation to whether these aspects were a constraint (as distinct from a necessary component for development to occur). Some developers, within each territorial area, identified constraints in the provision of zoned land (particularly within the Waikato District), with some of this relating to the ability to bring about a plan change for additional zoned land. Conversely, a subset of the Waipā District developers considered that too much land was supplied, bringing down the achievable prices and therefore reducing the feasibility of development. Many of the responses did not specify whether the existing (or future anticipated) level of zoned land provision was a constraint.

Some of the respondents identified the provision and timing of infrastructure as limiting the residential development process. The sensitivity of development activity to infrastructure provision was highlighted, particularly within the Waikato District. Some of the developers within the Waikato District's main urban centres stated that this had become a constraint to development.

Respondents across the FPP area considered that Council planning provisions did not adequately reflect the increasing shift in demand to higher density development patterns. These related to a combination of allowable densities (through minimum lot sizes) and site/dwelling design aspects around higher density typologies. They expressed concern that the existing provisions would constrain their future development intentions across the short to medium-term as they anticipated increasing the density of their development both in relation to lot sizes and dwelling typologies.

Reported constraints to higher density were more pronounced within Hamilton City and Waikato District where growth pressures and housing affordability issues are greater within the FPP area. Respondents within Hamilton mainly mentioned minimum lot sizes where developers needed to achieve higher overall subdivision yields and produce smaller dwellings that households could afford. Respondents within Waikato reported a combination of lot sizes and the lack of provisions for higher density types of (integrated) developments where the plan needed to allow the market to deliver higher density, more affordable dwellings.

Waipā developers also stated that minimum lot sizes limited some development due to affordability issues. However, Waipā developers also reported an intention to continue to deliver larger dwellings and lot sizes a substantial component of the market was driven by retirement demand where households sought higher quality dwellings on larger (600m^2+) sites.

Many of the respondents stated that Council planning processes increased the cost of development. This occurs through the application of fees (resource consenting, development contributions, etc) and the impact of the planning process on timing (including the cost of uncertainty in the planning process). Many

developers reported to Councils that they considered the fees were too high. This was consistent across all three Council areas in response to the Council surveys.

Developers more specifically stated that Council planning process timeframes had a significant impact on development costs. They stated that delays in the consenting process generated substantive financial impacts for developers in relation to land holding costs and delays in obtaining revenue from the development. This issue was particularly highlighted within the Waikato District where two-thirds of the respondents stated that Council delays in the resource consenting process were increasing the cost of development.

Several Waikato District respondents reported that delays occurred with uncertainties in the planning process. They stated that planning regulations were implemented inconsistently, and there was a level of uncertainty on the development process.

6.5 Māori Housing Market

The NPS-UD requires assessment of the housing demand for Māori as a group within the community. This section analyses the underlying household structure of Māori and how this generates demand for different types of housing currently and into the future. The first sub-section identifies the underlying patterns of household characteristics within Māori and total urban households that are important influencers of housing demand. The second section then shows the demand for dwellings by tenure and dwelling type for households by ethnicity.

6.5.1 Household Composition

The M.E Housing Demand model uses customised data obtained from the most recent 2018 Census to identify the structure and scale of household demand within each sub-sector of households. The 2018 Census information provides household information by ethnicity, enabling specific analyses of the household structural drivers of dwelling demand for Māori across the FPP urban area.

Household composition and income are important drivers of dwelling demand. Table 6-1 to Table 6-3 show the distribution of Māori and total urban households within each FPP area (urban households) by income and household composition. The upper section of each table shows the distribution of Māori households while the lower section shows the total urban households across each area.

There are an estimated 12,000 Māori households across the FPP urban area, accounting for 14% of the FPP areas total urban households. The largest number of Māori households are within Hamilton City (8,900 households), where they account for 15% of households. Māori households form a lower share (9%) of total households within Waipā's urban area, with an estimated 1,300 households.

Within each area, a higher share of Māori households are larger family households and have a lower household income distribution than the total households. A smaller share of Māori households are 1-2 person households, which account for around half of the total FPP urban households overall. Between half and two-thirds (59%) of the FPP area Māori households are family households, compared to only 44% of total households.

Table 6-1: Māori and Total Households by Household Composition and Income: Waikato District Urban 2020

Household Type	Household Income								
	<$30,000	$30-50,000	$50-70,000	$70-100,000	$100-120,000	$120-150,000	$150,000+	Total	Share %
Maori									
One Person Hhld	200	60	40	30	10	-	-	**300**	*19%*
Couple Hhld	20	40	50	60	50	40	50	**300**	*17%*
2 Parents 1-2chn	10	20	40	80	40	50	80	**300**	*18%*
2 Parents 3+chn	10	10	20	30	30	30	30	**200**	*9%*
1 Parent Family	200	100	80	60	30	10	10	**500**	*27%*
Multi-Family Hhld	-	10	20	30	10	20	50	**100**	*7%*
Non-Family Hhld	10	10	10	10	-	-	-	**50**	*3%*
Total	**400**	**300**	**300**	**300**	**200**	**100**	**200**	**1,800**	***100%***
Share %	*25%*	*15%*	*14%*	*17%*	*9%*	*8%*	*13%*	*100%*	
Total Households									
One Person Hhld	1,100	400	300	200	50	20	30	**2,200**	*20%*
Couple Hhld	200	600	500	600	500	400	700	**3,400**	*31%*
2 Parents 1-2chn	50	100	200	500	400	400	800	**2,400**	*22%*
2 Parents 3+chn	20	40	90	200	100	100	300	**800**	*8%*
1 Parent Family	400	300	200	200	100	40	50	**1,400**	*13%*
Multi-Family Hhld	-	10	30	50	40	60	200	**400**	*4%*
Non-Family Hhld	20	40	50	50	30	10	20	**200**	*2%*
Total	**1,800**	**1,600**	**1,400**	**1,800**	**1,200**	**1,000**	**2,100**	**10,800**	***100%***
Share %	*17%*	*14%*	*13%*	*16%*	*11%*	*9%*	*19%*	*100%*	

Source: ME Housing Demand Model 2021

Table 6-2: Māori and Total Households by Household Composition and Income: Hamilton City 2020

Household Type	Household Income								
	<$30,000	$30-50,000	$50-70,000	$70-100,000	$100-120,000	$120-150,000	$150,000+	Total	Share %
Maori									
One Person Hhld	1,000	300	200	100	20	10	20	**1,700**	*20%*
Couple Hhld	80	200	200	300	200	200	200	**1,400**	*15%*
2 Parents 1-2chn	60	100	200	300	200	200	300	**1,400**	*16%*
2 Parents 3+chn	30	50	90	200	100	90	100	**700**	*7%*
1 Parent Family	1,000	600	400	400	200	60	60	**2,600**	*30%*
Multi-Family Hhld	20	30	60	70	70	100	200	**500**	*6%*
Non-Family Hhld	100	100	100	100	60	50	50	**600**	*7%*
Total	**2,300**	**1,400**	**1,300**	**1,400**	**800**	**700**	**1,000**	**8,900**	***100%***
Share %	*26%*	*16%*	*14%*	*16%*	*9%*	*8%*	*11%*	*100%*	
Total Households									
One Person Hhld	7,100	2,600	1,900	1,300	300	80	200	**13,600**	*22%*
Couple Hhld	1,000	2,700	2,300	2,900	2,200	1,900	2,900	**16,000**	*26%*
2 Parents 1-2chn	500	900	1,500	2,600	2,000	2,100	3,200	**12,700**	*21%*
2 Parents 3+chn	200	300	400	700	500	500	900	**3,500**	*6%*
1 Parent Family	2,600	2,100	1,700	1,500	700	200	300	**9,100**	*15%*
Multi-Family Hhld	60	80	200	300	300	300	900	**2,100**	*4%*
Non-Family Hhld	500	600	600	600	400	300	500	**3,600**	*6%*
Total	**12,100**	**9,200**	**8,600**	**10,000**	**6,500**	**5,500**	**8,900**	**60,800**	***100%***
Share %	*20%*	*15%*	*14%*	*16%*	*11%*	*9%*	*15%*	*100%*	

Source: ME Housing Demand Model 2021

Table 6-3: Māori and Total Households by Household Composition and Income: Waipā District Urban 2020

Household Type	Household Income								
	<$30,000	$30-50,000	$50-70,000	$70-100,000	$100-120,000	$120-150,000	$150,000+	Total	Share %
Maori									
One Person Hhld	100	50	50	20	10	-	-	**300**	*20%*
Couple Hhld	10	30	40	60	50	40	40	**300**	*21%*
2 Parents 1-2chn	10	10	30	60	40	50	60	**300**	*20%*
2 Parents 3+chn	-	10	10	30	20	20	30	**100**	*8%*
1 Parent Family	100	60	60	50	20	10	10	**300**	*23%*
Multi-Family Hhld	-	-	-	10	10	10	20	**60**	*5%*
Non-Family Hhld	-	10	10	10	-	-	-	**40**	*3%*
Total	**300**	**200**	**200**	**200**	**100**	**100**	**200**	**1,300**	***100%***
Share %	*20%*	*14%*	*15%*	*18%*	*11%*	*9%*	*13%*	*100%*	
Total Households									
One Person Hhld	1,800	700	500	300	70	10	30	**3,400**	*24%*
Couple Hhld	300	900	800	900	700	500	800	**4,900**	*34%*
2 Parents 1-2chn	40	100	300	600	500	600	900	**3,000**	*21%*
2 Parents 3+chn	-	40	90	200	100	100	300	**900**	*6%*
1 Parent Family	400	400	300	200	100	40	70	**1,500**	*11%*
Multi-Family Hhld	-	10	20	40	20	60	200	**300**	*2%*
Non-Family Hhld	30	70	60	70	40	30	40	**300**	*2%*
Total	**2,400**	**2,200**	**2,100**	**2,300**	**1,500**	**1,300**	**2,300**	**14,300**	***100%***
Share %	*17%*	*15%*	*15%*	*16%*	*11%*	*9%*	*16%*	*100%*	

Source: ME Housing Demand Model 2021

The distribution of Māori and total urban households by household income group are summarised across the FPP area in Table 6-4. The table shows both the total households and Māori households by household income band for the urban component of each of the FPP areas. The lower section of the table shows the relative concentration of Māori households within each income band. Values above 1 indicate that Māori households are over-represented within that income band.

Table 6-4 shows that Māori households are generally over-represented in the lower household income bands. Over-representation within the lower income bands is highest within Waikato District where Māori households are nearly 1.5 times more likely to be within the lowest income band (up to $30,000) than households overall. Over-representation within the lower income bands is lower within Waipā District.

Table 6-4: Māori and Total Urban Households by Income: Future Proof Area 2020

Area	Household Type	Household Income							
		<$30,000	$30-50,000	$50-70,000	$70-100,000	$100-120,000	$120-150,000	$150,000+	Total
Households									
Waikato District Urban	Maori Households	400	300	300	300	200	100	200	**1,800**
	Total Households	1,800	1,600	1,400	1,800	1,200	1,000	2,100	**10,800**
Hamilton City	Maori Households	2,300	1,400	1,300	1,400	800	700	1,000	**8,900**
	Total Households	12,100	9,200	8,600	10,000	6,500	5,500	8,900	**60,800**
Waipa District Urban	Maori Households	300	200	200	200	100	100	200	**1,300**
	Total Households	2,400	2,200	2,100	2,300	1,500	1,300	2,300	**14,300**
Total FPP Urban	**Maori Households**	**3,000**	**1,800**	**1,700**	**2,000**	**1,100**	**1,000**	**1,300**	**12,000**
	Total Households	**16,300**	**12,900**	**12,200**	**14,100**	**9,200**	**7,900**	**13,300**	**85,900**
Relative Concentration - Maori Households									
Waikato District Urban	Maori Households	**1.49**	**1.08**	**1.11**	**1.02**	0.86	0.83	0.65	**1.00**
Hamilton City	Maori Households	**1.30**	**1.03**	**1.01**	**0.99**	0.88	0.87	0.74	**1.00**
Waipa District Urban	Maori Households	**1.16**	0.90	**1.03**	**1.12**	**1.00**	0.98	0.80	**1.00**
Total FPP Urban	**Maori Households**	**1.31**	**1.02**	**1.02**	**1.01**	0.89	0.88	0.73	**1.00**

Source: ME Housing Demand Model 2021

The patterns of Māori households suggest that they are likely to have a higher demand for larger, more affordable dwellings relative to total households. This may generate affordability or housing space requirement constraints due to the positive correlation between dwelling size and price. This may contribute toward differences in the geographic distribution of Māori households where the combination of larger dwellings within the lower price bands are achieved in lower value areas (as indicated from the supply side within the capacity dwelling value band analysis). However, data is not available on the geographic distribution of Māori households within the total urban area, therefore, the take-up of dwelling capacity cannot be verified. If differences do occur within the geographic distribution of households, then this is likely to result in differences in the level of amenity received by households across different types of area as location is not neutral.

6.5.2 Dwelling Demand

The demand for dwellings by tenure and dwelling typology for households of each ethnic group are displayed for each of the FPP urban areas in Table 6-5 to Table 6-7. The upper section of each table shows the current demand in 2020, while the lower section shows the projected demand for 2050. Within each section, the tables display the estimated households across each combination of dwelling types and ownership, and their percentage share of total dwelling demand. The tables also show the relative concentration within each ethnic group into the dwelling type/tenure combination. Values greater than 1 indicate that a higher relative share (than households overall) of households within the ethnic group are within the dwelling typology/tenure combination.

Māori households tend to have lower rates of home ownership across the FPP area relative to the urban households overall. These are projected to persist into the future, with the highest demand for future additional dwellings occurring in rented detached dwellings. The following paragraphs describe the current and projected future situations for each of the FPP areas.

Waikato District Urban Area

Māori households currently have substantially lower rates of home ownership within the Waikato District relative to urban households overall. In 2020, only 52% of Waikato District Māori households lived in owned dwellings, compared to 71% for households overall. They were correspondingly over-represented in households occupying rented dwellings, with the highest over-representation occurring within detached dwellings. Nearly all (95%) of the Māori household demand is currently for detached dwellings, which is consistent with the district's urban households overall.

The current situation of lower rates of home ownership is projected to continue into the future, where both similar rates and relativities to the total households are projected to occur. The number of Māori households is projected to grow at a slower rate (+80% - +1,500 households - by 2050) than the urban households overall (+90%). The greatest net increase in demand for additional dwellings is projected to occur within detached dwellings, with an additional 1,300 detached dwellings by 2050. Over half of this net increase is for owned detached dwellings. The number of additional attached dwellings is also projected to increase, and at a faster rate, although this increase occurs off a lower base and accounts for around 12% of the demand for additional dwellings from Māori households.

Table 6-5: Dwelling Demand by Tenure and Typology and Household Ethnic Group: Waikato District Urban Area 2020-2050

Household Ethnicity	Owned or Trust			Not Owned[1]			Total		
	Detached	Attached	Total	Detached	Attached	Total	Detached	Attached	Total
	CURRENT DEMAND - 2020								
European	6,100	200	**6,300**	1,800	200	**2,000**	7,900	400	**8,300**
Māori	900	20	**900**	800	80	**900**	1,700	100	**1,800**
Pacific	100	-	**100**	100	10	**100**	200	10	**200**
Asian	300	10	**300**	100	10	**100**	400	20	**500**
Total	**7,400**	**300**	**7,700**	**2,900**	**300**	**3,200**	**10,300**	**600**	**10,800**
European	56%	2%	**58%**	17%	2%	**19%**	73%	4%	**77%**
Māori	8%	0%	**9%**	8%	1%	**8%**	16%	1%	**17%**
Pacific	1%	0%	**1%**	1%	0%	**1%**	2%	0%	**2%**
Asian	3%	0%	**3%**	1%	0%	**1%**	4%	0%	**4%**
Total	**68%**	**2%**	**71%**	**26%**	**3%**	**29%**	**95%**	**5%**	**100%**
Relative Concentration									
European	**1.07**	**1.16**	**1.07**	0.82	0.88	0.83	1.00	**1.01**	
Māori	0.72	0.43	0.71	**1.71**	**1.53**	**1.70**	1.00	**1.03**	
Pacific	0.68	-	0.66	**1.85**	**1.69**	**1.83**	**1.00**	0.92	
Asian	**1.04**	0.83	**1.03**	0.94	0.78	0.92	**1.01**	0.81	
	FUTURE DEMAND - 2050								
European	11,500	600	**12,200**	3,400	500	**3,900**	14,900	1,100	**16,100**
Māori	1,600	60	**1,700**	1,400	200	**1,600**	3,000	300	**3,300**
Pacific	200	-	**200**	200	10	**200**	400	10	**400**
Asian	600	30	**600**	200	20	**200**	700	50	**800**
Total	**13,900**	**700**	**14,600**	**5,200**	**800**	**6,000**	**19,100**	**1,500**	**20,600**
European	56%	3%	**59%**	16%	3%	**19%**	73%	6%	**78%**
Māori	8%	0%	**8%**	7%	1%	**8%**	15%	1%	**16%**
Pacific	1%	0%	**1%**	1%	0%	**1%**	2%	0%	**2%**
Asian	3%	0%	**3%**	1%	0%	**1%**	4%	0%	**4%**
Total	**68%**	**3%**	**71%**	**25%**	**4%**	**29%**	**93%**	**7%**	**100%**
Relative Concentration									
European	**1.06**	**1.12**	**1.07**	0.83	0.88	0.84	**1.00**	0.99	
Māori	0.72	0.57	0.71	**1.70**	**1.68**	**1.70**	0.99	**1.15**	
Pacific	0.68	-	0.65	**2.04**	0.71	**1.87**	**1.05**	0.37	
Asian	**1.04**	0.95	**1.03**	0.95	0.69	0.92	**1.01**	0.81	

1 Not Owned includes NEI *Note - includes rounding*

Source: ME Housing Demand Model 2021

Hamilton City

There are currently much lower rates of home ownership among Māori households within Hamilton City relative to both the rest of the FPP area and Hamilton City households overall. Only 31% of Hamilton City Māori households currently live in an owned dwelling, compared to 51% of the total households. While home ownership rates are lowest in Hamilton City within the FPP area, the relative difference of home ownership among Māori households (to the total households) is greatest within Hamilton. This is seen in the relative concentration score of 0.56, where Māori home ownership rates are nearly only half of that of households overall.

There is a corresponding over-representation of Māori households within rented dwellings. The over-representation is greatest within detached rented dwellings, reflecting the likely higher underlying demand for larger dwellings among Māori households.

Overall, Māori households are not currently under-represented, relative to the total population, within detached dwellings. However, this demand is largely met through rented, rather than owned, dwellings. Moreover, Māori households may be under-represented within detached dwellings relative to their patterns of demand. This is indicated within the previous section where Māori households typically had larger compositions (i.e. number of people), which correspond to larger dwellings.

A similar situation in relation to Māori household home ownership is projected to occur into the future. In 2050, there is a slight projected increase in home ownership (to 32%), which is consistent with the population overall.

Māori households are projected to grow at a slower rate than total households within Hamilton City. Around four-fifths of the total net increase is projected to occur within detached dwellings (+4,100 dwellings). Over half (60%) of these are projected to occur as rented detached dwellings. The largest growth in demand is projected to occur as rented dwellings, particularly detached rented dwellings.

Table 6-6: Dwelling Demand by Tenure and Typology and Household Ethnic Group: Hamilton City 2020-2050

Household Ethnicity	Owned or Trust			Not Owned[1]			Total		
	Detached	Attached	Total	Detached	Attached	Total	Detached	Attached	Total
	CURRENT DEMAND - 2020								
European	23,300	2,800	**26,100**	11,200	4,300	**15,500**	34,500	7,100	**41,500**
Māori	2,600	200	**2,800**	4,900	1,300	**6,200**	7,500	1,500	**9,000**
Pacific	500	10	**500**	1,000	300	**1,300**	1,500	300	**1,800**
Asian	4,300	200	**4,500**	2,900	1,000	**3,900**	7,200	1,200	**8,400**
Total	**30,700**	**3,200**	**33,900**	**20,000**	**6,900**	**26,900**	**50,700**	**10,100**	**60,800**
European	38%	5%	**43%**	18%	7%	**25%**	57%	12%	**68%**
Māori	4%	0%	**5%**	8%	2%	**10%**	12%	3%	**15%**
Pacific	1%	0%	**1%**	2%	0%	**2%**	2%	0%	**3%**
Asian	7%	0%	**7%**	5%	2%	**6%**	12%	2%	**14%**
Total	**50%**	**5%**	**56%**	**33%**	**11%**	**44%**	**83%**	**17%**	**100%**
Relative Concentration									
European	**1.11**	**1.27**	**1.13**	0.82	0.91	0.84	1.00	**1.02**	
Māori	0.57	0.41	0.56	**1.65**	**1.31**	**1.56**	1.00	**1.02**	
Pacific	0.52	0.12	0.49	**1.78**	**1.26**	**1.65**	**1.02**	0.90	
Asian	**1.01**	0.51	0.97	**1.04**	**1.06**	**1.04**	**1.02**	0.88	
	FUTURE DEMAND - 2050								
European	39,400	5,400	**44,800**	16,500	7,100	**23,600**	55,900	12,500	**68,400**
Māori	4,200	400	**4,600**	7,400	2,200	**9,500**	11,600	2,500	**14,100**
Pacific	800	10	**800**	1,600	400	**2,000**	2,300	400	**2,800**
Asian	6,600	400	**7,000**	4,400	1,600	**6,000**	11,000	2,000	**13,000**
Total	**51,000**	**6,200**	**57,100**	**29,800**	**11,300**	**41,100**	**80,800**	**17,400**	**98,300**
European	40%	5%	**46%**	17%	7%	**24%**	57%	13%	**70%**
Māori	4%	0%	**5%**	7%	2%	**10%**	12%	3%	**14%**
Pacific	1%	0%	**1%**	2%	0%	**2%**	2%	0%	**3%**
Asian	7%	0%	**7%**	4%	2%	**6%**	11%	2%	**13%**
Total	**52%**	**6%**	**58%**	**30%**	**11%**	**42%**	**82%**	**18%**	**100%**
Relative Concentration									
European	**1.11**	**1.26**	**1.13**	0.80	0.90	0.83	0.99	**1.03**	1.00
Māori	0.58	0.41	0.56	**1.71**	**1.35**	**1.61**	1.00	**1.02**	1.00
Pacific	0.53	0.07	0.48	**1.88**	**1.31**	**1.72**	**1.03**	0.87	1.00
Asian	0.98	0.49	0.93	**1.11**	**1.06**	**1.10**	**1.03**	0.86	1.00

1 Not Owned includes NEI *Note - includes rounding*

Source: ME Housing Demand Model 2021

Waipā District Urban Area

Māori home ownership rates are also currently lower within Waipā District relative to the district's total urban households. Currently around 53% of Māori household's occupy an owned dwelling, compared to 72% of the district's urban households overall. This is similar to that of the Waikato District Māori households.

Overall, Waipā District Māori households are not under-represented within detached dwellings. A slightly higher share (93%) of Māori households are within detached dwellings than urban households overall (91%). However, of these, a much higher share (46%) are rented than for total households within detached dwellings (26%).

Māori households are projected to grow at a slower rate within Waipā district. They are projected to increase by 48% by 2050 (+650 households). This is slower than the projected growth of Māori households in other FPP areas. Although the Waipā District urban households are projected to have slower growth than the rest of the FPP urban area, and Māori households to grow slower generally across the FPP area, the differences to the district growth rate is greatest within Waipā District where they are projected to grow at around four-fifths (82%) of the district's rate. Detached dwellings form the greatest projected net increase in demand for Māori households (+560 dwellings), with over half (58%) as owned detached dwellings.

Table 6-7: Dwelling Demand by Tenure and Typology and Household Ethnic Group: Waipā District Urban Area 2020-2050

Household Ethnicity	Owned or Trust			Not Owned[1]			Total		
	Detached	Attached	Total	Detached	Attached	Total	Detached	Attached	Total
	CURRENT DEMAND - 2020								
European	8,600	700	**9,300**	2,600	500	**3,100**	11,200	1,200	**12,400**
Māori	700	20	**700**	600	70	**600**	1,300	90	**1,300**
Pacific	60	-	**60**	70	-	**70**	100	-	**100**
Asian	200	-	**200**	200	30	**200**	400	30	**400**
Total	**9,500**	**700**	**10,300**	**3,400**	**600**	**4,000**	**12,900**	**1,300**	**14,300**
European	60%	5%	**65%**	18%	4%	**22%**	78%	9%	**87%**
Māori	5%	0%	**5%**	4%	0%	**4%**	9%	1%	**9%**
Pacific	0%	0%	**0%**	1%	0%	**1%**	1%	0%	**1%**
Asian	2%	0%	**2%**	1%	0%	**1%**	3%	0%	**3%**
Total	**67%**	**5%**	**72%**	**24%**	**4%**	**28%**	**91%**	**9%**	**100%**
Relative Concentration									
European	**1.04**	**1.12**	**1.04**	0.88	0.98	0.89	0.99	**1.05**	
Māori	0.76	0.31	0.73	**1.78**	**1.14**	**1.68**	**1.03**	0.69	
Pacific	0.67	-	0.62	**2.32**	-	**1.96**	**1.10**	-	
Asian	0.80	-	0.75	**1.66**	**1.57**	**1.65**	**1.03**	0.73	
	FUTURE DEMAND - 2050								
European	13,300	1,500	**14,900**	3,900	1,100	**5,000**	17,200	2,600	**19,800**
Māori	1,000	40	**1,000**	800	100	**900**	1,800	200	**2,000**
Pacific	90	-	**90**	100	-	**100**	200	-	**200**
Asian	300	10	**300**	200	50	**300**	600	60	**600**
Total	**14,800**	**1,600**	**16,300**	**5,000**	**1,300**	**6,300**	**19,800**	**2,900**	**22,600**
European	59%	7%	**66%**	17%	5%	**22%**	76%	12%	**88%**
Māori	4%	0%	**5%**	4%	1%	**4%**	8%	1%	**9%**
Pacific	0%	0%	**0%**	1%	0%	**1%**	1%	0%	**1%**
Asian	1%	0%	**2%**	1%	0%	**1%**	2%	0%	**3%**
Total	**65%**	**7%**	**72%**	**22%**	**6%**	**28%**	**87%**	**13%**	**100%**
Relative Concentration									
European	**1.03**	**1.11**	**1.04**	0.88	0.98	0.90	0.99	**1.05**	
Māori	0.78	0.26	0.73	**1.83**	**1.18**	**1.70**	**1.05**	0.67	
Pacific	0.68	-	0.61	**2.52**	-	**2.01**	**1.14**	-	
Asian	0.84	0.28	0.78	**1.61**	**1.36**	**1.56**	**1.03**	0.76	

1 Not Owned includes NEI *Note - includes rounding*

Source: ME Housing Demand Model 2021

6.6 Urban Development Dashboard Indicators

This section contains a presentation of the Ministry for the Environment Urban Development Dashboard Indicators for the Greater Hamilton Area. In accordance with the NPS-UD section 3.23, the market and price efficiency indicators are contained in this section. The analysis considers a range of indicators to understand the movement in the Hamilton housing market relative to wider national trends. It is important to consider the broader national pattern of change to understand how patterns within the local market may be affected by the wider economic context beyond the local planning influence.

6.6.1 Dwelling Sales Prices and Rents

The following graphs (Figure 6-10 and Figure 6-11) from the Urban Development Dashboard show the change in dwelling sales prices and rents through time across the NPS-UD high growth urban economies in New Zealand. These indicators provide a broad indication of the overall movement within the different

housing markets. The graphs show that there has been growth in prices through time that have occurred generally across the main housing markets. There has been faster growth in the periods from around 2002 to 2007 and 2014 to 2019, which correspond to periods of higher net migration.

Figure 6-10: New Zealand High Growth Urban Economies – 12-month rolling Dwelling sales prices (actual) (MfE Urban Development Dashboard)

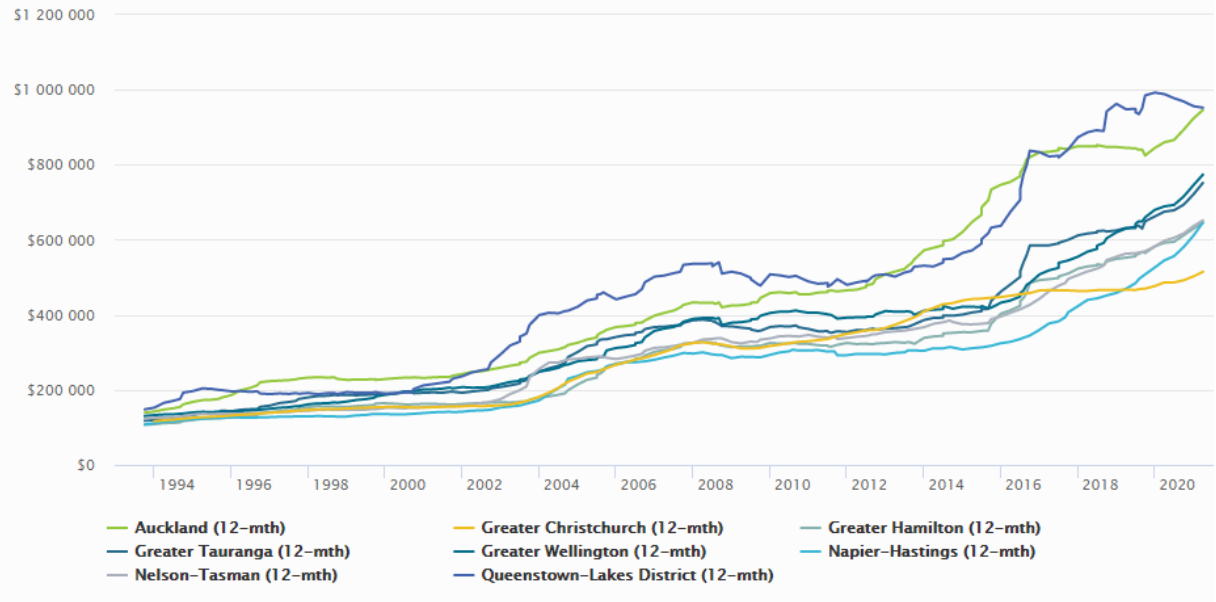
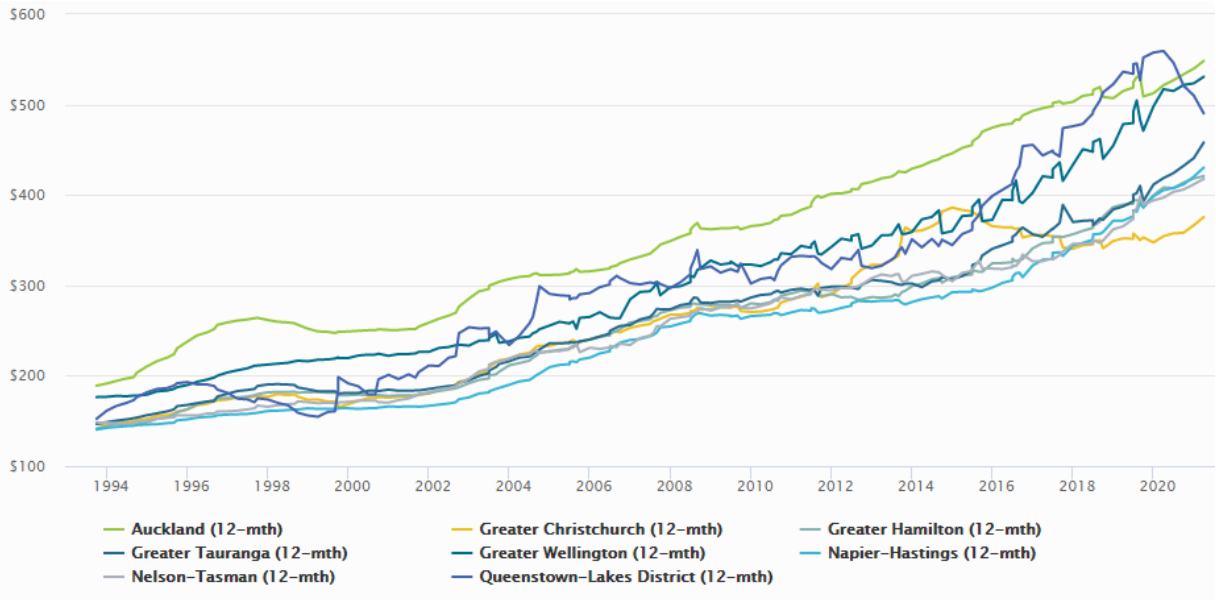


Figure 6-11: New Zealand High Growth Urban Economies – 12-month rolling Dwelling rents (actual) (MfE Urban Development Dashboard)



The percentage changes in Greater Hamilton dwelling prices and rents across the last 5 to 10 years, have been within a similar range to those experienced in other high growth urban economies (with the exception

of Christchurch, where prices have been affected by the 2011 earthquake). Actual sales prices in Hamilton have increased by 102% over the last 10 years. This compares to a range of 91% to 111% across the other cities (excluding Christchurch). In the last five years, Hamilton's increase of 57% compares to a range of 25% to 97% (excluding Christchurch). A similar pattern has occurred with rents, where Hamilton's 10 year increase equates to 43% (compared to a range of 43% to 58%, excluding Christchurch), and 29% across the last five years (compared to a range of 14% to 43%, excluding Christchurch).

It is important to note that these graphs are an aggregation of the total housing market in each location. They are appropriate for informing a broad understanding of the movement of the market in relation to wider national trends. However, more detailed assessment is required to disentangle any effects of local planning.

An important aspect of the effect of local planning would be to understand the patterns of dwelling delivery and sales prices/rents across different dwelling typologies and how these relate to the zoned opportunity. Indicators specifically on new dwellings constructed through time in relation to the zoned opportunity would be useful to consider the effect of local planning provisions.

Planning parameters have an important role in enabling the development of different dwelling typologies at a range of densities and associated prices across different locations within the urban area. Changes in the overall dwelling typology mix are therefore a mechanism through which local planning may affect dwelling market prices.

6.6.2 Land Share of Total Dwelling Value

The graph below (Figure 6-12) shows the land value as a share of capital value across (as an average) across each of the NPS-UD high growth urban economies. A core way in which this measure can be affected by local planning parameters is through the densities enabled under the Plan. This includes the higher density dwelling typologies and level of intensification enabled within the existing urban area as well as densities across new areas of greenfield expansion. These range from minimum lot sizes for standalone dwellings up to the height limits for vertical apartment buildings.

The information is provided for each urban area in aggregate. It shows that the share of total value as land value has generally increased through time across the longer-term in most of the main urban economies. In Hamilton, it has increased from 35.15% in 1994 (at the start of the series) to 54 .47% in 2019. The data used to inform the graph shows considerable variation within proximate points in time.

Growth in the share of land value is generally expected through time for cities both in aggregate as well as at the individual property level. This is expected to occur in both markets that are constrained and unconstrained by any local planning provisions. When a dwelling is constructed on a piece of land, the land value continues to rise through time as the relative positioning of the property within the overall market continues to gradually increase through time, and the overall population demand base continues to expand relative to the geographic size of the city. This is an important driver of urban redevelopment processes where it becomes feasible in the future to redevelop parcels to a higher intensity.

This trend is also expected generally at the city level where the measure is conducted across the entire housing stock in aggregate (i.e. the data provided on the Urban Development Dashboard). In any year, the addition of new dwelling stock to an urban economy is only a small share relative to the existing base.

Therefore, the trend in this measure is heavily influenced by the large relative impact of the existing housing stock base.

Over a longer time period, once significant proportions of the existing dwelling stock have been redeveloped or intensified (at significantly higher densities), then negative changes in the share of land value are more likely to be observed. For instance, a high amenity/accessible area historically developed at lower densities (e.g. standalone dwellings) is expected to have increases in the share of value in land through time until it becomes feasible to redevelop the area to higher densities. Once a significant share of the area becomes redeveloped to higher densities (e.g. vertical apartments) (outweighing the influence of the share at lower densities), then the share of value as land can be expected to gradually decrease.

As such, it would be useful to assess the land value share of newly constructed dwellings through time to better understand the impact of local planning conditions. These would need to be assessed in relation to the type and location of dwellings compared to the maximum densities enabled in the same locations by the Plan.

If dwellings are being constructed with high shares of their value as land, and they are being constructed at the highest densities enabled by the Plan, then this would suggest a planning constraint affecting dwelling prices. If a high share of the dwelling sales price is land, but dwellings are being constructed a considerably lower densities than enabled by the Plan (with the enabled densities adequately supported by local amenity/infrastructure), then this would instead suggest an influence on dwelling prices associated with a non-planning component of the market.

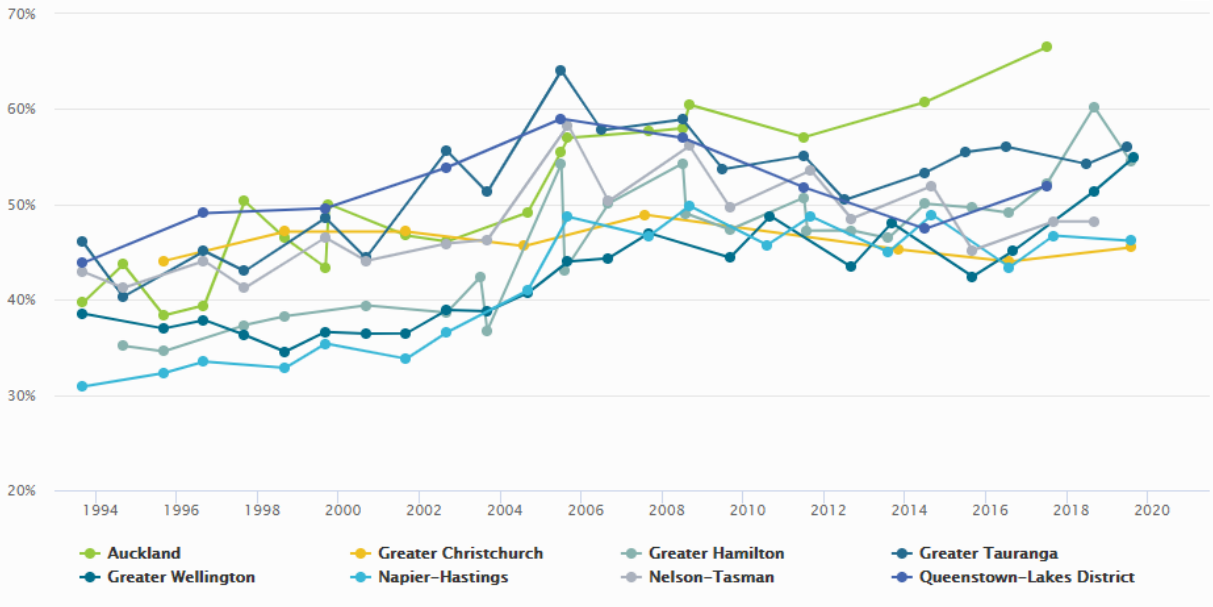
The HBA assessments have found that Hamilton City ODP has enabled significant opportunity for intensification within the City Centre and across much of the general suburban residential area. The highest densities are currently being achieved across some parts of the suburban areas (greenfield and existing urban), but are currently well below the densities enabled within the City Centre zones. The minimum lot sizes for standalone dwellings within the General Residential Zone are relatively high at 400m^2 per dwelling. Higher densities for standalone dwellings (i.e. smaller lot sizes) are currently being achieved in other urban economies, suggesting that these are also likely to be feasible within the Hamilton market if they were enabled. Smaller lot sizes may reduce the land value share of newly constructed standalone dwellings, however, may have mixed effects on the overall share across new dwellings in aggregate. This is because a shift in dwelling typologies (to higher density dwellings) would also have an impact on the overall share of land value, the propensity of which may be affected by the ability to construct standalone dwellings.

Within Waipā District, there is little provision within the Plan for further intensification. The Plan contains minimum lot sizes of around 500m^2 to 600m^2 per dwelling (depending upon the sub-zone), with only limited areas where intensification is enabled. There is no allowance for a smaller section size through the construction of higher density dwelling typologies (i.e. duplexes). Despite the minimum lot size restrictions, there is limited evidence of the provision being a constraint in the current market greenfield areas. Larger lot sizes (than the Plan minimums) are currently being delivered across many of the greenfield areas in response to market demand for larger dwellings.

A similar situation with minimum lot sizes occurs across much of the Waikato District ODP in the short-term. Standalone dwellings are currently being delivered at or close to plan minimums in some of the greenfield areas, particularly in the northern parts of the district. There is currently no increased density

allowance for higher density typologies across many of these areas. Further provision is made for higher density development across parts of the district in the medium and long-term.

Figure 6-12: New Zealand High Growth Urban Economies – Land value as percentage of capital value (MfE Urban Development Dashboard)



6.6.3 Rural Urban Differential

The MfE Urban Development Dashboard contains indicators on the differential in land prices on either side of the rural-urban boundary. Land prices of standalone dwellings within Hamilton's urban area within 2 kilometres of the rural urban boundary (RUB) were compared to the land prices of rural residential (lifestyle) properties outside, but within 2 kilometres, of the RUB. The land values on a per m^2 basis of these two groups were compared to produce a differential between the land values. Some adjustment has been made for distance to amenity and the charged (development contributions) infrastructure costs.

The MfE assessment has found that, on a per m^2 basis, land is 2.42 times more expensive on the inside (within 2 kilometres) of the RUB, than outside (within 2 kilometres) of the RUB. This equates to around \$227 per m^2, which amounts to \$136,213 for a 600m^2. This is within a similar range of the findings across the other high growth urban economies. Other high growth economies range from \$102 per m^2 to \$345 per m^2.

A land price differential around the RUB is expected to occur within an urban economy. This is expected to occur (under this methodology) both in an economy that is facing a land constraint as well as one that is not facing any constraint in the supply of land for housing.

Urban economies typically have gradients of land uses that occur around the urban edge, which result in different land price differentials. Outside of the urban zoned area, higher proportions of the land is typically used in rural lifestyle properties, with the share as rural uses increasing as distance increases from the urban edge. The average property size, development yields and infrastructure costs that arise from these

land use gradients account for a large share of any differential. The MfE methodology has controlled for only part of these effects.

Within an urbanised area, a higher share of the developed land area (typically around 30% to 40%) is taken up for roads and reserves than in rural lifestyle areas (around 10% to 15%). Taking this into account, this would generate a differential of 1.5 between the land across suburban and rural lifestyle uses (holding all other values constant).

Beyond this, the value of land per m^2 does not have a linear relationship with land parcel size. A large part of the value of a section occurs through the formation of a section, with value of the section increasing at a slower rate than the size of the section. This is seen in the analysis of land price curves (from the Ratings Database) during the feasibility modelling assessment. Therefore, a comparison of the land values (per m^2) of one predominant section size with a different predominant section size would naturally yield a differential. This would be expected to occur between a suburban section and a lifestyle block. Analysis of the land price curves within Hamilton's Ratings Database suggests that a differential in land values per m^2 of between 2.0 and 3.0 would occur between a $600m^2$ lot and size the minimum Large Lot Zone lot size of $2,500m^2$.

There is a large cost beyond the different section sizes and parcelled land yields associated with the urbanisation of land. This relates to the infrastructure provision as well as the required site preparation work (subdivision earthworks and engineering as well as the individual site landscaping costs) required to urbanise the land. The Urban Dashboard indicators make some allowance for infrastructure costs; and it is suggested this relates to the amount charged for extensions of Council infrastructure. However, it is not clear whether this also includes the subdivision costs beyond (e.g. local roads that are vested back to Council) the main infrastructure extensions that are borne by the developer (and ultimately private land owners) as part of the subdivision development process.

7 Conclusions

The FPP area is expected to experience high levels of growth. The number of households across the total FPP area are projected to increase by 57% in the long-term. Greater urbanisation is anticipated across the area, with the largest share of urban growth occurring in Hamilton City as the main urban centre. Substantial increases in the size of a number of the other main urban centres within the surrounding districts are also expected to occur, resulting in faster growth in these areas and greater rates of urbanisation. Overall, the demand for urban dwellings is projected to increase by around two-thirds in the long-term.

Council's will play a key role in responding to these growth challenges to provide for growth in a way that achieves a well-functioning urban environment. The NPS-UD assessment is undertaken to understand whether planning and infrastructure decisions by local authorities provide for sufficient capacity for the anticipated growth and their effect on the operation of the local housing market. A detailed assessment on the housing market capacity and demand of the FPP area has been undertaken within this report.

The capacity assessment has found there are some capacity shortfalls projected to occur within the short-term across the Waikato District's main urban areas. While there are feasible development options of intensification within the existing urban areas, there are no areas where infrastructure is currently in place to enable greenfield development, which forms the dominant pattern of urban development across the district. Hamilton City has a small projected capacity surplus in the short-term, but has a large range of feasible development options, beyond those projected to be taken up, for intensification within the existing urban area. All other urban areas have projected surpluses of capacity within the short-term.

Substantial infrastructure will be supplied in the medium-term across much of the greenfield zoned land both within Hamilton City and around the main urban centres of the surrounding districts. The Waikato District PDP also provides for significant geographic expansions of the zoned greenfield area. Hamilton City also contains a large number of feasible development options within the existing urban area. There are projected capacity surpluses in the medium-term across all main urban areas.

In the long-term, there are only projected shortfalls in capacity, at the total level, under the current prices scenario where it is assumed that no further development options will become feasible over the next 30 years. At the total level, there are projected capacity surpluses across all urban areas in the long-term within the growth scenario where further development options are modelled to become feasible through time. The assessment finds that there is a very large planned expansion of greenfield infrastructure within the Waikato District's urban areas relative to demand in the long-term. This results in sizeable capacity surpluses. Additional greenfield infrastructure is also planned for Hamilton City and Waipā District's urban areas providing for large areas of feasible development options, together with a large amount of feasible development options within the existing urban area. In most locations, there are large amounts of feasible development options beyond the amount of development that is likely to be taken up by demand.

Although there are capacity surpluses projected at the total market level, the assessment has found that there are projected shortfalls in capacity within different parts (value bands) of the market. Shortfalls typically occur within the lower to mid value bands of the market as the feasible development options tend to be concentrated into the mid to higher dwelling value bands. This is partly offset by movement within the housing market where a large share of the new dwelling capacity is likely to be occupied by existing

households moving upward within the market, consequently freeing up capacity within the lower value parts of the existing stock.

The shortfalls in capacity within the lower dwelling value bands are generally projected to increase through time. This occurs as a result of gradual rises in price through time, but is partly offset by corresponding increases in household incomes. This results in some decreases in housing affordability, within household income bands, across the FPP area within the long-term, beyond the medium-term.

The assessment has found that the FPP area planning decisions may have some impact on affordability within the local housing market, but that there are large impacts from non-planning factors. The capacity feasibility assessment shows that only small increases in price (relative to actual trends observed within the market) are required for an increased range of zoned areas and development options to become feasible. It has also found that there are a large amount of zoned *feasible* development options available beyond the scale of demand within most urban areas. This suggests that there is unlikely to be a constraint, in the long-term, associated with the level of zoned (and infrastructure-served) opportunity available to the market. It is noted, however, that the assessment was advised not to apply any infrastructure constraints within Hamilton City's existing urban area.

The assessment has found that the adverse planning effects on the market may instead be related to a combination of specific provisions around the type and location of development options. There are likely to be some limitations on the range of development options provided by the market as a result of the types of development provided by the planning provisions together with the propensity of the market to take up the range of development options provided.

Within Waikato District, there is only limited opportunity for higher density developments provided for by the planning provisions. Although there are some decreases in the minimum site size requirements in the long-term, most of the planning provisions are focussed around providing for stand alone dwellings on individual sites. There are very limited provisions for the development of higher density typologies (by way of smaller per dwelling land area requirements with the construction of a different typology) across much of the general urban residential area. We understand there are some options for Medium Density Residential Zone development (beyond the smaller areas in Waikato 2070) considered during the PDP process, however, these are not included within this assessment.

There are significant opportunities for urban intensification through higher density development within Hamilton City, particularly within the existing urban area. The ODP provides for smaller per dwelling site size requirements for higher density typologies across nearly all of the suburban residential area, and has large plan-enabled potential for higher density apartment development across the City Centre. However, the assessment has applied limited uptake of these higher density typologies within the greenfield areas based on the supplied development yield information. The assessment has found that although there is large plan enabled capacity within the City Centre, there is limited projected market take-up of this capacity due to market preference factors.

There is some indication that the market may provide smaller lot sizes for standalone dwellings at the urban edge if planning requirements for minimum lot sizes were removed. The predominant existing requirement for 400m^2 per dwelling is currently being achieved in some greenfield areas, with smaller lot sizes being delivered in other similar urban economies for standalone dwellings. However, although removal of this requirement may reduce the standalone dwelling costs, it may reduce the incentive to instead construct

higher density (cheaper) typologies which currently have a smaller minimum lot size requirement. This may impact upon the overall value profile of dwellings delivered by the market.

The assessment finds that there is no indication of a constraint for greenfield development within Hamilton City. There is a sizeable amount of infrastructure-served zoned opportunity relative to long-term demand, taking into account the geographic patterns of development across Hamilton City. Most of the greenfield areas are projected to be feasible to develop and are likely to form reasonably expected to be realised capacity.

Within Waipā District's urban areas, there are very limited options for higher density dwelling typologies. The planning framework provides for only very limited opportunity to develop higher density typologies with smaller per unit site area requirements. The assessment finds that these planning provisions have some impact on the affordability of dwellings within Waipā as it is focused on standalone dwellings on larger sites, which are concentrated into the mid to higher dwelling value bands. However, standalone dwellings on larger sites still form a large market preference for developers as they reflect strong patterns of demand within the market, including the exogenous retirement market demand.

The findings from the sufficiency assessment are also reflected in the information obtained from the developer survey. There was a mixed response from developers on the effect of local planning decisions in relation to the zoned land and infrastructure provision. Most developers recognised these as necessary and fundamental components provided by Council's that enabled development to occur. However, only a sub-set of developers, mainly within the Waikato District, considered that there were currently constraints within the market in relation to their supply. This reflects the capacity assessment where there is currently no infrastructure supplied for further development of greenfield areas. However, other developers considered that an oversupply of zoned opportunity and infrastructure could adversely affect the feasibility of development options through the inability to achieve sufficient prices. Many developers considered that current planning provisions did not adequately reflect emerging trends within the market for higher density development options, particularly within the Waikato and Waipā districts.

Other aspects of the planning process, beyond zoned land and infrastructure provision, were reported by developers to impact on the feasibility of development. These related to the transaction costs, resource consenting timeframes and uncertainty of planning decision outcomes. The latter aspects were particularly identified within the Waikato District.

Developers also identified the effects of non-planning factors on the feasible of development and dwelling prices. These included the wider national and global financial and market conditions, construction sector costs and the patterns of demand. These were reported to have a direct and substantial influence on the feasibility of development.

The impact of wider economic conditions is also suggested by the analysis of the urban development dashboard indicators. These showed the alignment of the greater Hamilton area with housing price movements on a national scale. The assessment also found the changes to the ratio of costs to prices occurring through time within Hamilton, which is an important driver of the feasibility of urban intensification processes.

Our approach has highlighted the importance of disentangling the planning effects on the market from this wider set of influences. We consider whether the local planning decisions provide for sufficient capacity,

and then the additional level of scope available to the market to operate within these parameters. It then assesses the changes in the market within the context of a wider set of indicators.

There are important aspects of the FPP area's housing market to consider in relation to how well the demand for housing from different groups within the market is met. Māori are an important group to consider within the FPP area that may face different outcomes in the local housing market. The HBA has found that Māori have lower rates of home ownership within the FPP area than households overall, and these are projected to continue into the future. The underlying patterns of Māori household demand suggest they are likely to experience lower levels of housing affordability. On average, Māori households have larger household sizes and lower income profiles. These patterns are likely to translate into demand for larger dwellings in the lower dwelling value bands, which differ to the positive correlations generally between dwelling price and size.

8 Appendices

8.1 Commercial Feasibility Modelling Key Cost and Price Ranges

The following tables contain the key cost and price inputs used within the feasibility modelling. The values are in 2020 year values.

Table 8-1: Financial Rate Assumptions

Component	Rate
GST	15.00%
Corporate Tax Rate	28.00%
Capital Rate	6.90%

Table 8-2: Base Construction Costs per Square Metre of Dwelling Floorspace

	Base Build Cost per M2[1]	
Area	Min	Max
Pokeno/Tuakau and Raglan	$1,700	$2,300
Mid Waikato Districts	$1,600	$2,200
Hamilton - Standalone	$1,600	$2,200
Hamilton - Duplex	$1,800	$2,400
Hamilton - Apartment	$1,800	$3,300
Hamilton City Centre		
Downtown Precinct 1-3 storeys	$3,000	$3,850
City Living Precinct 1-3 storeys	$2,250	$3,850
Ferrybank Precinct 1-3 storeys	$2,220	$3,815
Downtown Precinct 4+ storeys	$4,000	$5,000
City Living Precinct 4+ storeys	$3,800	$5,000
Ferrybank Precinct 4+ storeys	$3,800	$5,000
Cambridge	$1,700	$2,300
Te Awamutu	$1,600	$2,200
Kihikihi	$1,700	$2,300

[1] Note: Costs include only the base build cost per m2. They do not represent the total dwelling construction cost per m2. Finance cost excluded.

Table 8-3: Sales Price by Dwelling Size and Typology

	Suburban Dwelling Sales Price					
	Standalone		Duplex		Suburban Apartment	
Area	100m2	200m2	100m2	200m2	100m2	200m2
Pokeno/Tuakau	$530,000	$865,000				
Te Kauwhata	$529,000	$780,000				
Ngaruawahia	$503,000	$741,000				
Huntly	$409,000	$603,000				
Taupiri	$529,000	$780,000				
Raglan	$583,000	$952,000				
Hamilton						
Level 1	$501,000	$866,000	$469,000	$810,000	$438,000	$758,000
Level 2	$541,000	$935,000	$508,000	$880,000	$478,000	$827,000
Level 3	$582,000	$1,006,000	$545,000	$942,000	$509,000	$881,000
Level 4	$618,000	$1,070,000	$579,000	$1,001,000	$541,000	$936,000
Level 5	$637,000	$1,102,000	$596,000	$1,031,000	$558,000	$965,000
Te Rapa North	$589,000	$1,019,000	$530,000	$917,000	$501,000	$866,000
Rotokauri	$589,000	$1,019,000	$530,000	$917,000	$501,000	$866,000
Rototuna	$595,000	$1,039,000	$535,000	$935,000	$506,000	$883,000
Ruakura North	$589,000	$1,019,000	$530,000	$917,000	$501,000	$866,000
Ruakura South	$589,000	$1,019,000	$530,000	$917,000	$501,000	$866,000
Temple View	$559,000	$968,000	$503,000	$871,000	$476,000	$823,000
Peacocke	$589,000	$1,019,000	$530,000	$917,000	$501,000	$866,000
Cambridge	$677,000	$932,000				
Te Awamutu	$543,000	$741,000				
Kihikihi	$531,000	$726,000				

Table 8-4: Hamilton City Centre Apartment Sales Prices

	Apartment Sales Price		
City Centre Precinct	50m2	75m2	100m2
Hamilton CBD - Downtown Precinct	$462,000	$558,000	$672,000
Hamilton CBD - City Living Precinct	$403,000	$512,000	$623,000
Hamilton CBD - Ferrybank Precinct	$403,000	$512,000	$623,000

8.2 Developer Survey

The following is a list of the questions contained within the survey sent to residential dwelling commercial developers within the Future Proof Area. The questions contained a mixture of potential specified options (as listed) or open ended responses. Known property developers were invited to respond to the survey online by each FPP area council.

1. What sort of development does your company do the most of?
    a. Greenfield.
    b. Brownfield – infill (adding additional dwellings to a vacant or underused site).

    c. Brownfield – redevelopment (removing existing dwellings and replacing with new).
    d. Mixture (specify).
2. On average how many dwellings do you build each year?
    a. Open ended response.
3. What types of dwellings does your company typically build? (select all that apply)
    a. Stand alone.
    b. Duplex.
    c. Terrace/townhouse.
    d. Vertically attached apartments.
4. Where do you do the majority of your work?
    a. Within (FPP area city/district) only.
    b. Other locations within the Waikato region.
    c. Other development within New Zealand (specify).
5. Respondents were asked to identify the location of their development activity within their selected FPP area from a provided list of suburbs/urban areas.
6. To what extent do the following factors affect the commercial feasibility of residential development in Hamilton? (respondents were asked to rate the following factors on a scale of 'Very large effect', 'Large effect', 'Some effect', 'Minor effect' or 'No effect').
    a. Access to labour.
    b. Availability of sub-contractors.
    c. Prices within the construction sector (materials and labour).
    d. Access to finance.
    e. Interest rates/holding costs.
    f. Council fees (e.g. development contributions, consent fees).
    g. Quantity of zoned land.
    h. Existing land ownership structures.
    i. Provision of infrastructure (three waters/transport).
    j. Access to amenities.
    k. Market demand for dwellings.
    l. Patterns of purchaser demand (e.g. type, size and location of dwellings).
    m. Planning provisions (e.g. dwelling typologies and minimum site sizes).
    n. Scale of the development.
    o. Competition with other developers.
    p. Wider economic conditions.
7. Are there any other factors affecting the commercial feasibility of residential development in (selected FPP area)?
    a. Open ended response.
8. For the factors you've ranked above as having a 'very large effect', please tell us why you think so?
    a. Open ended response.
9. How do you see the dwellings you deliver in (selected FPP area) changing over the short-term (to 2023) or medium-term (to 2030), in terms of lot size and typology?
    a. Open ended response.
10. What are the key drivers influencing these changes and how do you expect the changes to progress over time?
    a. Open ended response.

11. What do you consider to be acceptable profit margins when undertaking residential development? How are these affected by the scale, type and location of development?
    a. Open ended response.
12. Is there any else you'd like to tell us?
    a. Open ended response.

APPENDIX 2 – 2021 BUSINESS DEVELOPMENT CAPACITY ASSESSMENT REPORT FUTURE PROOF PARTNERS

(Document number 10671809)

Business Development Capacity Assessment 2021

Future Proof Partners: Hamilton City, Waikato District, Waipā District

30 June 2021

m.e consulting

Business Development Capacity Assessment 2021

Future Proof Partners: Hamilton City, Waikato District, Waipā District

Prepared for

Future Proof Partners

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Contents

Figures

Executive Summary

New Zealand is a highly urbanised economy. The vast majority of people, employees and businesses are located inside urban centres. City economies are highly productive and cities are a highly efficient way to house populations with small environmental footprint. Urban economies are the centres of knowledge and innovation. They serve as production and service centres for the country because the production of goods and services is more efficient in high density environments.

Local authorities have an important role to play in the operation of city economies, primarily through planning for growth. Ensuring the appropriate provision of development opportunities means businesses and households are accommodated in appropriate locations. Well-designed urban areas maximise efficiency and effectiveness through appropriate urban form, achieving economies of scale and the innovation and creativity needed to grow. Efficiently functioning urban areas help maximise national economic output and wellbeing.

To this end, central government has released a national policy statement to provide direction to decision makers under the RMA on planning for urban environments. The National Policy Statement on Urban Development 2020 (NPS-UD) aims to ensure that planning decisions enable the supply of business land within local authorities is sufficient to meet business demand. The NPS-UD adds updates and amendments to the previous National Policy Statement on Urban Development Capacity 2016 (NPS-UDC).

The NPS-UD contains a number of objectives and policies that aim to meet those objectives. This report aims to assist in meeting policies under Subpart 3 – Evidence-based decision making and Subpart 5 – Housing and Business Development Capacity Assessment (HBA). Under clause 3.10 Assessing demand and development capacity:

(1) *Every local authority must assess the demand for housing and business land in urban environments, and the development capacity that is sufficient to meet that demand in its region or district in the short term, medium term, and long term, and*
(2) *Tier 1 and tier 2 local authorities comply with subclause (1) in relation to tier 1 and tier 2 urban environments by preparing and publishing an HBA as required by subpart 5.*

As determined by subpart 5 – Housing and Business Development Capacity Assessment (HBA), this report aims to assist fulfil subclauses 3.28 Business land demand assessment, 3.29 Business land development capacity assessment, and 3.30 Assessment of sufficient development capacity for business land.

Clause 3.28 Business land demand assessment requires:

1) *Every HBA must estimate, for the short term, medium term, and long term, the demand from each business sector for additional business land in the region and each constituent district of the tier 1 or tier 2 urban environment.*

2) *The demand must be expressed in hectares or floor areas.*
3) *For the purpose of this clause, a local authority may identify business sectors in any way it chooses but must, as a minimum, distinguish between sectors that would use land zoned for commercial, retail, or industrial uses.*
4) *The HBA for a tier 1 urban environment must:*
   a) *set out a range of projections of demand for business land by business sector, for the short term, medium term, and long term; and*
   b) *identify which of the projections is the most likely in each of the short term, medium term, and long term; and*
   c) *set out the assumptions underpinning the different projections and the reason for selecting which is the most likely; and*
   d) *if those assumptions involve a high level of uncertainty, the nature and potential effects of that uncertainty.*

Clause 3.29 Business land development capacity assessment requires:

1) *Every HBA must estimate the following, for the short term, medium term, and long term, for the region and each constituent district of the tier 1 or tier 2 urban environment:*
   a) *the development capacity (in terms of hectares or floor areas) to meet expected demand for business land for each business sector, plus the appropriate competitiveness margin; and*
   b) *of that development capacity, the development capacity that is:*
      i) *plan-enabled; and*
      ii) *plan-enabled and infrastructure-ready; and*
      iii) *plan-enabled, infrastructure-ready, and suitable for each business sector.*
2) *A local authority may define what it means for development capacity to be "suitable" in any way it chooses, but suitability must, at a minimum, include suitability in terms of location and site size.*

Clause 3.30 Assessment of sufficient development capacity for business land requires:

1) *Every HBA must clearly identify, for the short term, medium term, and long term, whether there is sufficient development capacity to meet demand for business land in the region and each constituent district of the tier 1 or tier 2 urban environment.*
2) *The requirements of subclause (1) must be based on a comparison of:*
   a) *the demand for business land referred to in clause 3.28 plus the appropriate competitiveness margin; and*
   b) *the development capacity identified under clause 3.29.*
3) *If there is any insufficiency, the HBA must identify where and when this will occur and analyse the extent to which RMA planning documents, a lack of development infrastructure, or both, cause or contribute to the insufficiency.*

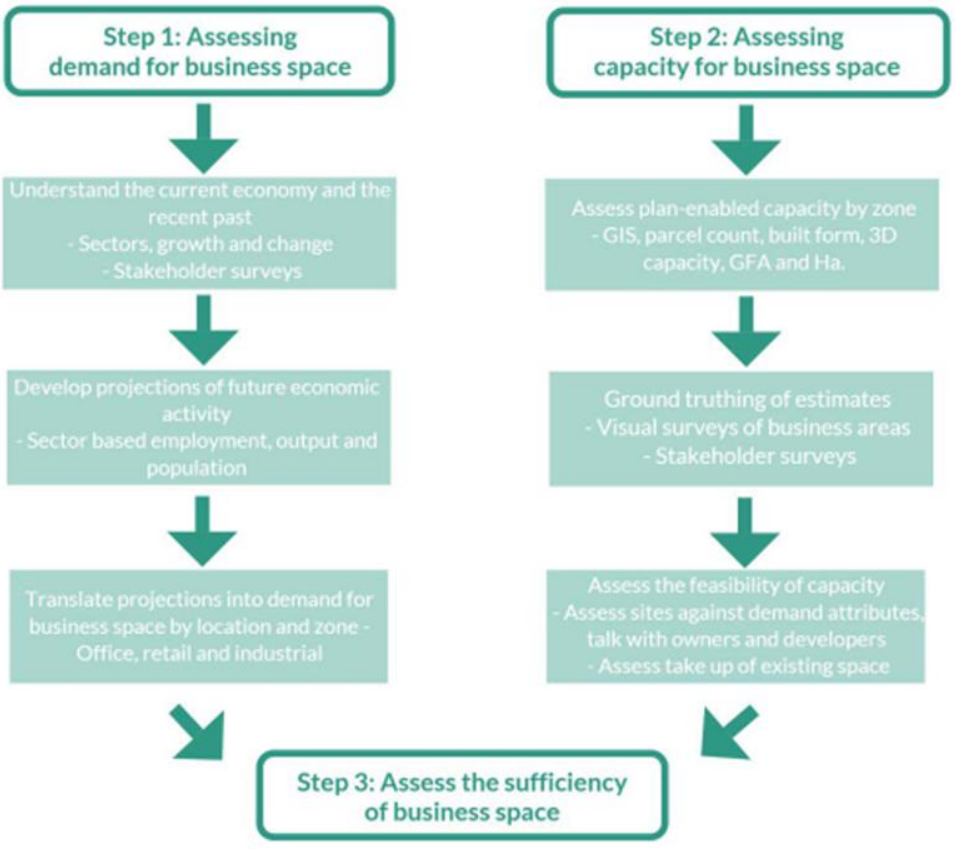
This assessment contains information on; the current economy, likely future economic growth by sector, the amount of capacity enabled under the current planning provisions plus any other strategic planning documents by type and location, as assessment of the feasibility or developability of that capacity and finally an assessment of the sufficiency of capacity to meet the foreseeable demands arising in the urban area in the short, medium and long terms.

Background

The Future Proof Partnership (FPP) is made up from the councils of Waikato District, Hamilton City and Waipā District. Together these Councils have been identified as a Tier 1 local authorities in the NPS-UD. In accordance with the National Policy Statement – Urban Development 2020 ('**NPS-UD**' or simply '**NPS**'), FPP must complete a Housing and Business Development Capacity Assessment (HBA) within the urban environment every 3 years (Subpart 5, clause 3.19).

This document fulfils those requirements for the Future Proof Partnership area and consenting authorities. The approach adopted splits the tasks into 3 broad steps; assessing demand, assessing capacity and assessing sufficiency of capacity to meet demand (as outlined in Figure 0.1).

Figure 0.1: Business Development Capacity Approach Summary



District Economy

The NPS states that the NPS applies to *"all local authorities that have all or part of an urban environment within their district or region"*. What forms part of an urban environment is therefore important. 'Urban environment' is defined in the NPS as:

Any area of land (regardless of size, and irrespective of local authority or statistical boundaries) that:

a) is, or is intended to be, predominantly urban in character; and
b) is, or is intended to be, part of a housing and labour market of at least 10,000 people.

Together, the Future Proof Partners (FPP) comprise the tier 1 local authorities that are defined as part of the Hamilton tier 1 urban environment within the NPS. This means that the policies are applied across the district. The following assessment focuses on the entirety of Waikato District, Waipā District and Hamilton City.

Within each TA, the zoning structure (zones and sub zones) at the parcel level has been used to identify where capacity exists and the nature of activity that is enabled on each parcel as determined by the relevant district plans. In addition to the currently zoned land, information from structure plans that relate to greenfields development has been used to identify the nature, timing, and amount of future capacity enabled on them.

There are significant differences between the three TA economies, that reflect the different roles each plays within the FPP. Hamilton has high relative concentrations of employment in the public sector – public administration and safety, health and education and the social assistance and other services sectors. In addition, high concentrations of retail, manufacturing and utilities reflect its role as the regions prime city. The economies of both Waikato District and Waipā District are reliant on the primary production sector for employment. Primary production is the largest employer in both, however Waikato District is much more reliant with 26% of all workers employed in the sector as compared to 14% in Waipā District. Hamilton City relies on the primary sector to feed its industrial and service sector base meaning it has an indirect employment relationship with the farming sectors. As the primary sector expands or contracts so too will Hamilton's industrial and service sector employment. Both Waikato and Waipā also have a relatively high number of employees within the construction industry (14% and 13% respectively), mirroring the trend seen across the country.

Other than this, Waikato and Waipā are noticeably different from each other. A portion of this difference is driven by the location of minerals such as coal and aggregate and the relative location of the districts to Auckland. Waikato District has a higher concentration of employees in the Mining sector as demand for aggregate material drives employment in this industry. Waikato has also had a greater increase in the number of manufacturing jobs, with employment in the sector approximately doubling over the past 10 years.

Waipā District has more diverse employment in relation to Waikato District. Waipā has higher concentrations of retail activity, health care and social assistance, and art and recreation services, and other services. These last sectors are important as they capture the high-performance sports facilities and education facilities that Waipā District is beginning to see concentrated around Cambridge (Rowing at Karapiro and Cycling at the Velodrome in Cambridge).

Business Land and Floorspace Demand

In total, employment growth across the FPP area is expected to increase from a base of 159,300 in 2020 to 225,800 MECs by 2050 – an average of 1.4% annually over that period. Employment growth rate declines over time with stronger growth in the next 10 years of 1.6% annually, dropping to 1.2% between 2030 and 2040, down to 0.9% annually between 2040 and 2050.

The most employment growth occurs in the business/finance and governance sectors which 19,500 MECs over the 30-year period to 2050. The fastest growing sector is the Utilities sector which increases employment by 65% over the long term from 1,700 MECs to 2,800 by 2050. The sector with the largest overall growth is the Business/Finance/Governance sector, growing by 19,500 MECs from 35,800 in 2020 to 55,300 in 2050. This is the employment that the FPP councils need to be able to accommodate through planning provisions and the land they apply to.

Employment is translated into likely floorspace and land use requirements using average floorspace per worker and land area per worker ratios. These averages are derived from a combination of recent rating data information by zone, employment by statistical area, and land use-space types. Given the similarity of activities carried out by employees across a range of sectors, there are a smaller number of space types than there are activity types or economic sectors. For the purposes of the NPS-UD, all space and land types have been condensed into 3 broad categories – Retail, Commercial and Industrial. Translating employment growth into total land demand results in the FPP partners needing to identify approximately 983ha of business zoned land over the long term to 2050 (Figure 0.2).

Figure 0.2: FPP Total Business Land Demand by Broad Sector, 2020 – 2050 (ha).

Broad Sector	Hamilton City	Waikato District	Waipa District	Total FPP Area
Commercial	101	19	17	137
Retail	41	7	6	54
Industrial	540	145	108	793
Total Bus. Land Demand	**681**	**171**	**131**	**983**

For the retail and commercial sectors, floorspace is a more meaningful metric than land. This is because businesses in these sectors generally are able to occupy multiple levels of one building on one site, which means that land requirements are lower. In total to cater for anticipated economic growth over the next 30 years, the FPP area requires over 4.5 million sqm of gross floor area of build space (GFA) - 3.3million sqm of that for the industrial sectors, 884,000sqm for commercial activities and 322,000sqm for retail.

Figure 0.3: FPP Total Business Floorspace Demand (GFA) by Broad Sector, 2020 – 2050 ('000 sqm)

Broad Sector	Hamilton City	Waikato District	Waipa District	Total FPP Area
Commercial	652	122	109	884
Retail	245	39	38	322
Industrial	2,234	609	456	3,299
Total Bus. GFA Demand	**3,132**	**770**	**603**	**4,505**

M.E have not incorporated growth in education floorspace demand in our assessment of commercial demand. This is because the Ministry of Education has the ability to designate land for development of education facilities outside of traditional business zoning.

Business Land and Floorspace Capacity

Business Land and Floorspace capacity in each district has been identified by applying the provisions in each District Plan to vacant parcels identified in the rating database and other parcel level land files. This produces a measure of total Plan Enabled capacity that needs to be refined to account for the portion not feasible for development for whatever reason. We have also used information relating to greenfields development (including structure plans) to identify capacity on land areas that are not currently developable under the existing zoning. A reduction in greenfield areas of 30% has been applied across the Waikato and Waipā districts so that roads, reserves and infrastructure requirements are taken account of. A similar process has been undertaken for Hamilton City.

Out of necessity, provisions in the district plans are broad, meaning that most parcels identified as vacant can meet a relatively wide range of needs. Therefore, capacity may not be exclusively allocated back to one usage type or another. Parcel level capacity has been aggregated to reporting areas (town agglomerations for Waikato and Waipā or broad suburbs for Hamilton) by broad activity type (Commercial, Retail, and Industrial). The current planning provisions enable a large amount of business land capacity for growth. In total, over 2,216 ha of land has been identified through the plans. Most of this resides within Waikato District (1,231ha) with 744ha in Hamilton and 242ha in Waipā. Much of the land in Waikato District and Hamilton City is comprised of greenfield land, that may not be available in the short or medium term. The vacant identified land is mostly available for Commercial or Industrial uses (1,053ha and 2,216ha respectively), with 241ha available for Retail use as well.

Note that totals do not sum down columns because one piece of land may be used for multiple purposes under the different plans. This means that one piece of land may potentially be used for any combination the three broad uses and so has been identified as capacity within that category, but once it is occupied by one use it necessarily excludes all other uses.

Figure 0.4: FPP Long term Vacant Business Land Capacity, 2020-2050 (ha)

Broad Sector	Hamilton City	Waikato District	Waipa District	Total FPP Area
Commercial	565	316	173	1,053
Retail	161	69	11	241
Industrial	640	1,174	231	2,045
Total Vacant Bus. Land*	**744**	**1,231**	**242**	**2,216**

Plan enabled gross floor area (GFA) was then determined based on the relevant zoning rules – site coverage, building heights and floor area ratios were used to calculate GFA for each parcel. Activity status tables were used to determine the activity types allowed. Permitted, restricted discretionary and discretionary status activities have been incorporated under the assumption that these are essentially allowed under the various District Plans. A site coverage of 38% was applied in Industrial zones across the

sub-region to reflect the fact that industrial businesses tend to utilise much less of the site area for floorspace.[1]

Figure 0.5: FPP Long term Vacant Business Floorspace Capacity (GFA), 2020-2050 ('000sqm)

Broad Sector	Hamilton City	Waikato District	Waipa District	Total FPP Area
Commercial	10,013	4,115	1,774	15,902
Retail	756	341	95	1,192
Industrial	3,501	4,436	872	8,809
Total Vacant Bus. Land*	**12,416**	**8,785**	**2,742**	**23,942**

In total the identified vacant business land supports approximately 23.9m sqm of built space. Once again, row values do not sum to column totals due to competing land uses. Over half of the vacant capacity is within Hamilton City alone, with 10 million square metres of vacant commercial and 3.5 million square metres of vacant industrial floorspace. Waikato District has the largest amount of Industrial floorspace of any of the partners, with 4.4 million square metres available long term to 2050. Much of this is contained in the greenfields land identified in the Waikato 2070 planning, with more available after 2050 as well. 4.1 million square metres of commercial floorspace capacity has also been identified in Waikato District. Waipā District has the lowest total capacity with 2.7 million square metres enabled in total, or 11.4% of the total identified in the sub-region. Because commercial space is able to occupy above ground floorspace (unlike retail or industrial) it makes up the majority of the total floorspace identified (66%).

It is important to be aware of issues and limitations associated with the capacity estimates. They include:

- Currency of data. This information is based on the rating database. Any development since the last update of rating information may reduce these numbers. This has been partially overcome by ground truthing exercise with Council staff but will need ongoing monitoring to ensure currency.
- Housing capacity crossover: In some of the zones housing demand competes with commercial demand for the same space – notably in mixed use zones and the central business district of Hamilton. Again, monitoring of uptake by activity type, including housing is important to remain currency of dataset.
- Other Capacity Sources: There is currently an amount of unoccupied but built space within the FPP area. This will provide capacity to a portion of short term demand yet is outside the measure of capacity described above. In addition, redevelopment of currently underutilised or older built sites will provide additional capacity not captured above. This potential can be assessed by looking at the average level of intensity in a given centre of business area. Sites not at the current average, or within the upper half are likely to have redevelopment potential. The same holds true for industrial sites. Care needs to be taken, as often sites appear to be underutilised, yet

[1] The 38.3% site coverage was derived from the average site coverage in the Te Rapa North industrial zones, and reflects our assumption for industrial space availability going forward. District Plan rules indicate site coverages of between 58% and 80% for industrial type zones.

the space may play a vital role in an industrial process (such as truck parking/turning, product storage etc). It is important for Council to monitor development, redevelopment and usage patterns to build up a knowledge base over time of business area operation.

- Rural Capacity: The focus of this report is urban development capacity. The rural zones play an important role in the FPP area and are likely to provide additional capacity not discussed in this report, such as local yards or storage buildings.

Development Feasibility

The approach described above focuses on establishing plan-enabled capacity. However, identified capacity may not translate to actual business properties available to the market unless it is "feasible" to develop. Feasible means commercially viable for a developer to develop given current costs, revenues and yield. However, for business land the situation is complex. The type and nature of business development is far more varied than residential – retail and commercial clients have a wide range of development types that might be suitable for a single piece of land. Ownership models differ widely as will appetite for debt and risk profiles. A developer willing to occupy a site for a lifetime may be able to amortise costs across a very long timeframe, so is motivated differently from a developer looking to build more generic tilt slab industrial units for rapid sale.

Because of these complexities a residual land value type model is not appropriate for business land assessments. Multi-Criteria Analysis provides a way for Councils to frame the development opportunities within their district by scoring them against a set of agreed criteria. Each criterion plays a large or small role in the development and locational decision, so is given a large or small share of the total area score.

Each broad area is then scored against the criteria and the ratings added up to provide an overall score out of 100. Comparisons can then be made between where the plan enabled capacity resides and the MCA score for those areas. If capacity is provided in the areas that score highly in the MCA, Councils can be confident that development will proceed.

The MCA analysis showed that there is a close alignment between where the FPP have provided capacity and high scores under the MCA framework. This indicates that the FPP can be confident that zoning is appropriate is terms of location and the nature of the land zoned. There are limited areas where development will be constrained in terms of market acceptance of product.

MCA Scores have been aligned against capacity in the final assessment in the body of the report.

Sufficiency of Plans

Demand is aligned against supply by broad type at the local level (town or broad suburb) to determine overall sufficiency of FPP business provisions. Detail at the local level is contained in the body of the report, but at the overall TA level for the FPP, it is clear that both the amount of land provided and the built space that enables exceeds the total amount of demand – even with an added margin (20% in the short to medium term and 15% in the long term). Note that the Green Bands in the Sufficiency Measure Columns indicate sufficient capacity to meet demand. Also note that values are cumulative across time periods, so that values within the long term supply and demand columns represent total expected capacity and demand as at 2050.

At the total FPP level, the total amount of expected demand for commercial land is approximately 13% of commercial capacity over the long term, with retail demand at 22% of available land capacity. In aggregate, industrial land demand is expected to take up almost 39% of the total provided over the long term (30 years).

At the individual territorial authority level however, there are significant differences. Demand in Hamilton City is expected to reach approximately 18% of vacant commercial land capacity, 25% of retail land capacity, and almost 85% of industrial land capacity. Long term, demand in Waikato District is expected to reach 6% of commercial land, 9% of retail land, and 12% of industrial land. This is largely due to the significant amount of greenfields land that Waikato District has earmarked for future development. Although development timeframes are unavailable for Waipā District, the district has enough capacity for all development types based on current vacancy information. Long term demand is expected to require 59% of retail land, 47% of industrial land, and 10% of commercial land. Based on these supply and demand estimates, there is enough vacant land capacity within the Future Proof Partnership over the long term.

Figure 0.6: Future Proof Partners Business Land Sufficiency summary (ha)

	Demand Growth (ha)			Estimated Land Availability (ha)			Sufficiency Measure		
Sector	**Short Term**	**Medium Term**	**Long Term**	**Short Term**	**Medium Term**	**Long Term**	**Short Term**	**Medium Term**	**Long Term**
Commercial									
Hamilton City	12.1	40.1	100.9	340.3	413.1	564.8			
Waikato District	1.9	7.7	19.2	279.8	311.0	315.6			
Waipa District	1.0	5.4	16.9	172.5	172.5	172.5			
TOTAL FUTURE PROOF	**15.1**	**53.3**	**137.0**	**792.6**	**896.7**	**1,052.9**			
Retail									
Hamilton City	4.9	16.7	40.8	126.9	133.1	160.7			
Waikato District	0.6	2.6	6.5	51.9	64.6	69.2			
Waipa District	0.2	1.9	6.3	10.6	10.6	10.6			
TOTAL FUTURE PROOF	**5.6**	**21.2**	**53.6**	**189.5**	**208.3**	**240.5**			
Industrial									
Hamilton City	52.2	221.5	539.6	270.3	337.0	639.7			
Waikato District	12.4	55.1	144.9	415.3	705.0	1,174.4			
Waipa District	8.6	31.5	108.2	230.9	230.9	230.9			
TOTAL FUTURE PROOF	**73.2**	**308.0**	**792.7**	**916.5**	**1,272.9**	**2,045.0**			

As with vacant land capacity, gross floorspace capacity at the aggregate Future Proof level is well in exceedance of projected demand. In total, commercial demand will occupy 6% of commercial GFA capacity, while retail and industrial demand is only expected to occupy 27% and 38% respectively.

Long term commercial floorspace demand growth is less than 7% of capacity for all of the individual councils. Demand for retail floorspace is expected to reach 32% and 40% of total enabled floorspace in Hamilton and Waipā, and only 12% of capacity in Waikato. Industrial floorspace demand will reach almost 64% of Hamilton's plan-enabled floorspace capacity, 14% of Waikato's capacity, and 52% of Waipā's industrial floorspace capacity.

Figure 0.7: Future Proof Partners Business Space Sufficiency Summary (GFA)

	Demand Growth (sqm)			Estimated GFA Availability (sqm)			Sufficiency Measure		
Sector	**Short Term**	**Medium Term**	**Long Term**	**Short Term**	**Medium Term**	**Long Term**	**Short Term**	**Medium Term**	**Long Term**
Commercial									
Hamilton City	78,155	260,358	652,346	4,785,160	6,472,643	10,012,586			
Waikato District	11,949	49,060	122,183	3,546,319	4,042,029	4,115,441			
Waipa District	6,965	35,317	109,309	1,774,287	1,774,287	1,774,287			
TOTAL FUTURE PROOF	**97,069**	**344,734**	**883,839**	**10,105,766**	**12,288,959**	**15,902,313**			
Retail									
Hamilton City	29,618	100,303	244,848	586,797	617,599	755,665			
Waikato District	3,339	15,454	39,159	281,737	325,355	341,086			
Waipa District	907	11,593	37,798	95,431	95,431	95,431			
TOTAL FUTURE PROOF	**33,864**	**127,350**	**321,806**	**963,964**	**1,038,385**	**1,192,182**			
Industrial									
Hamilton City	215,205	915,240	2,234,402	1,340,626	1,596,205	3,500,905			
Waikato District	52,902	231,509	609,026	1,534,816	2,638,583	4,436,399			
Waipa District	37,198	134,494	455,601	871,814	871,814	871,814			
TOTAL FUTURE PROOF	**305,304**	**1,281,243**	**3,299,029**	**3,747,257**	**5,106,602**	**8,809,119**			

Conclusions and Future Updates

Overall the various Future Proof Partners have, through their planning documents, structure plans and other strategic documents, made sound provision for growth in demand for business land and floorspace over the 30 year period 2020-2050. Much of the capacity enabled is in greenfields land that is earmarked for future development. There are significant amounts of commercial floorspace enabled (well in exceedance of likely demand), as commercial businesses are more willing to occupy floors above street-level as compared to traditional industrial or retail businesses.

Our analysis indicates that there is potential for some pressure to be felt at the local level within each council, as demand for land and floorspace at the town or suburb level may not match exactly the enabled capacity. These pressures are exacerbated when the required demand margins (+15-20%) are added.

Most significantly, this pressure occurs within the Hamilton City boundary for industrial land. It is possible to reduce these pressures by ensuring that industrial land in "industrial development areas" is protected from encroachment by other uses (especially large format retail). There are some areas where commercial and retail land and GFA demand is likely to outstrip capacity within Hamilton, but these demand types are much more mobile than industrial types and are able to occupy a diverse range of locations and zones as compared to industrial uses. Where deficits occur in industrial capacity at local levels, it may be preferable for industrial-type businesses to migrate to other areas such as Te Rapa and Frankton for the co-locational and economic benefits that can be derived from such a move. We recommend that council protects industrial land for industrial uses, given that there are significant levels of commercial and retail land enabled elsewhere.

Waikato is generally well-supplied with land across the district. Much of the supply in the medium and long term is located at the northern end of the district, adjacent to the Auckland Region and State Highway 1 at Ohinewai. In the rest of the district, Raglan faces insufficient industrial land supply in the short, medium, and long term, while Huntly faces insufficient industrial supply in the medium-to-long term, and Te Kauwhata faces insufficient supply in the long term. These may not be as big an issue as initially assumed,

there is the possibility of businesses locating nearby – especially for Huntly in Horotiu. Council may have to explore options of re-zoning in Raglan, although options may be limited by topography in the area.

Waipā has sufficient capacity at almost all levels and timescales, with minor insufficiencies occurring in long term retail land & floorspace supply in the district's minor towns, and a small deficit in realistic industrial floorspace in Cambridge-Karapiro. The retail deficit is likely due to reactive zoning, and the long term growth (of +320sqm GFA) could be easily re-zoned in the future, or through redevelopment of existing land. The deficit in realistic industrial land of approximately 13,200 could similarly be realised through minor rezoning, slightly more intensive development (greater than 38% site coverage), or re-location.

Key conclusion points include;

- In general, the gap between Industrial land supply and industrial land demand is closer than for either retail or commercial. This means Councils should be particularly vigilant in terms of monitoring uptake and usage of industrial land. Industrial land is particularly sensitive to being used for other purposes. Due to its relatively low value, it is often targeted by large format retail operators who seek large footprint sites at relatively low cost. As they are destinations in and of themselves, they have the ability to drive trade their way. This changes the dynamics of cities and can lead to very significant adverse outcomes as trade is drawn away from traditional centres impacting on their ability to function and deliver amenity to the city.
- High level of cross over between retail and commercial in terms of land requirements means that they could potentially be viewed as a single entity. This may alleviate pressure felt at a local level if either one or the other is constrained.
- Reasonably strong alignment between results of the MCA framework and plan enabled capacity indicate Councils are zoning land that is appropriately located and is likely to meet developer requirements.
- Price is the key factor when establishing whether land will be developed or not. Land price encompasses a range of the variables identified within the MCA. Price is often the first hurdle to development, but not the only factor. While it is important to get the price right, price will not necessarily compensate for deficiencies in either location or other physical characteristics of a parcel of land.

The most important thing Councils can do to ensure they remain in touch with growth and change, is to constantly monitor business land development. By consistently updating datasets on development and occupancy, Councils will be well placed to address development and broader economic trends as they begin to emerge.

Monitoring should include – but not be limited to;

- Uptake of business land – quarterly or annually at the least
- Development typologies – what is being built on the land
- Occupation and use – who are the final occupiers of the land and what do they do/what sector do they belong to.

- Employment: How much employment is being achieved on the developed land.
- Market trends in locational choice and usage: What is coming down the pipeline, what are the developers and real estate agents saying about the near and far future.

1 Introduction

The Future Proof Partnership (FPP) is made up from the councils of Waikato District, Hamilton City and Waipā District. Together these Councils have been identified as a tier 1 urban environment. In accordance with the National Policy Statement – Urban Development[2] (NPS-UD or NPS), FPP must complete an assessment of both Business Development and Residential Development Capacities at least every three years. This report, prepared by Market Economics Limited (M.E) in collaboration with FPP, updates the original assessment to 2021.

The Future Proof Partners network has been identified as a "tier 1 urban environment" under the NPS-UD and is subject to a range of provisions due to this.

This assessment analysis of the FPP Business markets, including both the demand and supply sides, as well as the sufficiency of capacity provided by the Councils under their various District Plans.

This report, prepared by Market Economics Limited (M.E) delivers an update to the original Business Development Capacity Assessment (BDCA) prepared for the Future Proof Partners Business Development. A separate residential capacity assessment – the Housing Development Capacity Assessment (HDCA) – has also been undertaken and is detailed in a separate report. This BDCA focuses on the development capacity within the urban environments of each of the partnership councils, as required by the NPS-UD.

1.1 Purpose of the NPS-UD

In summary, the NPS-UD requires local authorities to ensure there is sufficient housing and business land to meet expected demands. To do so, it establishes a comprehensive staged assessment process to ensure local authorities gain a more fine-grained understanding of the economic influences on capacity and demand in order to better plan for growth.

The NPS identifies that urban environments are areas where population and economic activities are in close proximity and that they are often growing at significantly higher rates than in rural or provincial settings. This dynamism leads to unique and challenging conditions that require particular policy responses to manage the effects and to ensure that growth is managed in a manner that is both efficient and ensures that communities continue to be able to provide for their social, cultural, environmental, and economic wellbeing.

In order to effectively manage growth, it is important to understand growth within the urban environment, both population and economic. Local authorities are able to make well informed decisions if they have access to consistent and robust estimates of economic growth. Understanding the key drivers of growth

[2] http://www.mfe.govt.nz/sites/default/files/media/Towns%20and%20cities/National_Policy_Statement_on_Urban_Development_Capacity_2016-final.pdf

and the land use implications of change will assist authorities when assessing the effects of alternative policy options. In the context of business land, it will also support thriving town centres, efficient transport and infrastructure planning, and enable change that fosters the sustainable growth of the district. This information will also provide greater understanding of industries that may change over time and enable the management of possible negative effects of business activities, such as reverse sensitivity or high vacancy rates.

A key outcome of the NPS-UD is the integration of land use and infrastructure planning. This recognises that development is dependent on the availability of infrastructure, and decisions about infrastructure can shape the location and form of urban development. There are obvious benefits, particularly in terms of efficiencies, more predictable outcomes and cost savings to the wider community from ensuring consistency between all of these processes. Accordingly, the NPS-UC requires that development capacity considered in these assessments is either serviced or identified in a Future Development Strategies.

1.2 Objectives and Policies

As tier 1 local authorities, the FPP areas are subject to the full suite of objectives and policies under the NPS-UD. The objectives and policies are structured into four key themes, summarised below:

- *Outcomes for planning decisions* – these provisions establish the requirement to ensure sufficient housing and business capacity to meet demand, provide for choices, and urban environments that develop and change over time.
- *Evidence and monitoring to support planning decisions* - these provisions specify the reporting requirements, the need to monitor market indicators, and consider influences on capacity such as rate of take-up and feasibility.
- *Responsive planning* – requires a response to be initiated if the evidence base suggests there is insufficient development capacity, establishes the requirement for Councils to prepare a 'Future Development Strategy' and the setting of 'minimum targets' in regional and district plans.
- *Coordinated planning evidence and decision-making* – encourages collaboration between authorities that share jurisdiction over an urban area, and between regional and local councils.

1.3 The Business Development Capacity Assessment (BDCA)

The NPS specifies the overall requirement for the BDCA (Subpart 3 clause 3.10, Subpart 5 clause 3.19), together with a range of requirements in the Policies[3]. Each Policy assessment needs a sound analytical/technical base and good supporting information, and most need quantification to demonstrate compliance. There are many inter-linkages and inter-dependencies among the policies, which make it important to understand the NPS both holistically, and as to the specific requirements for each Policy. The individual policies cannot be satisfied if treated in isolation.

[3] Available for download from https://environment.govt.nz/assets/Publications/Files/AA-Gazetted-NPSUD-17.07.2020-pdf.pdf

Within this wide suite of policies, the major part of the technical analysis and monitoring is set out in policies clauses 3.28 to 3.30, which contribute most directly to the BDCA (and HDCA). These are addressed throughout this report.

The two assessments should help local authorities to quantify in broad terms how much development capacity should be provided in resource management plans and supported with development infrastructure, to enable the supply of business (and housing) space that meets demand. Policy PB3 requires that this assessment include how much capacity is "feasible" to develop in the current market and expected to be taken up over time. In addition, the calculation of total feasible capacity required needs to include margins over and above projected demand, to inform policies PC1 and PC2.4

The assessments should also include information about the interactions between housing and business activities, such as whether the location of activities provides for accessibility and the efficient use of land and infrastructure and how urban environments are developing and changing over time.

1.4 Approach Overview

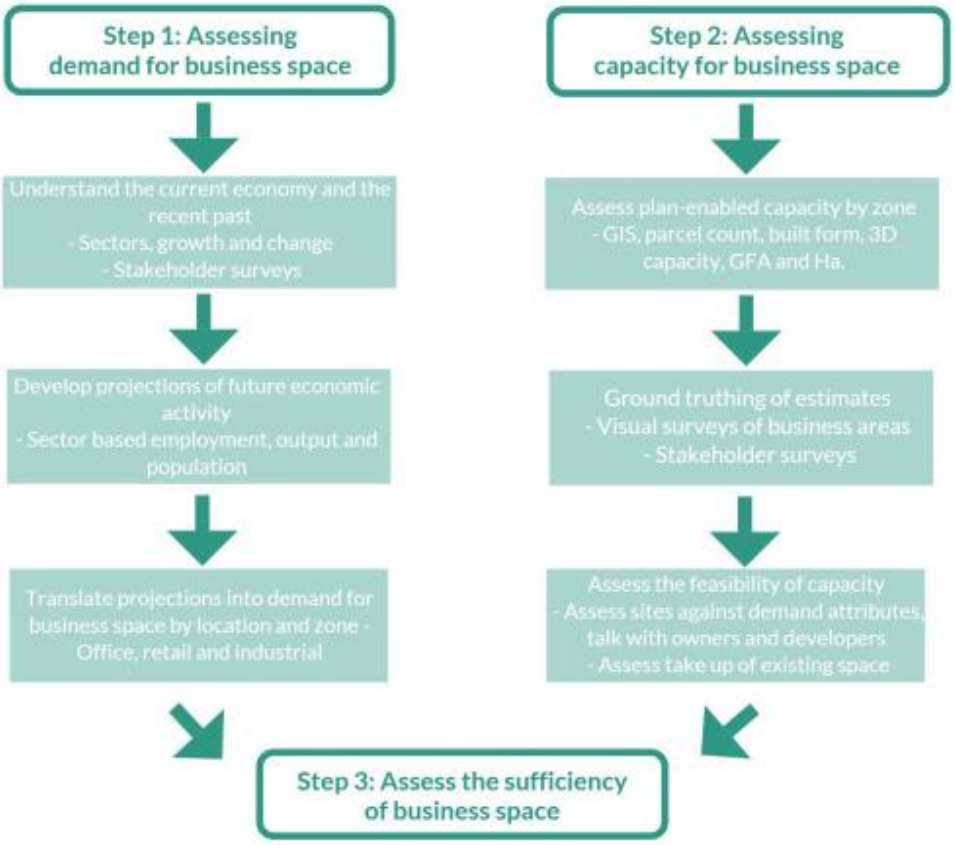
This report focuses on economic growth and how it translates into land and space requirements within the FPP urban environment. Economic growth is a key driver of development markets and is important to understand in terms of absolute scale, composition and timing. With this information, FP partners can make more informed decisions that:

- provide sufficient capacity and choices for all business uses, in appropriate locations, and an efficient allocation of capacity between them;
- support thriving town centres, efficient transport, and management of the negative effects of business activities and reverse sensitivity;
- enable constant spatial change to support economic growth and change, particularly, a greater understanding of how the role and function of the district's centres may change over time;
- understand the influences of business growth on associated demands and locations for visitor accommodation, housing and social and development infrastructure.

These outcomes would contribute to effective and efficient urban environments that enable people and communities and future generations to provide for their social, economic, cultural and environmental well-being. This information also supports informed investment and funding decisions.

The BDCA has three main stages or components of analysis for both demand and supply. The broad approach is presented in Figure 1.2. The following sections contain a narrative that addresses each stage in detail.

Figure 1.1: Business Development Capacity Approach Overview



1.5 Data Sources

The BDCA modelling draws on existing datasets as supplied to M.E by the FPP councils. Key database sets include:

- Rating databases – containing information relating to existing land uses, development patterns (e.g. floorspace), and value (CV, IV, LV)
- Published District Plans – contain information relating to activity status of development types and development rules (site coverages, heights, floor-area ratios, etc).

Several spatial datasets were also incorporated into the modelling, including:

- LINZ Primary Parcels[4] – capacities were modelled at the LINZ Primary Parcel level
- District Plan Zoning – provided by each council, including overlays, subzones, and hazards

[4] https://data.linz.govt.nz/layer/50772-nz-primary-parcels/

- Building Footprints – derived from aerial photography, used to help cross-check Rating Database information
- Greenfield Structure Plans – spatial layers detailing the land earmarked for future development, including any information on development type and capacity.

The BDCA modelling also incorporates several other datasets, including:

- WISE Model Outputs – detailing population and employment projects at the local level
- Economic Futures Model (EFM) – predicts economic growth feedbacks based on regional inputs and outputs
- Business Directory – determines the number of employees and businesses within a geographic area based on census information.

Some further data was provided to M.E from within each individual FPP council. This related to the ground-truthing of available capacity.

1.6 Stakeholder Engagement

The NPS-UD requires local authorities to seek and use the input of particular local groups with relevant expertise. This helps ensure that local development perspectives inform assessment of feasibility and that local market conditions are fully represented in the analysis. In particular, local engagement has been used to assist in identifying characteristics of land and location that make development feasible across the range of development sectors. Local engagement has also been used to quantify the relative importance of land and locational characteristics in the development of a Multi Criteria Analysis (MCA) framework used to assist in ranking development opportunities.

The stakeholder engagement process was undertaken in the form of a workshop where those attending participated in a discussion of the relevant issues and requirements relating to business developments. The discussion was led by M.E, with support from council staff within the FPP. The Workshop was held on January 19th 2018, with results collated and incorporated into the MCA.

Representatives of the development community, commercial land real estate agents, and large commercial development operators were included in the workshop, along with key Council staff engaged in the development process.

1.7 Terminology and Definitions

There are some key terms used in this report that are defined here:

- **Base year**: the base year of this assessment is 2020. Capacity estimates have been based on 2020 valuation information and structure plans. Demand projections have been calculated for every year from a 2018 base, to coincide with Statistics New Zealand information.

- **Business Land**: land that is zoned for business uses in urban environments, including but not limited to land in the following examples of zones:
    - Industrial.
    - Commercial.
    - Retail.
    - Business and business parks.
    - Centres (to the extent that this zone allows business uses).
    - Mixed use (to the extent that this zone allows business uses).

  It is important to note that the above zone codes are not exclusive. A piece of land is likely to be zoned for a wide range of activities. The Resource Management Act is essentially an enabling Act, this means that TAs ensure that they cater for a wide range of activities being enabled in business zones. Compatibility of activities is key as is ensuring that any adverse impacts or emissions are able to be dealt with in a manner that does not harm surrounding land uses.
- **Business Demand**: The demand businesses place on the land or commercial property market for space. This is initially defined in terms of additional employment or turnover, translated into GFA and ultimately appropriately zoned land.
- **Economic growth**: Employment or GDP growth over time.
- **Short term**: up to three years measured from the base year, 2020-2023.
- **Medium term**: 4-10 years measured from the base year, 2023-2030.
- **Long term**: 11-30 years measured from the base year, 2030-2050.
- **Feasible**: Development that is commercially viable to a developer, taking into account the current likely costs, revenues and yield of developing. Feasibility has a corresponding meaning. Note that feasibility assumes that the land is enabled for development by the plan and supported by public infrastructure.
- **Industrial Land**: Land that has been zoned for industrial activities under the relevant District Plan (in this case the proposed District Plan). The zones in this group are likely to be Heavy Industry and Light Industry. This land generally enables industrial type activities (manufacturing, wholesale, logistics and distribution, trade suppliers etc.), usually at the expense of significant office or retail activity.
- **Heavy Industry**: Defined according to its emissions. Whether it is noise, or discharges to air or water, the industry is likely to require buffering from residential activities.
- **Light Industry**: Generally the balance of manufacturing activity that does not generate noxious discharges or noise pollution. Needs for buffering is less or non-existent. Light Industrial activities can be used to buffer heavy industry.

- **Industrial space**: This is limited to the ground floor in nearly all cases. Height limits in industrial zones do not necessarily add floorspace capacity the way they do in commercial zones.
- **Realistic industrial space (RIS):** M.E have applied a reduced site coverage of 38.3% to industrial zoned land, to better reflect industrial development patterns.[5]
- **Commercial land**: Land that is zoned for commercial activities – usually office or retail activity. Manufacturing activities are generally not enabled on commercial land.
- **Commercial Space**: The build floorspace on land zoned commercial. This space is calculated by multiplying site size by the Floor Area Ratio (FAR) or building coverage by the number of floors allowed under the height limits. Not all zones have FAR's or height limits, so a flexible approach is adopted. Ground floor commercial space in centres generally represents retail capacity, while above ground floor space generally represents office employment capacity or visitor accommodation.
- **Retail Space**: Usually ground floor commercial space dedicated to selling goods and services to consumers. May also occur above the ground floor.
- **Office Space**: Usually above ground Commercial floorspace used for office activities.

Other terms used throughout this report draw on commonly used zoning terminology. Appendix 2 contains a list of acronyms used.

1.8 Report Outline

This report is structured as follows:

Section 2 describes the study area and urban environment of the Future Proof Partners. This section details the approach and spatial framework used.

Section 3 describes the district economy, including current economic indicators and key sectors. It also describes recent changes within the local economy, and drivers of economic growth.

Section 4 describes future business land and floorspace demand by sector. It describes how employment types are aggregated to different floorspace types, thereby defining the demand projections.

Section 5 describes the plan enabled business land and floorspace capacity by sector within each of the councils.

Section 6 contains the development feasibility for each of the sector types, based on a Multi Criteria Analysis.

[5] The 38.3% site coverage was derived from the average site coverage in the Te Rapa North industrial zones, and reflects our assumption for industrial space availability going forward. District Plan rules indicate site coverages of between 58% and 80% for industrial type zones.

Section 7 brings the results from sections 4 and 5 to discuss the sufficiency of capacity for the different sectors within the Future Proof Partners network. This section also covers the MCA work and makes recommendations for Council monitoring key areas.

Section 8 contains an overview of the work carried out, identifies some key issues throughout the process and some key learnings.

2 Study Area - Urban Environment

The NPS-UD describes the urban environment as being characterised by the closeness of people and places, and the connections between them. They are places of high economic and population growth and while they share common elements, each has unique characteristics generating identity and advantage. Urban environments are places of rapid change, managing change and growth is therefore important for council seeking to ensure the urban environments continue to provide for people and communities wellbeing.

2.1 Geographic Context

The FPP network contains a land area totalling 6,034 km^2, of which Waikato District makes up 4,453 km^2 (73.8%), Waipā District makes up 1,470 km^2 (24.4%), and Hamilton City makes up 111 km^2 (1.8%). The combined area is located within a geographically significant sector of the North Island, sitting astride a large portion of the 'Golden Triangle' (Hamilton-Tauranga-Auckland).

Within the Future Proof Partnership there is one distinct city (Hamilton) along with 4 significant urbanised townships (Te Awamutu and Cambridge in Waipā and Tuakau and Ngāruawāhia in Waikato District), and a number of smaller towns (Huntly, Raglan, Pokenō, and Te Kauwhata), captured in Figure 2.1. Towns and townships are primarily located along State Highways, interspersed by tracts of rural land. These rural areas represent some of the most exceptional agricultural land in the country.

The FPP's proximity to Auckland means that areas such as northern Waikato are experiencing significant pressure to develop and expand urban amenities as housing supply and affordability issues in Auckland drive growth out to the neighbouring districts. This exacerbates internal population growth and puts further pressure on the current infrastructure.

Figure 2.1: Future Proof Partners Study Area

2.2 Spatial Framework - Land Use Zones

Modelling of business demand and capacity within the FPP area occurs at the Statistical Area level (SA2's), with demand growth based on outputs from the WISE[6] model. This allows a relatively granular view across the FPP area, which can be aggregated to a range of geographic scales, enabling the results to be output at to the level of key urban geographies, such as towns or other reporting areas as required. It is important not to assess levels of sufficiency at the SA2 level, as demand is mobile and the relatively short distances within Hamilton City[7] for example, mean that economic activity can be aggregated in an efficient manner while still meeting the wider needs of the community. It is still important to ensure that local needs are met locally – especially with respect to a portion of retail and services which should be met within local centres within or adjacent to residential areas. Overall, given the relatively cohesive nature of business activities within the Future Proof Partnership area, it is possible to allocate SA2s to reporting areas.

Within the Hamilton City portion of the FPP BDCA, a specialised set of catchments has been created based upon existing development types and any known future developments. The Hamilton City spatial framework is displayed in Figure 2.2. These are broadly based on existing zoning and greenfields earmarked for future development. Frankton, CBD, and Chartwell are largely developed already. Te Rapa is a mixture of developed industrial land uses and greenfield developments, while Ruakura is primarily greenfield at the moment.

For both Waikato and Waipā Districts, all modelled outputs have been aggregated to the a combination of towns based on geographic location, to effectively capture the range of urban towns and townships in both districts. These can be seen in Figure 2.3 and Figure 2.4 for Waikato District and Waipā District respectively.

Urban areas within Waikato District have been aggregated to: Pokenō, Tuakau, Te Kauwhata, Huntly, Ngāruawāhia, Raglan, and Rest of Waikato. Waikato District requires a larger range of reporting areas because of the relatively spread spatial distribution between the towns.

Urban areas within Waipā District have been broadly aggregated to: Cambridge-Karapiro, Te Awamutu-Kihikihi, Rukuhia-Ngahinapouri-Ohaupo-Pirongia, and Rest of Waipā. Cambridge-Karapiro and Te Awamutu-Kihikihi have been combined based on the proximity of the satellite towns to the major centres, while Rukuhia, Ngahinapouri, Ohaupo, and Pirongia effectively create network of well-connected towns for assessment.

[6] Waikato Integrated Scenario Explorer.

[7] 5km in a straight line from the CBD is rural land to the west and east, while the north south distances are only 7km

Figure 2.2: Hamilton City Spatial Framework

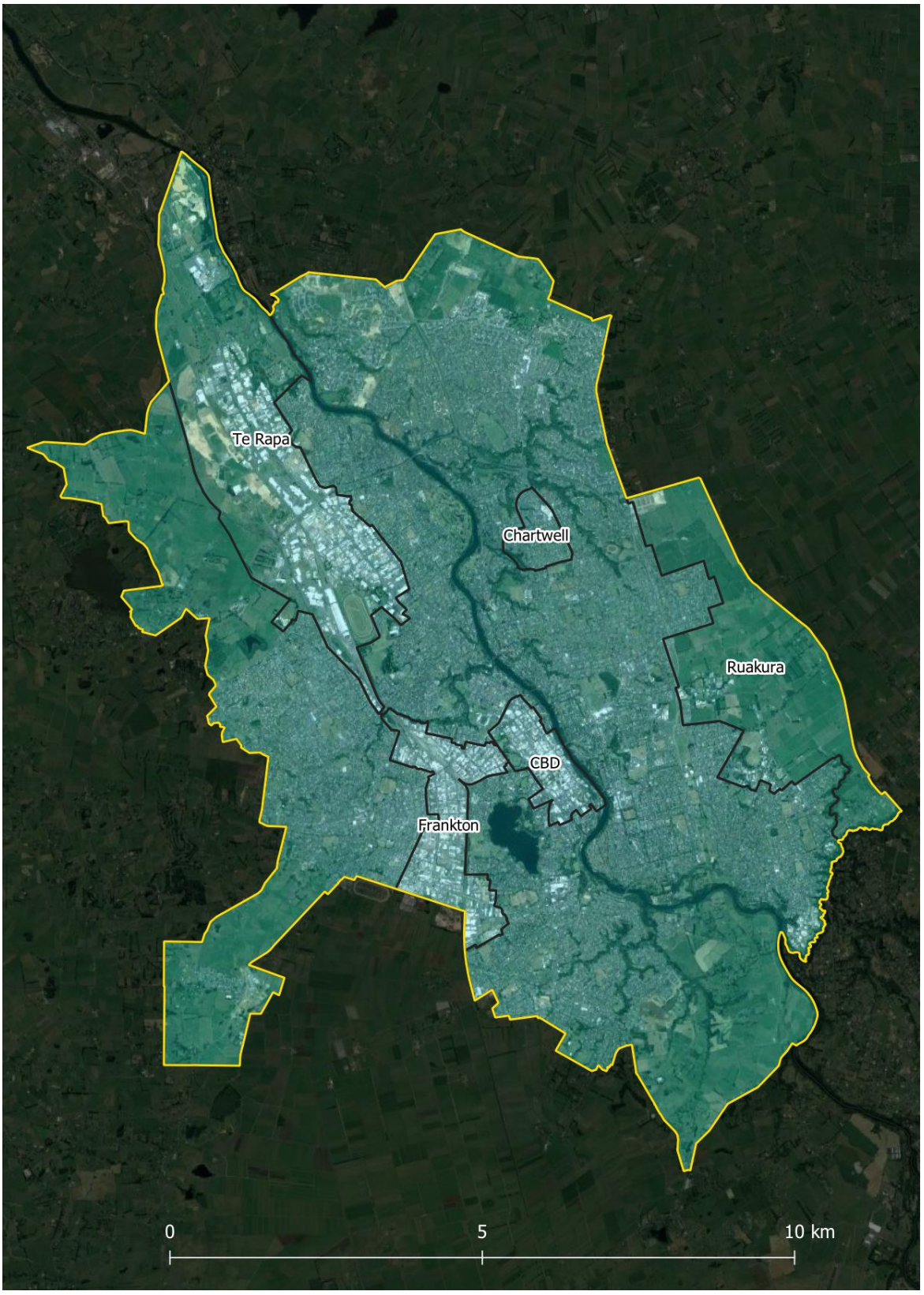


Figure 2.3: Waikato District Spatial Framework

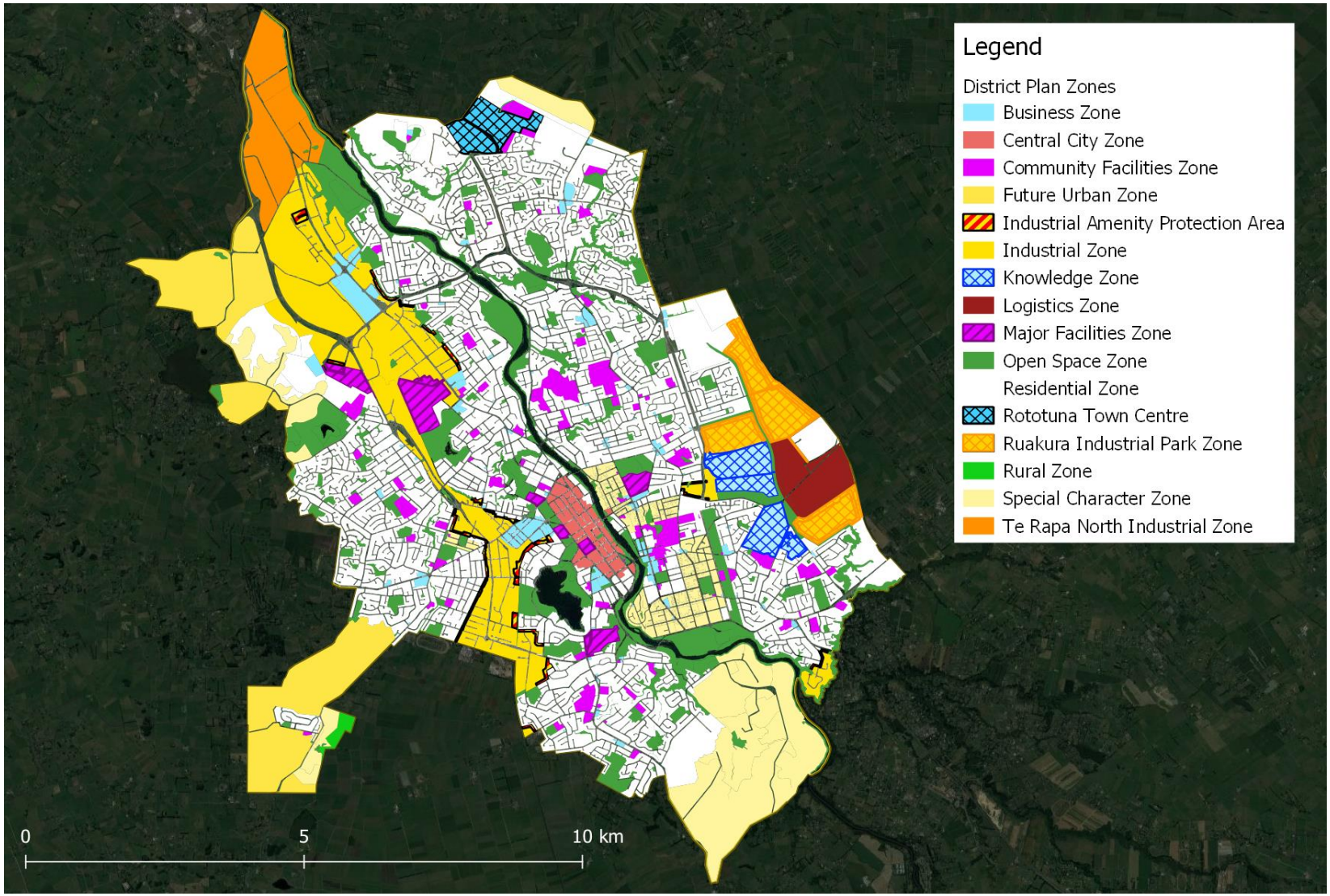
Figure 2.4: Waipā District Spatial Framework

The District Plan zones were key in determining the urban areas assessed by the BDCA, largely due to the fact that they effectively distinguish urban developments and land uses compared to rural land uses. The zones included in the BDCA were selected based on the activities allowed, and the objectives for the zones. Anywhere that urban development was recognised as a priority was included in the analysis. Although it is recognised that there may be some capacity within the rural environment within each of the FPP councils, these were not modelled except where a structure plan existed.

2.2.1 Hamilton City

Hamilton City contains a wide range of zones, due to the complex range of residential, business, environmental and rural land types that exist within the city boundary. Figure 2.5 displays the main District Plan zones as they occur across the city. The zones within the city are further defined by the inclusion of sub-zoning information, which reflect differing rules and requirements reflecting the desired objectives and development patterns put forth by Hamilton City Council.

Figure 2.5: Land Use Zones in Hamilton



The key zones assessed within the Hamilton City FPP BDCA are the;

- Business Zone,
- Central City Zone,
- Industrial Amenity Protection Area,
- Industrial Zone,
- Knowledge Zone,
- Logistics Zone,
- Ruakura Industrial Park Zone, and the
- Te Rapa North Industrial Zone.

Each of these zones has been further informed by subzones within the District Plan. The BDCA also incorporates related greenfield structure plans and associated information relating to these.

The Business Zone is a key zone within the BDCA assessment for Hamilton City. This zone is located in key clusters throughout the city, reflecting the location of key commercial and retail centres. The Business Zone is split by seven subzones, reflecting the varied nature of business activities across the city. The subzones include Commercial Fringe, Events Facilities Fringe, Sub-Regional Centre, Large Format Retail, Suburban Centre Core, Neighbourhood Centre, and Suburban Centre Core. As the names of these imply, each of these subzones have distinct development characteristics and permitted activities which have been distinguished within the BDCA. The intensity and type of development is variable throughout the subzones, with all space types – including industrial uses – represented within the Business Zone.

The City Centre Zone complements the Business Zone within the BDCA for Hamilton City. This zone is confined to the main city centre, and is split by the Downtown, City Living and the Ferrybank Precincts which act as subzones. The City Centre Zone largely supports commercial and retail activities, though there is some competition for residential accommodation in the form of apartment complexes. Development patterns within the City Centre Zone are intensive compared to other zones within the city, as might be expected of the key commercial hub within the urban area.

The Industrial Amenity Protection Area (IAPA) is a relatively small zone, existing on the edges of the Industrial Zone within the city. This zone is primarily used as a buffer to stop encroachment and reverse sensitivity of the residential zones surround the Industrial Zone at key points. Although some development is allowed in the IAPA, it is restricted. Overall this zone is not key within the BDCA, though it is assessed for completeness.

As the name implies, the Industrial Zone is the key zone within Hamilton City for enabling industrial type development and activities. The Industrial Zone is primarily represented in large clusters around Te Rapa and Frankton, with smaller pockets in Riverton and eastern Claudelands/western Ruakura. Developments within the Industrial Zone are generally warehouse, factory, or yard based with large lot sizes (and large buildings in the case of warehouses and factories). The Te Rapa cluster is comprised mainly of large lot activities, and relatively low intensity development. The Frankton cluster is more intensive, with smaller

buildings grouped together on smaller sites, though there are some large yard-based developments to the south. The Industrial Zone defines key clusters of existing industrial business activity within the city, with little room for extra development.

The Knowledge Zone is a confined zone within Hamilton City, home to the main tertiary education and research facilities within the city. The zone is comprised of three subzones: The University of Waikato Campus, Ag Research, and Waikato Innovation Park subzones. All enable the same activities and are more reflective of the organisations occupying the area rather than different development patterns. This zone primarily enables commercial uses relevant to research and academia, especially offices and educational facilities, as well as some storage facilities where required. Vacant areas in these subzones are primarily reserved for similar activities, though capacity is still available.

The Logistics Zone is one large cluster confined to Ruakura. Currently, the zone is undeveloped rural land, earmarked for future industrial development. The zone rules allow for warehouse- and yard-based activities, meaning that the Logistics Zone provides potentially significant amounts of industrial capacity. Although not currently developed, it is key to assessing future urban capacity within Hamilton City and so is included in the BDCA.

The Ruakura Industrial Park Zone (RIPZ) is key to providing capacity for the inland port that has been consented in Ruakura. Much of the area is currently rural farmland and undeveloped, which means that there is likely to be significant capacity identified here within the BDCA. The zone is likely to host mainly industrial land uses such as yard- and warehouse-based activities. The RIPZ will likely work in conjunction with the Logistics Zone described above. Although not currently developed, it is key to assessing future urban capacity within Hamilton City and so is included in the BDCA.

The Te Rapa North Industrial Zone (TRNIZ) is the final of the primary zones assessed within the BDCA in Hamilton. The TRNIZ is located to north of the existing industrial developments in Te Rapa and is largely undeveloped. The zone is split into Deferred Industrial, Heavy Industrial, and no subzones. Likely development patterns into the future are similar to those existing in the Industrial Zones, with extra emphasis on large-scale, heavy industry (factories, processing plants, etc) land uses. As with the Logistics Zone and the RIPZ, the TRNIZ is likely to provide significant capacity to industrial space types. Although not currently developed, it is key to assessing future urban capacity within Hamilton City and so is included in the BDCA.

Adding to the complexity of these zones, greenfield structure plan information was provided to M.E to enable detailed analysis of the greenfield areas within Hamilton. In the BDCA, this is especially relevant to the Logistics Zone and the Ruakura Industrial Park Zone, as well as portions of the Industrial Zone to the west of the existing developments at Te Rapa. Where this data was provided, M.E used it in place of the zoning information because of the more accurate information that was available (especially relating to spatial extents).

Together, the above zoning and the greenfield structure plan data was used to delineate the urban study area used in the Hamilton City section of the BDCA.

2.2.2 Waikato District

The Waikato District contains a wide range of zones, due to the complex range of residential, business, environmental and rural land types that exist across the district. Adding to this complexity, the operative district plan contains two separate planning sections that interact with the planning zones to alter the rules and activities in some cases. There are further changes in rules and zoning under the proposed district plan. The zoning within the proposed district plan is more simple than in the operative district plan, reducing the number of sections down to one and combining zoning. There are also greenfield areas earmarked for development under the Waikato 2070 strategy. The BDCA takes account of all of these rules to assess capacity across each of the locations.[8] Figure 2.6 shows the existing zones as determined by the Waikato Operative District Plan.

The key zones assessed within the Waikato District section of the BDCA are:

- Business,
- Heavy Industrial,
- Industrial,
- Industrial 2,
- Industrial Park,
- Light Industrial, and the
- Village Business zone.

As with Hamilton City, some greenfield structure plan information was supplied to M.E to augment the zoning information and thereby define the urban study area used in the BDCA. This was in the form of the Waikato 2070 designations.

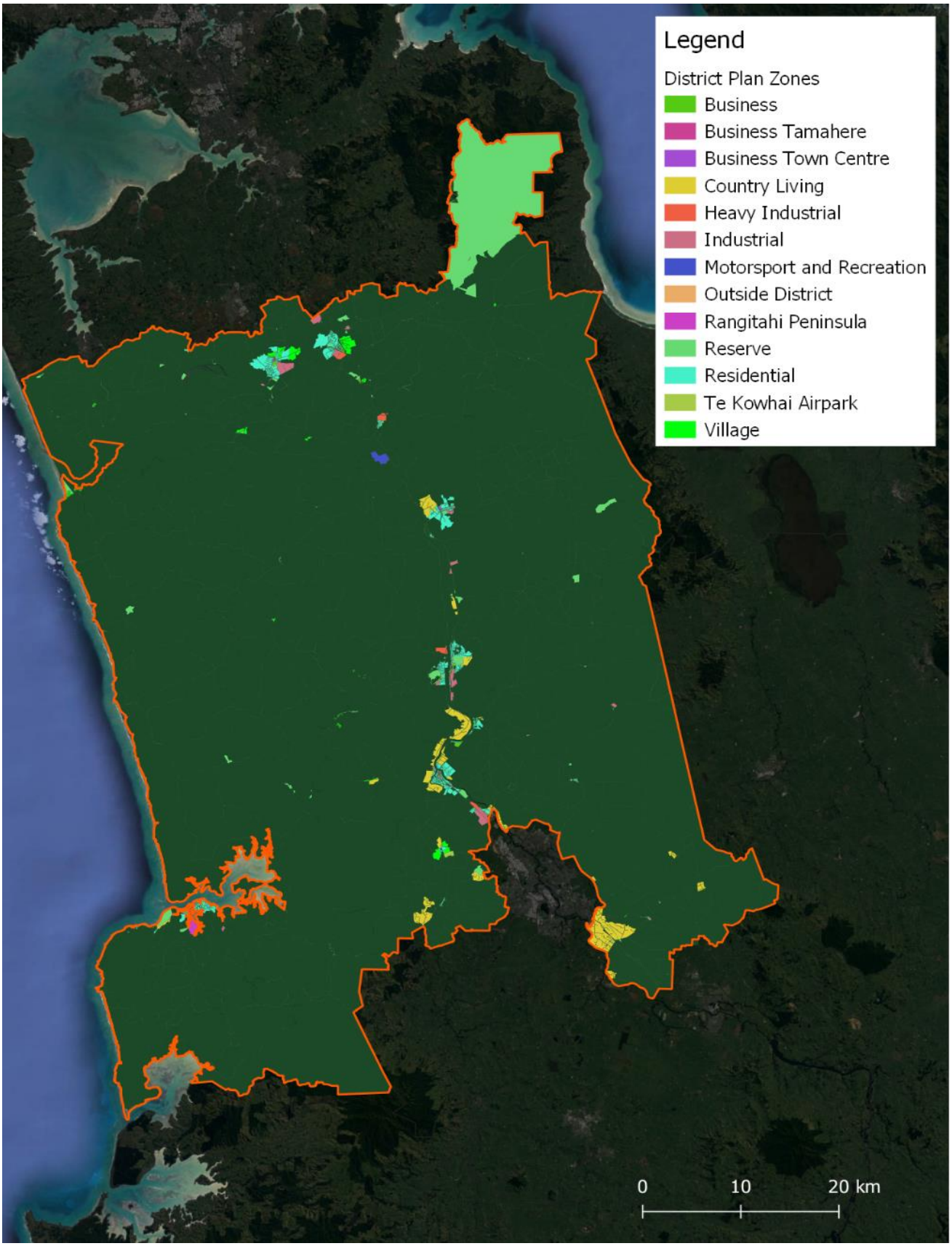
The Business Zone in the Waikato District defines the key commercial and retail activity centres within the District Plan. This zone is found in all major towns through the district, including larger centres such as Pokenō, Tuakau, Te Kauwhata, Ngāruawāhia, Huntly, Horotiu and Raglan. There are some small clusters of Business Zones within minor townships as well, reflecting spot zoning where commercial or retail activities have been developed. Generally, the Business Zones are located in the centre of each urban cluster with residential and other business zoning surrounding these, consistent with historic urban development patterns. In some cases there are business zones located outside the main centre where businesses have established. All these scenarios are taken into account within the BDCA.

The Heavy Industrial Zone is located solely within the Waikato Section of the Waikato District Plan zoning areas. This zone is located primarily on the outskirts of the Meremere, Huntly and Horotiu, where they are occupied (or have previously been occupied) by heavy industrial activities such as processing plants and

[8] Further information regarding this will be supplied in the following HDCA Technical Report.

power stations. The clusters within this zone are included in the BDCA due to their potential for capacity for industrial uses, especially at the decommissioned Meremere Power Station.

Figure 2.6: Land Use Zones in Waikato



The Industrial and Industrial 2 Zones are located adjacent to Pokenō and Tuakau. Both zones primarily allow for industrial land uses such as warehouse, yard, and factory-based activities. The zones are mostly undeveloped, though the Industrial 2 zone in Pokenō is currently under development. These zones are likely to provide locally significant industrial capacity to the Franklin portion of the Waikato District, and have been incorporated into the BDCA due to this.

The Industrial Park Zone (IPZ) is located solely within Horotiu and is currently under development. The Industrial Park Zone has been established to work in combination with the Ports of Auckland inland hub that is also in the process of being developed. The activities located within the IPZ are centred around manufacturing and warehousing, meaning it enables some industrial activity and capacity. It is included in the BDCA due to the role it plays in providing industrial capacity for the southern Waikato.

The final zone included in the Waikato District potion of the BDCA is the Village Business Zone. This zone is reflective of small local businesses located in small townships such as Otaua, Mercer, Mangatangi and Naike. The capacity in this zone is likely to be limited due to the small-scale nature of the zoning but is included in the BDCA for completeness.

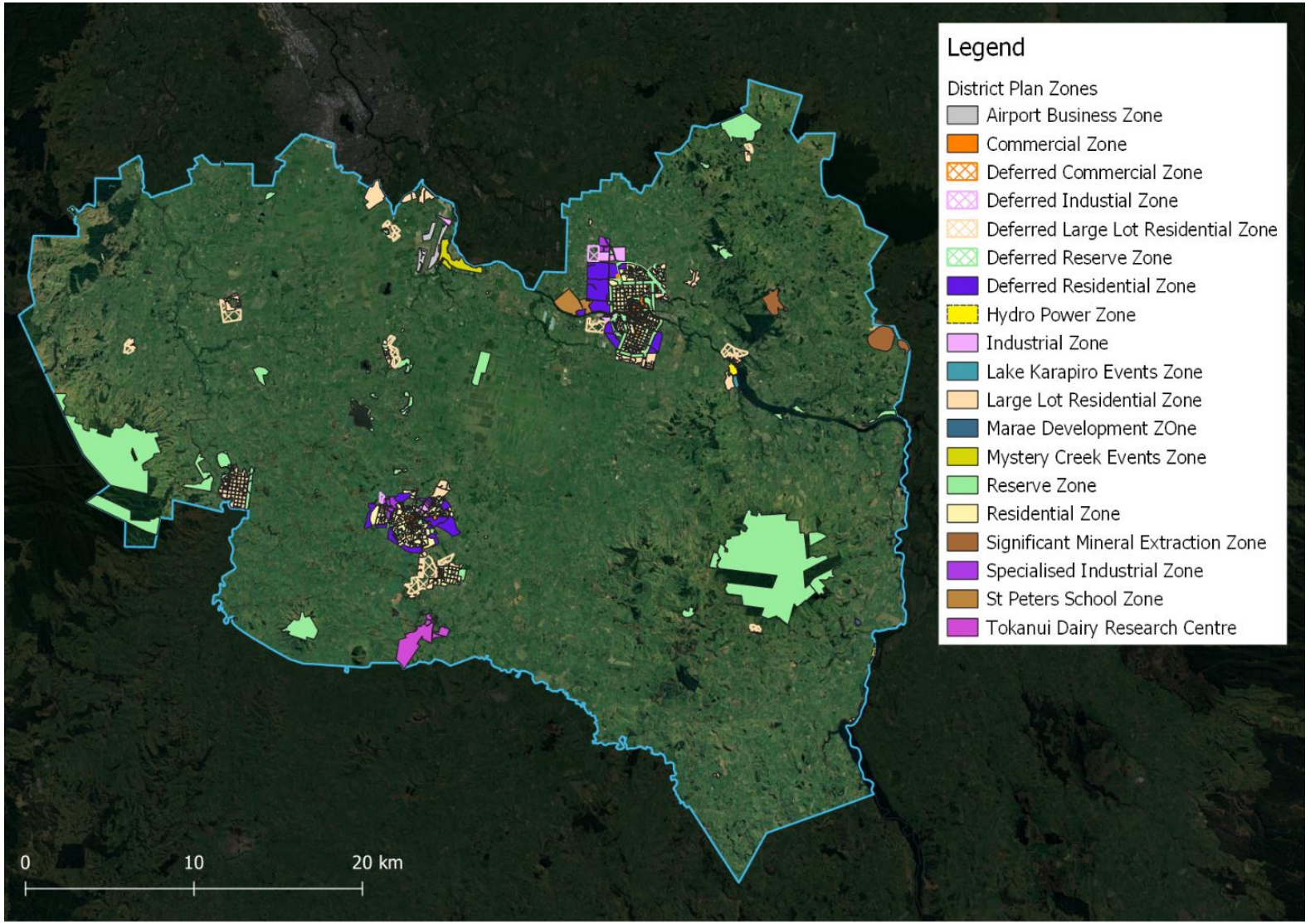
As with the Hamilton City BDCA, the Waikato District BDCA incorporates greenfield structure plan information. Three key greenfields areas around Pokenō, Tuakau and Horotiu have been earmarked for urban industrial uses, so have been included in the BDCA due to the role that they play for the future of the Waikato District business land.

Together, the above zoning and the greenfield structure plan data was used to delineate the urban areas assessed for development under the Waikato District section of the FPP BDCA.

2.2.3 Waipā District

As with the other Future Proof Partners, the Waipā District has a distinctive set of zones that enable a range of uses balancing business, residential, environmental, and recreational land uses. As compared with the other FPP councils however, the zones in Waipā District are less complex to incorporate into the BDCA model. The spatial distribution and full list of zones can be found in Figure 2.7.

Figure 2.7: Land Use Zones in Waipā



The key zones assessed under the Waipā District BDCA are the:

- Airport Business Zone,
- Commercial Zone,
- Deferred Commercial Zone,
- Industrial Zone,
- Deferred Industrial Zone,
- Lake Karapiro Events Zone,
- Mystery Creek Events Zone, and the
- Specialised Industrial Zone.

The Airport Business Zone solely exists as a zoned area around the Hamilton Airport. Although the activities allowed here are relatively restricted due to the sensitivity of the airport, there is the potential for a range of commercial, retail, and industrial uses to occupy the vacant land areas. Currently a 75 hectare mixed use industrial and commercial development is taking place in and around the Airport Business Zone. This development is important for the business land supply of the region and has caused the Airport Business Zone to be included into the BDCA on this basis.

The Commercial Zone is located in clusters within the main urban settlements of Cambridge, Te Awamutu, Kihikihi and Pirongia. The Commercial Zone forms the basis for the town centres within these towns and is home to the main retail and commercial activities that exist. The Deferred Commercial Zone exists solely in Cambridge, in an area that is currently dedicated to industrial type activities. This zone has been earmarked for redevelopment into commercial and retail uses within the District Plan. Together the Commercial and Deferred Commercial Zones form the heart of non-residential urban developments within the Waipā District. Due to their importance in the urban geography of the district, they have been included in the BDCA.

The Industrial, Deferred Industrial, and Specialised Industrial Zones (SIZ) together establish the locations available for industrial land uses throughout the Waipā District. These are primarily located on the outskirts of the urban towns of Cambridge, Te Awamutu and Kihikihi, with a large area of land also zoned to the north of the Hamilton Airport. The Industrial Zone acts as a general catchall for light and heavy industrial activities, including warehousing, factory processing, and yard-based activities. The Deferred Industrial Zone is undeveloped land that has been earmarked for industrial development at a later stage. The SIZ contains key industrial sites, most significantly the Fonterra dairy processing plants. The SIZ is relatively restricted compared to the other industrial zones, only allowing activities that are complementary to dairy processing activities. These three industrial zones together have been included within the BDCA as a means to effectively assess the industrial capacity of the Waipā District.

The Lake Karapiro and Mystery Creek Events Zones have also been included in the BDCA. The two zones provide locally significant areas of land, with the Mystery Creek Events zone totalling nearly 47 hectares. These have been included because of their ability to provide land capacity for commercial and industrial

employment. These sites are largely vacant, and although they are currently reserved for events, their potential land capacity is included in the BDCA for completeness.

3 The District Economy

In this section a broad overview of the Future Proof economy is provided. The structure and make-up of the current economy and broad trends are discussed along with a disaggregation across the three TA's that make up the area. Sectors that are expected to drive future growth are identified and outlined.

3.1 The Current Economy

The Future Proof Area is made up of three TLAs. There are significant differences between the three economies that reflect the different roles each play within the FPP. Hamilton has high relative concentrations of employment in the public sector – public administration and safety, health and education financial and Insurance, and the social assistance and other services sectors. In addition, high concentrations of retailing, manufacturing and utilities reflect its role as the regions prime city.

The economies of both Waikato District and Waipā District are heavily reliant on the primary production sectors for employment (24% and 14% respectively). Hamilton City relies on the primary sector to feed its industrial and service sector base. Hamilton therefore, has an indirect employment relationship with the farming sectors.

Waikato and Waipā are noticeably different from each other. A portion of this difference is driven by the location of minerals such as coal and aggregate and the relative location of the districts relative to Auckland. Waikato District has the highest concentration of construction sector employees as the spill-overs from Auckland begin driving growth in; Pokenō, Tuakau, Te Kauwhata and the large infrastructure projects such as the Southern Motorway extension towards Hamilton. Mining and Quarrying are also highly concentrated in Waikato. The District accounts for over 7% of the nation's employment in this sector, yet less than 1% of total NZ employment. The key drivers are coal and aggregate for Auckland.

Waikato also has lower concentration of tertiary sectors (retail trades, hospitality, financial and professional services, administration, health care social and other services) with both Hamilton and Auckland providing the majority of these services to the district.

Waipā District also has high reliance of the agricultural sectors for employment with a locational quotient of 2.17 (compared with FPP overall). The construction sector is also strongly represented reflecting high levels of residential and civil construction. However, unlike Waikato, Waipā has higher than expected concentrations of retail activity, transport, postal and warehousing and Arts and Recreational services. This last sector is important as it captures the high-performance sports facilities that Waipā District is beginning to see concentrated around Cambridge (Rowing at Karapiro and Cycling at the Velodrome in Cambridge).

Again, as with Waikato, professional and financial services are under-represented in Waipā as Hamilton City businesses meet the wider needs of the FPP.

3.1.1 Sector Level – Employment

Waikato District accounts for 16% of total FPP employment. Employment is highly concentrated into primary production sectors, manufacturing and construction. Agriculture, Forestry and Fishing account for 24% of the total (6,005 MECs in 2020) with Construction a further 14% (3,400 MECs) and Manufacturing 12% (3,030 MECs). Note, as with the original assessment, employment is measured in Modified Employee Counts or MECs. This is a metric composed of employees and working proprietors.

Hamilton City hosts the largest number of employees, making up 68% of the total FPP workforce. Employment is spread over a range of sectors, in line with its role as the main city within the Waikato and New Zealand's 4th largest city.

The Health Care and Social Assistance sector engages 17,000 MECs (16.2% of total employment within Hamilton City), followed by Manufacturing with 10,430 MECs (9.9%), Retail trade with 10,250 MECs (9.5%), Construction with 9,990 MECs (9.5%), Professional, Scientific and Technical Services with 9,950 MECs (9.4%) and Education and Training with 9,380 MECs (8.9%). The level of employment in these sectors reflects Hamilton's role as an urban centre, meeting the needs of a wide population across the FPP and beyond.

Waipā District employs 16% of all MECs within the Future Proof Partners area. As with Waikato District, the largest sectors are Agriculture, Forestry and Fishing (3,560 or 14.4% of the total 24,770), Construction 3,110 or 12.5% of the total and Manufacturing (2,450 or 9.9%). Since the last HBA was prepared, Agricultural employment has declined in the District in absolute terms and as a percentage while Construction has grown strongly.

Compared to Waikato District however, the Retail Trade sector employment in Waipā is higher in absolute numbers (2,430 versus 1,070 MECs), equating to 9.8% of all employees within the District vs 4.3% in Waikato. This trend is reflected in other service sectors as well reflecting the effect of Auckland's proximity to Waikato District driving less internal self-reliance compared with Waipā.

The employment trends are also reflective of urban environments within the Waikato and Waipā Districts. Urban-centric sectors within Waipā District have a higher overall concentration of MECs than the same sectors within Waikato District. Along with the fact that Waipā District is only one-third the size of Waikato District (Section 2.1), the employment trends imply that Waipā District is overall more urban in terms of the economy than Waikato District. This is consistent with the spatial development of the two districts, wherein Waikato District is extensive with many small towns interspersed by rural areas, while Waipā District is centred largely around the two larger townships of Cambridge and Te Awamutu-Kihikihi.

Figure 3.1: FP Partners Employment (MECs), 2020

Sector	Hamilton	Waikato	Waipa	Total FPP
Agriculture, Forestry and Fishing	723	6,005	3,564	**10,292**
Mining	51	423	25	**499**
Manufacturing	10,427	3,031	2,448	**15,906**
Electricity, Gas, Water and Waste Services	1,121	308	181	**1,610**
Construction	9,989	3,404	3,105	**16,497**
Wholesale Trade	4,740	625	978	**6,343**
Retail Trade	10,246	1,069	2,427	**13,743**
Accommodation and Food Services	6,319	1,200	1,465	**8,984**
Transport, Postal and Warehousing	2,412	782	922	**4,116**
Information Media and Telecommunications	1,110	107	129	**1,346**
Financial and Insurance Services	1,789	115	292	**2,197**
Rental, Hiring and Real Estate Services	1,848	557	499	**2,903**
Professional, Scientific and Technical Services	9,946	1,394	1,680	**13,020**
Administrative and Support Services	6,158	716	688	**7,562**
Public Administration and Safety	6,139	943	660	**7,743**
Education and Training	9,382	1,932	2,065	**13,379**
Health Care and Social Assistance	17,002	1,257	1,912	**20,171**
Arts and Recreation Services	1,855	527	739	**3,121**
Other Services	3,997	623	993	**5,614**
TOTAL	105,252	25,018	24,774	**155,044**

Source: Statistics NZ Business Directory, 2020

Figure 3.2: FP Partners Businesses (GEOs), 2020

Sector	Hamilton	Waikato	Waipa	Total FPP
Agriculture, Forestry and Fishing	246	2,585	1,666	**4,497**
Mining	11	28	11	**50**
Manufacturing	835	443	325	**1,603**
Electricity, Gas, Water and Waste Services	53	28	30	**112**
Construction	2,047	1,294	1,016	**4,357**
Wholesale Trade	674	225	245	**1,144**
Retail Trade	1,357	342	418	**2,118**
Accommodation and Food Services	750	192	227	**1,169**
Transport, Postal and Warehousing	464	236	185	**885**
Information Media and Telecommunications	143	50	36	**229**
Financial and Insurance Services	1,039	479	429	**1,947**
Rental, Hiring and Real Estate Services	3,000	1,829	1,437	**6,266**
Professional, Scientific and Technical Services	1,764	716	608	**3,088**
Administrative and Support Services	680	254	204	**1,137**
Public Administration and Safety	115	47	27	**189**
Education and Training	457	217	146	**820**
Health Care and Social Assistance	1,118	314	285	**1,716**
Arts and Recreation Services	286	187	217	**689**
Other Services	917	361	342	**1,620**
TOTAL	15,955	9,828	7,852	**33,634**

Source: Statistics NZ Business Frame, 2020

The composition of businesses within the Future Proof Partnership councils mirror that of the MECs, with Hamilton City largely comprised of urban-centric businesses, while Waikato and Waipā Districts have a large number of Agriculture, Forestry and Fishing sector businesses.[9]

Hamilton houses 47% of the businesses within the FPP area (a drop of 1% compared with 2016) but these businesses are larger on average as it employs 68% of the total employees. The average business in Hamilton employs 6.6 workers (up 0.3 from 2016), whereas the average in Waikato District is only 2.6 and Waipā 3.2 MECs/Geo Unit (0.1 and 0.3 MECs/Geo respectively).

3.1.2 Key economic sectors

In terms of the distribution of employment by sector. Hamilton has high levels of relative employment in the higher order service sectors, (Finance and Insurance, Communications, Administration and Health Care and Social Services). This is as expected given its role as the Waikato Regional Centre.

[9] The large number of Rental, Hiring and Real Estate Services businesses as compared to MECs are the result of inactive companies and shell corporations.

Waikato District has a stronger primary sector, extractive industries and utilities focus (electricity and gas generation and water and waste services).

Figure 3.3: FP Partners Businesses (Share %), 2020

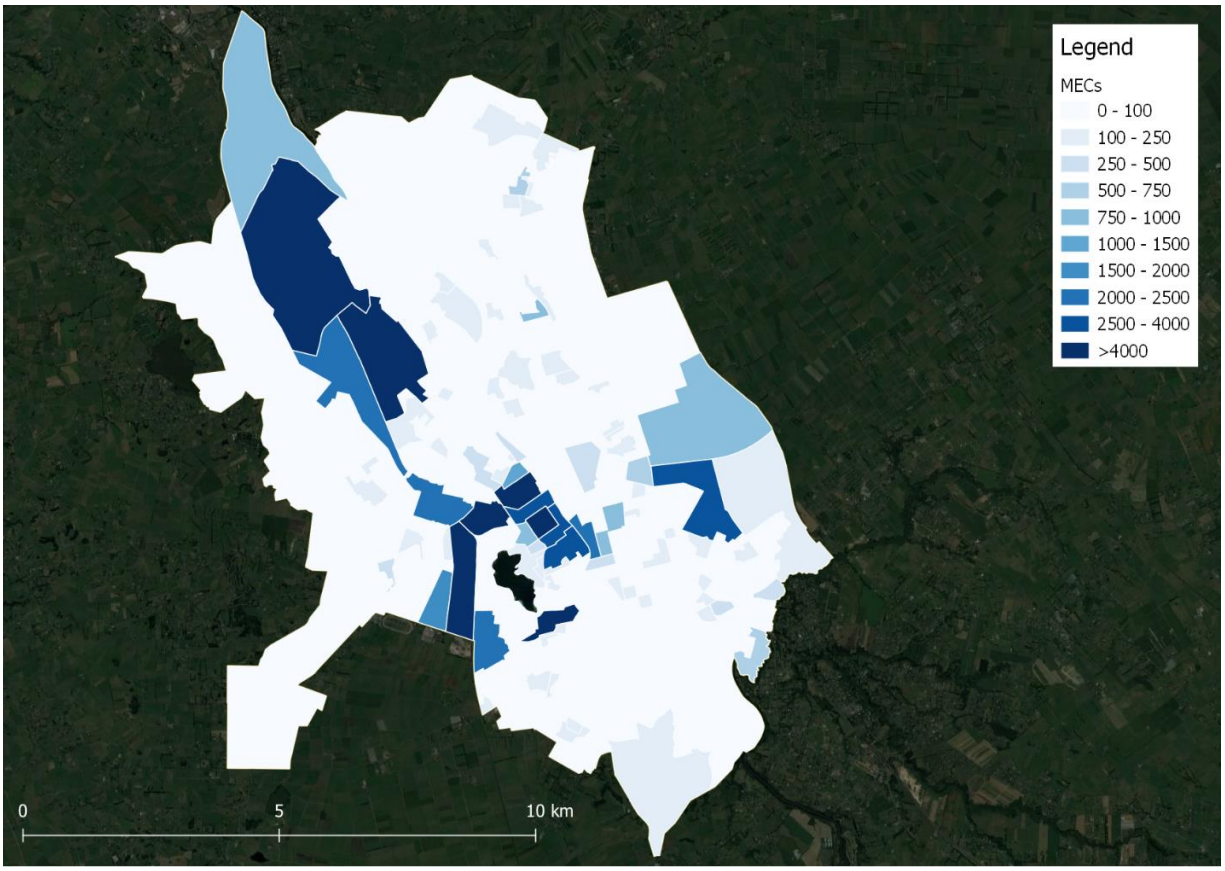
Sector	Hamilton City	Waikato District	Waipa District	Total FPP
Agriculture, Forestry and Fishing	1.5%	26.3%	21.2%	**13.4%**
Mining	0.1%	0.3%	0.1%	**0.1%**
Manufacturing	5.2%	4.5%	4.1%	**4.8%**
Electricity, Gas, Water and Waste Services	0.3%	0.3%	0.4%	**0.3%**
Construction	12.8%	13.2%	12.9%	**13.0%**
Wholesale Trade	4.2%	2.3%	3.1%	**3.4%**
Retail Trade	8.5%	3.5%	5.3%	**6.3%**
Accommodation and Food Services	4.7%	2.0%	2.9%	**3.5%**
Transport, Postal and Warehousing	2.9%	2.4%	2.4%	**2.6%**
Information Media and Telecommunications	0.9%	0.5%	0.5%	**0.7%**
Financial and Insurance Services	6.5%	4.9%	5.5%	**5.8%**
Rental, Hiring and Real Estate Services	18.8%	18.6%	18.3%	**18.6%**
Professional, Scientific and Technical Services	11.1%	7.3%	7.7%	**9.2%**
Administrative and Support Services	4.3%	2.6%	2.6%	**3.4%**
Public Administration and Safety	0.7%	0.5%	0.3%	**0.6%**
Education and Training	2.9%	2.2%	1.9%	**2.4%**
Health Care and Social Assistance	7.0%	3.2%	3.6%	**5.1%**
Arts and Recreation Services	1.8%	1.9%	2.8%	**2.0%**
Other Services	5.7%	3.7%	4.4%	**4.8%**
TOTAL	**100%**	**100%**	**100%**	**100%**

Waipā also has a primary sector focus along with Transport and Warehousing concentration, Rental Hiring and Real estate services and the Arts and Recreational services. The presence of a number of national level sports specialty training centres contributes strongly to this.

3.1.3 Spatial Distribution of Businesses and Employment

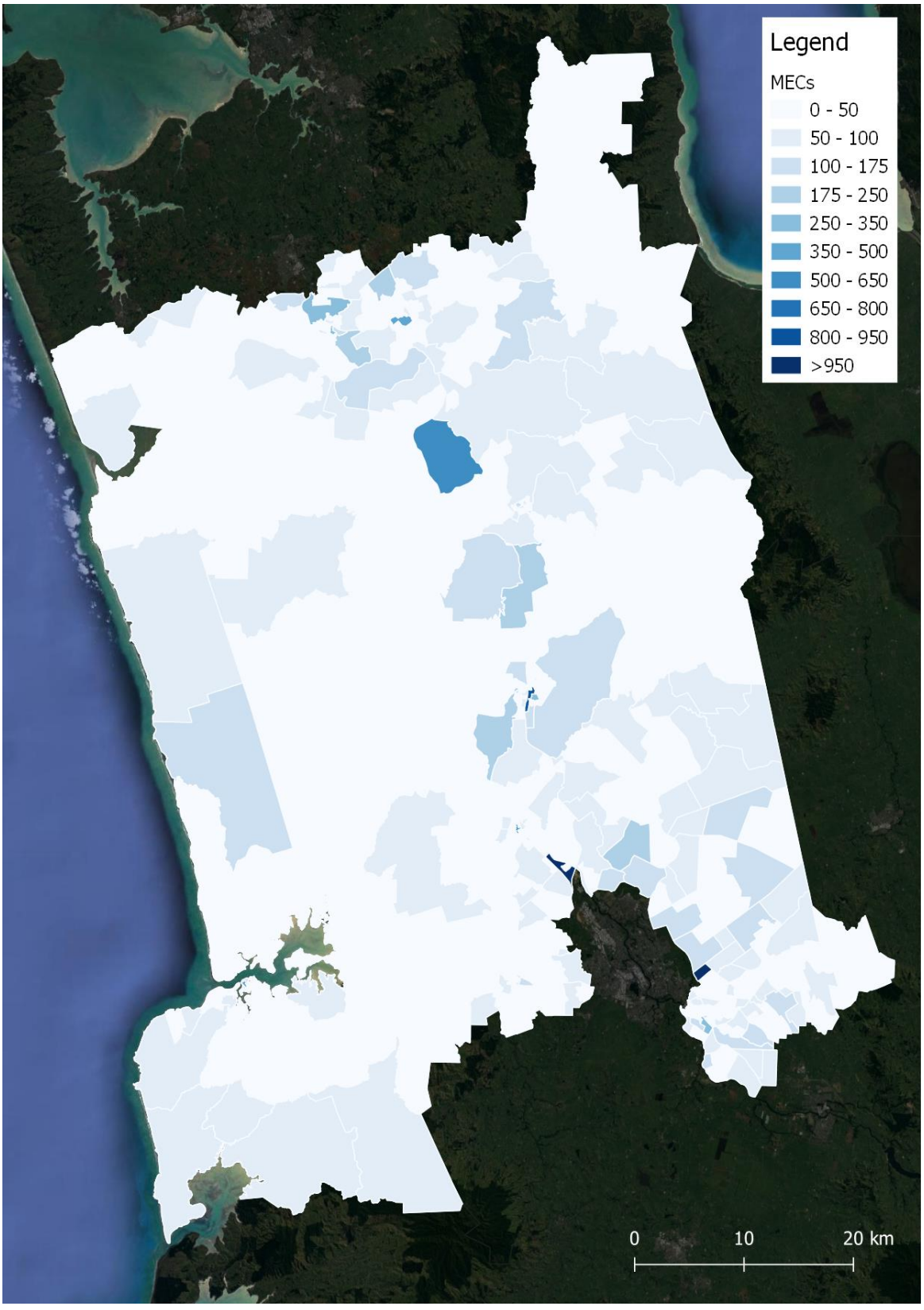
The following figures show the spatial distribution of total MECs across each of the FPP Councils.

Figure 3.4: Distribution of Employment by SA1, Hamilton City, 2020



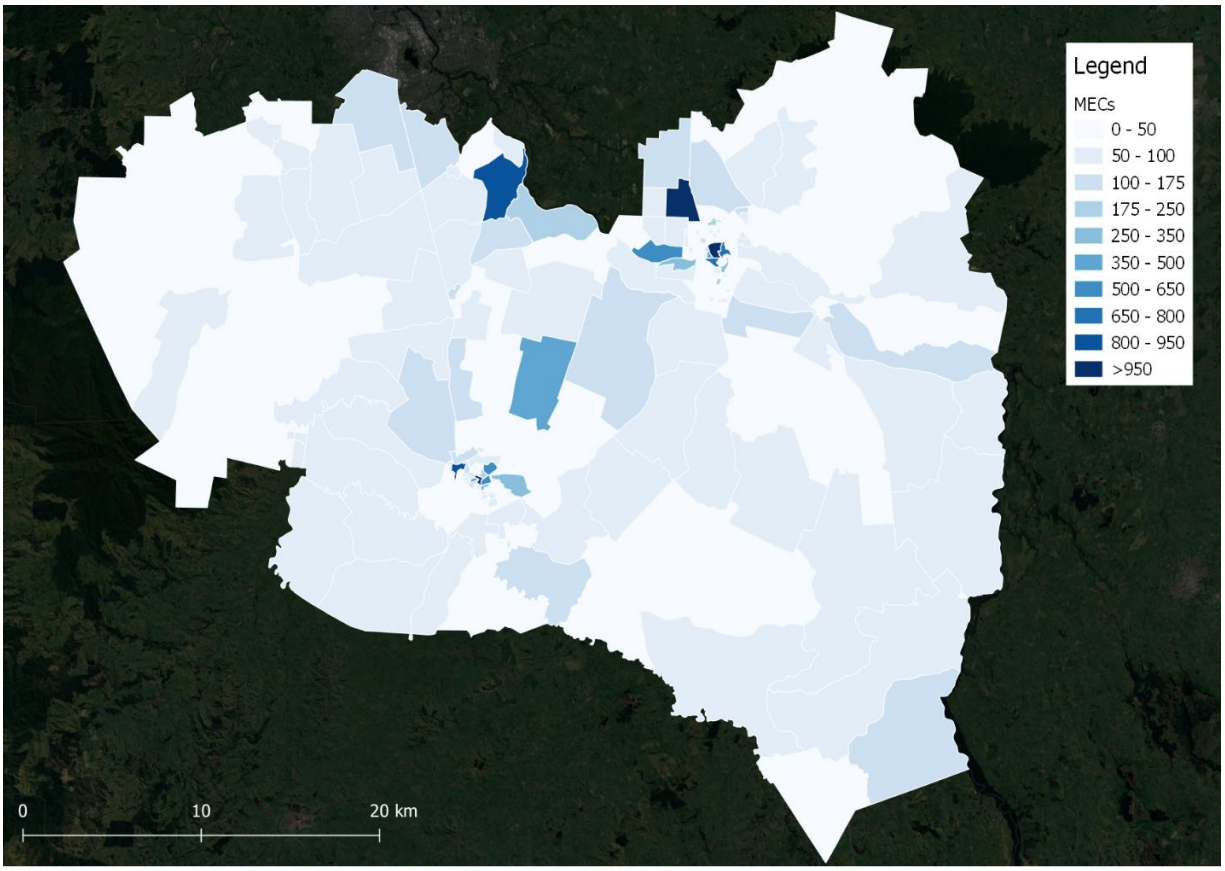
Source: Business Directory 2020

Figure 3.5: Distribution of Employment by SA1, Waikato District



Source: Business Directory 2020

Figure 3.6: Distribution of Employment by SA1, Waipā District, 2020



Source: Business Directory 2020

3.2 Recent Changes in the Economy

3.2.1 Sector Level – Employment

Recent changes in employment within each of the TAs provides solid indications of sectors that are driving the various economies.

Hamilton City

Since 2001 the Hamilton City economy has increased employment by over 36,100 workers or by almost 52% in total. This translates into an average increase of around 2.7% annually. However, this overall average masks significant variation in growth rates. Between 2001 and 2005 the economy grew by 4.3% annually. This high period of growth was followed by 5 years of stagnation as employment between 2005 and 2010 grew by only 0.3% annually. This time period spanned the GFC, that saw many economies halt growth or go into decline. Between 2010 and 2015 the economy slowly recovered at an average of 1.7% annually. However, between 2015 and 2020 the economy has grown strongly at an average of 3.6% annually (Figure 3.7).

The effects of the slowdown attributable to COVID-19 are only beginning to be felt in the economy. In Hamilton's case this is reflected in a growth reduction between 2018 and 2020 to 3.0% average annual (down from an average annual 4.1% growth between 2015 and 2018).

Figure 3.7: Hamilton City Employment Changes (MECs) 2001 - 2020

Sector	2001 - 05	2005-10	2010-2015	2015-2020	Total 2001-2020
Agriculture, Forestry and Fishing	-26	122	-336	206	**-34**
Mining	29	-8	19	8	**48**
Manufacturing	983	-1,046	2,041	443	**2,422**
Electricity, Gas, Water and Waste Services	6	209	265	289	**770**
Construction	1,566	142	673	2,601	**4,982**
Wholesale Trade	762	-116	-249	738	**1,135**
Retail Trade	848	305	439	1,029	**2,621**
Accommodation and Food Services	1,230	-473	635	1,279	**2,671**
Transport, Postal and Warehousing	-137	-565	18	302	**-381**
Information Media and Telecommunications	169	-835	-234	-137	**-1,037**
Financial and Insurance Services	54	5	-40	95	**113**
Rental, Hiring and Real Estate Services	35	-164	82	426	**379**
Professional, Scientific and Technical Services	2,282	213	518	1,893	**4,905**
Administrative and Support Services	1,004	523	-301	1,567	**2,793**
Public Administration and Safety	149	1,153	543	1,202	**3,047**
Education and Training	714	430	410	959	**2,513**
Health Care and Social Assistance	1,139	1,583	2,181	2,460	**7,363**
Arts and Recreation Services	479	-22	312	95	**864**
Other Services	718	-228	-10	464	**945**
TOTAL	12,006	1,228	6,965	15,919	**36,117**

Figure 3.8: Hamilton City Employment Changes (%) 2001 - 2020

Sector	2001 - 05	2005-10	2010-2015	2015-2020	Total 2001-2020
Agriculture, Forestry and Fishing	-3%	17%	-39%	40%	**-4%**
Mining	926%	-24%	78%	18%	**1542%**
Manufacturing	12%	-12%	26%	4%	**30%**
Electricity, Gas, Water and Waste Services	2%	58%	47%	35%	**219%**
Construction	31%	2%	10%	35%	**99%**
Wholesale Trade	21%	-3%	-6%	18%	**31%**
Retail Trade	11%	4%	5%	11%	**34%**
Accommodation and Food Services	34%	-10%	14%	25%	**73%**
Transport, Postal and Warehousing	-5%	-21%	1%	14%	**-14%**
Information Media and Telecommunications	8%	-36%	-16%	-11%	**-48%**
Financial and Insurance Services	3%	0%	-2%	6%	**7%**
Rental, Hiring and Real Estate Services	2%	-11%	6%	30%	**26%**
Professional, Scientific and Technical Services	45%	3%	7%	24%	**97%**
Administrative and Support Services	30%	12%	-6%	34%	**83%**
Public Administration and Safety	5%	36%	12%	24%	**99%**
Education and Training	10%	6%	5%	11%	**37%**
Health Care and Social Assistance	12%	15%	18%	17%	**76%**
Arts and Recreation Services	48%	-1%	22%	5%	**87%**
Other Services	24%	-6%	0%	13%	**31%**
TOTAL	17%	2%	8%	18%	**52%**

In addition to the overall growth rates being variable, growth between sectors has been uneven as the economy continues to evolve. Between 2001 and 2020 approximately 60% of the growth has been in the Professional, Scientific and Technical services, administrative and public service and education, health and social assistance sectors. Strong growth has also occurred in the Construction sector (accounting for 14% of all growth) as the City's residential growth has accelerated.

A few sectors are in decline as either technological change occurs (as with the Information Media and Telecommunications sector) or land use changes (Agriculture is forced out of Hamilton City as the city grows and the land increases in value) (Figure 3.8).

Waikato District

Growth in employment in Waikato District has also varied widely since 2001. In total employment in the District has increased by 44% since 2001, at an average annual rate of 2.3%. This is broadly the same as Hamilton City. Growth has been lumpy with growth of 1.8% annually between 2001 and 2005. This was followed by a decline over the GFC of on average 0.8% annually between 2005 and 2010. However, between 2010 and 2015, the economy has increased employment by an average of 4.2% annually. This slowed between 2015 and 2020 as a result of COVID 19 slowdown (among other things) to an annual average of around 3.1%. In fact, employment growth in the past year (2019 – 2020) was only 1.1%.

The highest levels of employment growth have occurred in the Construction sector which increased by 1,449MECs between 2001 and 2020. , This made up 19% of total growth. Employment in the Primary

sectors has shown sharp decline with a net loss of 940 employees, or 14% of its 2001 total. The professional, scientific technical services, administrative, education, health and social assistance sectors have grown by 122% over the 19 years since 2001. This is noticeably more than in Hamilton City where those sectors grew by 74% in total (Figure 3.9 and Figure 3.10). This points to a maturing of the economy and a move towards meeting the needs of Waikato's growing population locally.

Figure 3.9: Waikato District Employment Changes (MECs) 2001 - 2020

Sector	2001 - 05	2005-10	2010-2015	2015-2020	Total 2001-2020
Agriculture, Forestry and Fishing	-1,049	-894	1,257	-255	**-940**
Mining	182	8	-162	12	**39**
Manufacturing	301	-326	726	748	**1,449**
Electricity, Gas, Water and Waste Services	60	84	109	-146	**106**
Construction	429	85	387	987	**1,889**
Wholesale Trade	40	-54	35	252	**273**
Retail Trade	73	-61	20	171	**203**
Accommodation and Food Services	242	-119	102	253	**479**
Transport, Postal and Warehousing	63	-195	-36	144	**-24**
Information Media and Telecommunications	12	16	33	4	**65**
Financial and Insurance Services	15	23	-37	33	**33**
Rental, Hiring and Real Estate Services	45	-1	69	79	**193**
Professional, Scientific and Technical Services	311	121	277	333	**1,042**
Administrative and Support Services	218	36	61	55	**370**
Public Administration and Safety	48	65	414	121	**648**
Education and Training	63	350	140	198	**751**
Health Care and Social Assistance	121	-10	306	201	**618**
Arts and Recreation Services	32	78	20	112	**241**
Other Services	15	95	50	31	**191**
TOTAL	1,222	-699	3,771	3,330	**7,625**

Figure 3.10: Waikato District Employment Changes (%) 2001 - 2020

Sector	2001 - 05	2005-10	2010-2015	2015-2020	Total 2001-2020
Agriculture, Forestry and Fishing	-15%	-15%	25%	-4%	**-14%**
Mining	47%	1%	-28%	3%	**10%**
Manufacturing	19%	-17%	47%	33%	**92%**
Electricity, Gas, Water and Waste Services	30%	32%	32%	-32%	**53%**
Construction	28%	4%	19%	41%	**125%**
Wholesale Trade	11%	-14%	10%	67%	**77%**
Retail Trade	8%	-7%	2%	19%	**23%**
Accommodation and Food Services	34%	-12%	12%	27%	**66%**
Transport, Postal and Warehousing	8%	-22%	-5%	23%	**-3%**
Information Media and Telecommunications	29%	29%	47%	4%	**155%**
Financial and Insurance Services	18%	24%	-31%	39%	**41%**
Rental, Hiring and Real Estate Services	12%	0%	17%	16%	**53%**
Professional, Scientific and Technical Services	88%	18%	35%	31%	**296%**
Administrative and Support Services	63%	6%	10%	8%	**107%**
Public Administration and Safety	16%	19%	101%	15%	**219%**
Education and Training	5%	28%	9%	11%	**64%**
Health Care and Social Assistance	19%	-1%	41%	19%	**97%**
Arts and Recreation Services	11%	25%	5%	27%	**85%**
Other Services	3%	21%	9%	5%	**44%**
TOTAL	7%	-4%	21%	15%	**44%**

Waipā District

In terms of employment growth Waipā District sits slightly higher than Hamilton City District. In total the district has seen employment growth of 54% since 2001 – an average of 2.9% annually. Focusing on the 4 growth periods, Waipā has shown more growth stability between each period than the other 2 TA's. Between 2001 and 2005 the district added 16% more employment (higher than Waikato District at 7% similar to Hamilton at 17%. Between 2005 and 2010, the effects of the GFC and global slow down saw this drop to 4% total growth (versus -4% for Waikato and 2% for Hamilton). The post GFC recovery period (2010 – 2015) saw the district employ 10% more workers – significantly lower than Waikato at 21% but more than Hamilton at 8%. The most recent period (2015 – 2020) saw the district add 16% more workers Figure 3.11.

IN total the district has grown an average of 2.9% annually – higher than both Hamilton City at 2.7% annually and Waikato District at 2.3% average annual change.

At a sector level growth is more concentrated into the household services sector[10] than Waikato District, and has been similar to Hamilton's. In Waipā these sectors accounted for 31% of total 2001 – 2020 employment growth, compared with 24% in Waikato and 32% in Hamilton. In terms of more business

[10] Education and Training, Health Care and Social Assistance, Arts and Recreation and Other Services.

services[11] Waipā added 21% additional employees between 2001 and 2020. Waikato added 31% whiles Hamilton City added 28% more workers.

In Waipā, the largest single growth sector was the Construction sector that grew by 20% since 2001 – almost twice the additional employment as the next largest growth sector. As with both Hamilton City and Waikato District, Agriculture, Forestry and Fishing sector declined the most. In Waipā District's case losing 610 jobs between 2001 and 2020 or 7% of its workforce.

The effects of a COVID-19 slowdown are also somewhat evident, with growth in the past 2 years (2018 – 2020) running at 2.2% annually compared with 3.8% on average for the 3 previous years (2015 – 2018). This downturn is similar in percentage terms to Hamilton City's downturn over the same periods – but twice the reduction that Waikato District felt (Figure 3.11 and Figure 3.12).

Figure 3.11: Waipā District Employment Changes (MECs) 2001 - 2020

Sector	2001 - 05	2005-10	2010-2015	2015-2020	Total 2001-2020
Agriculture, Forestry and Fishing	-231	-168	258	-471	**-612**
Mining	11	12	-15	-9	**-1**
Manufacturing	551	-209	392	-12	**721**
Electricity, Gas, Water and Waste Services	32	10	-16	69	**95**
Construction	308	-4	310	1,127	**1,741**
Wholesale Trade	184	7	65	123	**379**
Retail Trade	112	-52	486	222	**768**
Accommodation and Food Services	282	257	70	276	**885**
Transport, Postal and Warehousing	74	-4	75	77	**222**
Information Media and Telecommunications	9	-20	28	20	**37**
Financial and Insurance Services	84	5	-70	102	**120**
Rental, Hiring and Real Estate Services	26	54	-28	45	**97**
Professional, Scientific and Technical Services	494	161	55	179	**889**
Administrative and Support Services	49	-7	41	190	**273**
Public Administration and Safety	31	43	50	287	**410**
Education and Training	230	363	134	189	**917**
Health Care and Social Assistance	112	34	104	713	**962**
Arts and Recreation Services	123	43	57	105	**329**
Other Services	16	192	21	265	**494**
TOTAL	2,496	716	2,016	3,496	**8,725**

[11] Information, Media and Telecomms, Financial and Insurance, Rental, Hiring and Real Estate, Professional, Scientific and Technical Services, Admin and Support Services and Public Admin and Safety

Figure 3.12: Waipā District Employment Changes (%) 2001 - 2020

Sector	2001 - 05	2005-10	2010-2015	2015-2020	Total 2001-2020
Agriculture, Forestry and Fishing	-6%	-4%	7%	-12%	**-15%**
Mining	44%	33%	-30%	-27%	**-3%**
Manufacturing	32%	-9%	19%	-1%	**42%**
Electricity, Gas, Water and Waste Services	37%	8%	-12%	61%	**110%**
Construction	23%	0%	19%	57%	**128%**
Wholesale Trade	31%	1%	8%	14%	**63%**
Retail Trade	7%	-3%	28%	10%	**46%**
Accommodation and Food Services	49%	30%	6%	23%	**152%**
Transport, Postal and Warehousing	11%	-1%	10%	9%	**32%**
Information Media and Telecommunications	10%	-20%	35%	18%	**40%**
Financial and Insurance Services	49%	2%	-27%	53%	**70%**
Rental, Hiring and Real Estate Services	7%	13%	-6%	10%	**24%**
Professional, Scientific and Technical Services	62%	13%	4%	12%	**112%**
Administrative and Support Services	12%	-1%	9%	38%	**66%**
Public Administration and Safety	12%	15%	15%	77%	**164%**
Education and Training	20%	26%	8%	10%	**80%**
Health Care and Social Assistance	12%	3%	9%	59%	**101%**
Arts and Recreation Services	30%	8%	10%	17%	**80%**
Other Services	3%	37%	3%	36%	**99%**
TOTAL	16%	4%	10%	16%	**54%**

3.3 Economic Growth Projections

The NPS requires Councils to understand more about the growth pressures they are likely to face over the short, medium and long term. This means developing a set of economic projections that form the basis for generating estimates of the amount of employment land required and the amount of GFA needed to be developed on that land to accommodate growth. In the 2017/18 HBA assessment, we relied on two related economic models to generate employment and GDP projections.

- Waikato Integrated Scenario Explorer (WISE) Model. This has recently undergone a significant update including updating the Land Use files, the Population projections and the Economic Models that reside within the Explorer.
- Unconstrained Economic Futures Model (EFM), to provide an assessment unconstrained by Land Use limits.

The WISE model was developed by ME as part of the Sustainable Pathways stream of research funded by Central Government. Details on its development and background are contained in the 2017 HBA prepared for Future Proof Partners under the NPS-UDC. Those details are not repeated here. However, the model has undergone a significant refresh, with new aspirations, zoning information, population projections

(prepared by NIDEA unit at Waikato University) and a new updated Economic Model prepared by M.E Research.

Following release of the population and household projections contained within WISE, the Future Proof Partners met to discuss and determine the most appropriate basis for assessing growth to inform the HBA. In the 2017/18 iteration of the HBA, each Council was left to determine its own growth future. That led to the situation where Waikato District and Waipā District relied on the high growth future, while Hamilton relied on a low growth future. IN this iteration, the FPP Councils have agreed to base the HBA on the updated High Growth projections contained within WISE.

The rationale for this is that in order to ensure that issues such as housing affordability and unavailability and high price of industrial land are addressed, planning for and catering for a High Growth future is the most prudent approach. Given the Monitoring role Councils are playing, changes or deviation from this approach can lead to adjustments or delays on zoning should the growth be delayed.

In the previous iteration of the HBA under the NPS-UDC, we combined WISE output with an unconstrained EFM that projected growth without the land allocation constraints that WISE operates under. However, in this iteration, the EFM has not been updated to the same level as WISE. Therefore, these comparisons are not possible. Analysis of the previous iteration of the HBA revealed that the differences between relying on WISE alone compared to WISE and the EFM were very small. The key reason for this is that very few constraints to growth were identified in the 2017 modelling that could potentially have driven locational and distributional differences between WISE output and EFM output.

That provides confidence that for this iteration, relying on WISE output will provide a solid basis for assessing demand by type and location.

As with the 2017 assessment, the link between the household capacity assessment and the business assessment is important. The same population and household projections drive both sets of models. This ensures consistency across the reports and ensures Council are fully informed of the effects of alternative growth futures.

Figure 3.13 highlights anticipated growth in employment (MECs) across the FPP are from 2020 to 2050. This data indicates growth will slow significantly over the next 3 years as the effects of COVID-19 work through the economy. This sees average annual growth drop from an average of around 4% between 2015 and 2020 to 1.4% annually from 2020-2023. This is followed by an improvement to 1.6% on average each year from 2023 to 2030 before declining in the long run to 1,1% on average between 2030 and 2050. This long term growth decline is in line with national trends and is driven by declining population growth.

In total the FPP area adds 6,900 employees in the short term, a further 18,800 in the medium term and 40,880 between 2030 and 2050.

Figure 3.13: Future Proof Partners Area Employment Growth (MECs), 2020 - 2050

					Growth		
Sector	2020	2023	2030	2050	2020-2023	2023-2030	2030-2050
Agriculture, Forestry and Fishing	11,300	12,000	13,100	15,100	720	1,080	2,000
Mining	400	500	500	500	90	0	50
Manufacturing	16,600	17,000	19,300	23,900	380	2,290	4,610
Electricity, Gas, Water and Waste Services	1,700	1,800	2,100	2,800	100	300	650
Construction	17,300	18,300	20,500	24,500	1,030	2,250	4,010
Wholesale Trade	6,300	6,600	7,500	9,300	250	900	1,770
Retail Trade	14,000	14,300	15,100	16,300	220	830	1,250
Accommodation and Food Services	9,100	9,400	10,500	12,000	300	1,030	1,560
Transport, Postal and Warehousing	4,300	4,300	4,900	6,000	30	530	1,160
Information Media and Telecommunications	1,700	1,700	2,000	2,500	50	250	560
Financial and Insurance Services	2,300	2,600	3,100	4,100	220	500	1,050
Rental, Hiring and Real Estate Services	3,100	3,100	3,300	3,900	10	250	600
Professional, Scientific and Technical Services	13,100	13,900	15,700	20,400	790	1,860	4,670
Administrative and Support Services	8,200	9,100	10,600	13,900	840	1,540	3,290
Public Administration and Safety	7,400	7,700	8,400	10,400	310	740	1,980
Education and Training	14,100	14,600	16,400	21,000	550	1,760	4,650
Health Care and Social Assistance	19,400	20,000	21,600	25,800	650	1,570	4,220
Arts and Recreation Services	3,200	3,300	3,700	4,600	70	350	950
Other Services	5,700	6,000	6,800	8,700	310	780	1,850
Total	**159,200**	**166,200**	**185,100**	**225,700**	**6,920**	**18,810**	**40,880**

Source: WISE

At the sector level there are some key trends that will have a significant impact on provision of land and capacity. The most employment growth out to 2050 occurs in;

- Professional, Scientific and Technical Services which adds over 7,300 MECs to 2050 (56% increase on 2020).
- Construction which adds just 7,300 jobs to 2050 (42% growth)
- Manufacturing, 7,280 additional jobs to 2050 (44% growth).

In percentage terms the highest growth occurs in financial and Insurance Services sector (78% growth to 2050 followed by Admin and Support Services (70% growth) and Utilities sector (65% growth).

While the details of growth at the local level and how they translate into demand for land and space are covered in the next sector, the key points that emerge from economic growth at the macro level are;

- Overall growth in employment expectations have reduced compared with the 2017 assessment. Current growth to 2050 is 66,60 MECs (over 30 years). In 2017 growth between 2021 and 2051 (30 years) was expected to be 69,000 – or 4% more.
- COVID-19 is expected to dampen growth over the short term
- Growth, overall tapers off over time in line with population growth declines..

Note that the growth projections have been generated by NIDEA in consultation with Councils. In the previous HBA under the NPS-UDC, each Council debated and selected a growth future that aliged with internal modelling and Council strategic view of the future. In this iteration, FPP have debated and elected to adhere to a single view of the future. That is, they have selected a High Growth future path upon which to base assessment of capacity and sufficiency of supply to meet demands.

The High growth future projected by NIDEA, sits slightly lower than the Statistics New Zealand's High growth future.

3.3.1 Drivers of Growth

As with the previous assessment, the economics module that sits within WISE, generates estimates of future Employment, Output and contributions to GDP. These estimates are driven by a set of "Business as Usual" commodity and service parameters, translated into demands. In the model framework these demands are called 'Final Demands'.

Within the model, final demands are made up of five categories: household consumption, international exports, inter-regional exports, gross fixed capital formation (GFKF), and changes in inventory. The process for deriving future BAU estimates for each category is as follows:

a) Household Consumption: The household consumption final demand is made up of four sub-consumption categories, 'Households', 'Private non-profit institutions servings households', 'Central Government' and 'Local Government'. Future estimates of demand in each sub-category is primarily driven by changes in future population. The Model uses NIDEAs 5-year age sex cohort population projections covering all FPP TA's. It is assumed that each person within the region consumes a constant mix of goods and services. Thus, any population growth for the area will result in a proportional increase in the amount of goods and services consumed within each sub-categories.

   In addition, the model includes the implications of changing demographic structure on household consumption. For all sub-categories, future demands by each cohort are adjusted by a cohort-specific consumption scalar. These scalars define the ratio of spending by an average person across all cohorts, to the spending of an average person within the subject cohort.

   Resulting value for a particular year provides an estimate of the growth in total household consumption from the base year.

b) International Exports: are overseas demand of goods and services produced by an area and are exogenous inputs to the model. The growth projections used include BAU projections of international exports and future projections for each industry are generated by applying long-run average growth rates to the base year international export values as obtained from the Multi-Regional Input-Output Table (MRIO).

   The growth rates were generated using a number of different statistical methods. Selection of the time series techniques applied depended on the availability of the data and underlying production structure of the industry output being analysed. For example, long-run growth rates for agricultural industries were estimated based on long-run projections of physical stocks and land

availability constraints. Conversely, industries with less physical constraints, such as services, were estimated based on long-run national export trends.

c) Inter-regional Exports: are demands of good and services produced within a study area by areas outside the study area, but within New Zealand. In other words, trades between FPP areas and the rest of New Zealand affects demand for the production activities in each area.
d) Gross Fixed Capital Formation (GFKF): Future increases in investment demand are represented as a change in GFKF and is an exogenous input into the model. The future GFKF projections for each industry is generated by applying long-run average growth rates to the base year GFKF values as obtained from the MRIO. The growth rates were determined by econometric time-series analysis. The data utilised in the time-series analysis of GFKF are derived from SNZ's National Accounts gross fixed capital formation by industry time series.
e) Changes in Inventory: these are an endogenous variable within the model, where it's future projections are weighted average of future values of other final demand categories. Within the national accounts framework, the changes in inventory is an accounting balancing item and records changes in financial inventory stocks. Note: for many industries changes in inventory are very small compared with international exports, inter-regional exports, and GFKF.

In the FPP area the economy is driven by the following key drivers;

- Dairy Farming: Dairy farming is not a large employer of workforce (less than 2% of the national total), it is a key driver of employment in other sectors. Waikato Region is New Zealand Dairy hub with Hamilton City as the key support centre. Dairy farming drives everything from manufacturing of dairy products, to farm machinery and equipment, IT, research sector, retail and whole sale as well as construction. While the Dairy sector is not a high growth sector it is large and will remain the key driver of the FPP economy for the foreseeable future.

- Population Growth: This is driven by natural increases and the FPP proximity to Auckland. Significant growth in the north of the FPP area (Pokenō, Tuakau and even Te Kauwhata) is driven by spill-over from Auckland. Population growth drives a range of other sectors including; retail, construction, health and education services and social and personal services. These are highly concentrated in Hamilton and employ large number of workers.

- Tainui: Local iwi are major players in a wide range of FPP based economic activity. Waikato iwi have an asset base worth in excess of $6bn (around 15% of the total iwi asset base). They are engaged in farming, forestry and tourism ventures across the FPP and are developing the Ruakura Freight hub to the West of Hamilton. The role this hub plays in future functioning of both Ports of Auckland and Ports of Tauranga will significantly impact on FPP growth futures. Decisions Tainui make with respect to the long term investments and the manner in which they engage with their people and the wider Waikato economy will drive future economic performance.

- Waikato Expressway and other Transport links: The recently completed Waikato Expressway reduces the relative distance to the large Auckland market. This makes locating business activities – especially industrial activities in the FPP significantly more attractive. This combined with high volumes of relatively low cost serviced industrial land will drive growth to the north of

Hamilton. In addition, the H2A project will drive transport and logistics related growth over the coming decades along with decisions on the location of Ports to serve the upper North Island

The FPP area forms one corner of the Golden Triangle. Taking advantage of these locational characteristics, its natural resources, historical and cultural capital, the skills and training of local workforce and entrepreneurial nature of its people will see ongoing solid growth across the FPP area. Productive land in the FPP area is highly developed and highly utilised. The environmental impacts of this are beginning to be felt in degraded water quality in regional rivers and lakes. This will lead to changes in land use patterns and potentially reductions in pasture-based output. Waikato is well placed to make these changes given the depth of infrastructure, the strength of its institutions and the will of it people to effect positive change.

4 Business Land and Floorspace Demand

Businesses demand land and built space to carry out their business activities, to accommodate their workforce and production processes. Therefore business demand for land and space is derived from their need to operate in a location and house their workers. This means that economic growth in employment - generated in most economic projection models - can be used to estimate the resulting growth in business land and built space demand.

This section provides estimates of employment growth translated into growth in demand for business land and built space by sector across the FPP area.

4.1 Sector – Space Relationships

Employment projections have been translated into the likely floorspace and land use requirements using the average floorspace per worker and land area per worker ratios presented in Figure 4.1. These averages are derived from current data relating to employment and land use/space types.

Figure 4.1: Employment to Space and Land conversions

Range	Office---Commercial	Office---Retail	Shops---Commercial	Shops---Retail	Accom.	Ware house	Factory
Floor Space per Employment (SQM)							
Min	13.0	20.0	10.0	15.0	15.0	100.0	80.0
Max	100.0	100.0	100.0	100.0	200.0	200.0	200.0
In use	**20.0**	**27.0**	**27.0**	**47.0**	**100.0**	**167.0**	**138.0**
Land Use per Employment (SQM)							
Min	13.0	20.0	10.0	15.0	15.0	100.0	80.0
Max	100.0	100.0	100.0	200.0	400.0	600.0	500.0
In use	**25.0**	**45.0**	**45.0**	**78.3**	**142.9**	**417.5**	**345.0**
Range	Yard---Commercial	Yard---Industrial	Other Built---Commercial	Other Built---Industrial	Education	Outdoor---Commercial	Outdoor---Industrial
Floor Space per Employment (SQM)							
Min	50.0	50.0	20.0	20.0	30.0	10.0	10.0
Max	150.0	150.0	120.0	120.0	100.0	100.0	100.0
In use	**85.0**	**100.0**	**60.0**	**60.0**	**60.0**	**20.0**	**20.0**
Land Use per Employment (SQM)							
Min	100.0	100.0	20.0	20.0	50.0	10.0	10.0
Max	350.0	350.0	500.0	500.0	500.0	1,000.0	1,000.0
In use	**200.0**	**200.0**	**100.0**	**150.0**	**120.0**	**33.3**	**50.0**

Diversity of space and land needs on a business-by-business basis result in wide variations between the maximums and minimums in this table. As with the original assessment, averages have been used. These averages have been informed by a combination of FPP rating data and M.E.s MECs. We have relied on our

previous experience in similar analyses as well as information published by other commercial entities[12] to cross-check these values. Retaining the same values throughout the period means that we do not specifically take account of increased land-use or floorspace efficiencies that may occur into the future. This means that our floorspace and land demand requirements are potentially conservative, although this does have advantages when assessing sufficiency in that it likely causes an over-estimate of demand. If capacity then exceeds demand (or demand + margin), then it is fairly certain that demand is catered for appropriately.

Given the similarity of activities carried out by employees across a range of sectors, there are a smaller number of space types than there are activity types or economic sectors. For example, commercial office space may be occupied by a wide range of businesses and organisations across a number of sectors. For the purposes of the NPS-UD, all space and land types have been condensed into 3 broad categories;

- Industrial: This covers both Heavy and Light Industry. The distinction between the 2 rests on the type and nature of emissions into the wider environment. Heavy Industrial activities need to be appropriately buffered from more sensitive activities such as residential land uses. Light Industrial activities may capture the same set of ANZSIC codes, yet due to scale or nature of production processes, do not require the same level of buffering. In addition, activities that may not be manufacturing in nature are categorised as Light Industrial for the purposes of the NPS-UD. These include, yard-based storage, transport and distribution, construction, utilities, and wholesaling activities
- Commercial: As well as capturing commercial office activities and public administration. Commercial captures the paid accommodation sectors as well as health and education. This is due to the nature of the space types they occupy.
- Retail: This captures all forms of retail activity and personal retail-based services such as repairs and maintenance of household goods, hairdressing and other personal services plus a few categories of commercial activity including real estate agencies, dentists and optometrists.

However, to provide a degree of flexibility, employment has initially been allocated by 6 digit ANZSIC sectors to 15 different space types (for ease of use, this has been aggregated to 48 sectors x 15 Space types). The concordance matrix can be found in the accompanying appendix.

By outlining the information in a matrix format, we have allowed a single sector to split its activity between different space types. This is important as it is unlikely that all employment in any one industry occupies the exact same space type. A simple example is a large industrial business with a large industrial footprint, but also a warehouse area and a head office in commercial office space.

By utilising a matrix structure, we allow growth to translate much more realistically to the type of space it generates.

[12] For example Colliers and JLL

4.1.1 Plan Zones to Space Types

Having established an appropriate listing of space types, a matrix that aligns space types (above) with the planning zones that facilitate the space types has been developed for each of the partnership Councils. These concordance matrices have been developed based on the activity status tables within the various District Plans. Activities that have a designation of Permitted, Discretionary, or Restricted Discretionary have been assumed to provide capacity for those activities within a given zone. A loose coupling exists between the described activities (within the District Plans) and the above space types developed based on the 6 Digit ANZSIC x space type concordance described above.

4.1.2 Exclusion of Rural activity

The framework also captures rural activity in the form of farms. This has been excluded as it is not relevant in an urban development capacity assessment. However, any employment growth that would normally be associated with farms has been allocated to farms – and excluded from the amount Councils need to zone space for.

The following section contains the outputs for future business land demand across the Future Proof Partners area.

4.2 Future Demand for Urban Business Land

Future demand for Urban Business Land has been estimated based on population and employment growth projections based on inputs into the WISE model and the FPP EFM at the local level. These projections have been translated into localised space type demand based on the matrices and area ratios described in Section 4.1 for each of the Councils individually.

A summary of total business land demand by broad sector across the Future Proof Partners network can be seen in Figure 4.2.

Figure 4.2: FPP Total Business Land Demand by Broad Sector, 2020-2050 (ha)

Broad Sector	Hamilton City	Waikato District	Waipa District	Total FPP Area
Commercial	101	19	17	137
Retail	41	7	6	54
Industrial	540	145	108	793
Total Bus. Land Demand	**681**	**171**	**131**	**983**

At the total FPP scale it is clear that the majority of the business land demand is concentrated within Hamilton City, largely due to the expected population and employment growth that is concentrated in the city over the long term.

In all TAs, total industrial land demand significantly outweighs commercial and retail land demand. Much of this can be attributed to the higher land use per employee metric, as demonstrated in Figure 4.1. Generally industrial space types utilise a much larger land area than commercial or retail space types, due to development typologies such as yard-based and warehouse type activities. Although actual industrial employment numbers may be equivalent or smaller than those for the commercial or retail sector, industrial land demand outstrips those other sectors solely due to the much higher average land/employee.

It should be noted that demand values are cumulative over the short, medium, and long term so that totals in the long term column of each figure represents the total expected demand as at 2050.

4.2.1 Hamilton City Future Business Land Demand

Hamilton's future demand for business land has been disaggregated into the three broad categories and allocated across the 6 reporting areas within the City. While it is important that the city provides a range of locations for different type of economic activity to occur, it is not necessary to ensure that every area provides for every type of business activity. In fact, this leads to extremely inefficient cities as any benefits that arise from agglomeration are not captured and the city's urban form is compromised.

Commercial Land

In total we estimate that Hamilton City requires an additional 101ha of commercial land to cater for anticipated growth over the long term (total over 30 years). Approximately 12.1ha is required in the short term (next 3 years) and 40.1ha in total over the next 10 years.

Figure 4.3: Hamilton Commercial Land Demand (ha)

Name	Short Term	Medium Term	Long Term
Te Rapa	5.2	13.7	26.0
Chartwell	- 0.0	0.2	0.9
Frankton	1.8	4.7	12.5
CBD	- 0.1	4.8	16.6
Ruakura	0.0	0.5	2.0
Other	5.3	16.3	42.9
Total	**12.1**	**40.1**	**100.9**

The largest areas of demand growth are in Te Rapa in the north of the City and across other parts of the city – reflecting expansion across the city. There is also strong growth within the CBD, as would be expected due to it's nature as a hub of commercial activity. As described above, it is important not to become too aligned with ensuring each of these areas provide sufficient land or built space to meet the needs arising within. Commercial office activity tends to congregate in centres whereas many of the areas listed above are purely residential or industrial catchments. It is not efficient to have commercial space distributed

widely and evenly across the urban landscape as this minimises any agglomeration benefits[13] that arise from the clustering of activities. The importance of colocation is reflected in the Multi-criteria analysis framework where the ability to collocate with other businesses has been allocated a high share of the locational decision process.

It is rare that Commercial land is zoned independently of retail land, as the aggregation of workforce and businesses naturally stimulates demand for retail and hospitality goods and services. In addition, most commercial activities have an ability to locate on upper levels of retail centres, making an independent requirement for space redundant.

This is obviously not the case for the education sector or potentially most of the health sector, where specific areas of land must be catered for in the planning provisions.

Retail Land

Hamilton's retail land demand is tied closely with residential growth. In addition, changes in household demand characteristics means that on average households are increasing their demand for retail goods and services by approximately 1% annually (in real terms).

Over the next 30 years, Hamilton City is expected to require an additional 41ha of retail land. 4.9ha of this demand is expected in the next 3 years (short term) and 16.7ha of this demand within the next 10 years.

Figure 4.4: Hamilton Retail Land Demand (ha)

Name	Short Term	Medium Term	Long Term
Te Rapa	1.9	4.8	8.0
Chartwell	0.1	0.5	1.4
Frankton	0.0	1.4	5.1
CBD	0.2	1.8	5.3
Ruakura	- 0.0	0.3	1.1
Other	2.7	7.9	19.9
Total	**4.9**	**16.7**	**40.8**

Industrial Land

Industrial activities are land extensive, in that they require large amounts of land relative to the levels of employment they sustain. In addition, industrial activities are extremely sensitive to land price and are easily outbid for space by (mostly) large format retail activities. However, this does not mean that industrial activities are not valuable to the city or area – quite the contrary. Industrial activities often have deep linkages back through the wider economy sustaining much employment in supporting industries and

[13] These include reduced transactional costs, easier transfer of skills and technologies and deep access to both potential clients and a large labour force.

service sectors. In addition, in Hamilton's case in particular, they support the upstream activities as well. Dairy factories and meat processing plants ensure that the high value outputs from the pastoral sectors are transformed into high value commodities within the region, maximising employment and GDP retention.

Industrial land requires strong policy protection and robust planning frameworks within which to operate. If left to the free market to generate highest and best returns from the land, industrial activities will be out bid and face pressures to shift. By protecting the land resource for industrial activities, TA's are helping to ensure that market failure is avoided and an overall efficient economy results.

Market failure occurs when those that are forcing the change – i.e. those that are being allowed to bid for industrial land for non-industrial purposes are not paying the full costs associated with that decision. The resulting inefficient economy is not being paid for by the retailers, because the market cannot monetise those costs. Large format retailers are not able to respond to market price signals as a result.

Figure 4.5: Hamilton Industrial Land Demand (ha)

Name	Short Term	Medium Term	Long Term
Te Rapa	42.8	147.5	285.8
Chartwell	0.4	1.5	4.1
Frankton	0.7	21.5	80.3
CBD	4.3	17.5	56.1
Ruakura	0.3	5.0	19.2
Other	3.7	28.5	94.1
Total	**52.2**	**221.5**	**539.6**

In total over the next 30 years, Hamilton City requires an additional 540ha of industrial land. 52ha are required in the short term (next 3 years) and 222ha over the next 10 years (medium term).

Note that this is the estimated demand, it does not include the additional of 20% in the short to medium term and 15% in the long term to account for the proportion of feasible development capacity that may not be developed. This is discussed in section 7.4, below.

4.2.2 Waikato District Future Business Land Demand

As discussed above, demand for Waikato and Waipā Districts have been estimated at a proxy-town level based around the significant townships, urban areas and their connectivity.

In terms of commercial land demand. Waikato District is estimated to require 19.2ha of commercial land over the long term (30 years). The demand is spread across the Waikato – in the 'Rest of Waikato' designation with 6.4ha, in Tuakau with 3.5ha, and Te Kauwhata and Raglan each demanding approximately 2.4-2.5ha.

Figure 4.6: Waikato Commercial Land Demand (ha)

Name	Short Term	Medium Term	Long Term
Pokeno	0.2	0.6	1.3
Tuakau	0.9	2.2	3.5
Te Kauwhata	0.4	1.4	2.4
Huntly	0.2	0.7	1.6
Ngaruawahia	0.0	0.4	1.5
Raglan	0.4	1.0	2.5
Rest of Waikato	- 0.1	1.5	6.4
Total	**1.9**	**7.7**	**19.2**

In the short term 1.9ha is demanded over the next 3 years and a total of 7.7ha over the medium term (10 years).

Retail Land

In terms of retail land demand, Waikato District is estimated to require 6.5ha over the long term. The most demand arises in the North as Tuakau grows on the back of Auckland's expansion. The rest is distributed across the rest of Waikato (2.0ha long term), although some further demand needs to be met in Raglan (1.1ha long term). In the short term (3 years) retail land demand is less than 1ha, with 2.6ha demanded over the next 10 years (Figure 4.7).

Figure 4.7: Waikato Retail Land Demand (ha)

Name	Short Term	Medium Term	Long Term
Pokeno	0.1	0.2	0.4
Tuakau	0.5	1.3	1.9
Te Kauwhata	0.2	0.3	0.4
Huntly	- 0.1	- 0.0	0.2
Ngaruawahia	0.0	0.1	0.5
Raglan	0.2	0.5	1.1
Rest of Waikato	- 0.3	0.2	2.0
Total	**0.6**	**2.6**	**6.5**

Industrial Land

Industrial land demand in Waikato District is high. Over the long term over 145ha of land is estimated to be required. Of this, 12.4ha are required in the short term and 55.1ha in the medium term. As with commercial and retail demand, much of the demand is spread across the Rest of Waikato reporting area (59ha), while Pokenō, Tuakau, and Raglan also have strong demand for industrial land (Figure 4.8).

Figure 4.8: Waikato Industrial Land Demand (ha)

Name	Short Term	Medium Term	Long Term
Pokeno	- 0.0	4.2	19.7
Tuakau	7.6	14.1	20.9
Te Kauwhata	1.1	8.0	13.7
Huntly	1.9	4.3	9.5
Ngaruawahia	- 1.7	0.1	5.4
Raglan	2.2	6.5	17.0
Rest of Waikato	1.5	17.8	58.7
Total	**12.4**	**55.1**	**144.9**

4.2.3 Waipā District Future Business Land Demand

As with Waikato District, demand in Waipā is recorded at conglomerated town representative areas. Over the next 30 years, there is demand for almost 17ha of commercial land, 6.3ha of retail land and 108ha of industrial land. The majority of land demand is concentrated into and around the large centres of Cambridge-Karapiro (7.3ha of commercial, 3.2ha of retail and 51.9ha of industrial) and Te Awamutu-Kihikihi (6.9ha of commercial, 2.5ha of retail, and 34.8ha of industrial). The Rukuhia-Ngahinapouri-Ohaupo-Pirongia reporting area also shows strong demand growth for industrial land of 17ha in the long term.

Figure 4.9: Waipā Commercial Land Demand (ha)

Name	Short Term	Medium Term	Long Term
Cambridge-Karapiro	0.2	2.4	7.3
Te Awamutu-Kihikihi	0.6	2.1	6.9
Rukuhia-Ngahinapouri-Ohaupo-Pirongia	0.1	0.7	2.0
Rest of Waipa	0.1	0.2	0.6
Total	**1.0**	**5.4**	**16.9**

Figure 4.10: Waipā Retail Land Demand (ha)

Name	Short Term	Medium Term	Long Term
Cambridge-Karapiro	0.3	1.3	3.2
Te Awamutu-Kihikihi	0.0	0.6	2.5
Rukuhia-Ngahinapouri-Ohaupo-Pirongia	- 0.1	0.1	0.6
Rest of Waipa	- 0.1	- 0.0	0.1
Total	**0.2**	**1.9**	**6.3**

Figure 4.11: Waipā Industrial Land Demand (ha)

Name	Short Term	Medium Term	Long Term
Cambridge-Karapiro	5.4	15.9	51.9
Te Awamutu-Kihikihi	2.3	9.9	34.8
Rukuhia-Ngahinapouri-Ohaupo-Pirongia	0.6	4.4	17.0
Rest of Waipa	0.4	1.4	4.5
Total	**8.6**	**31.5**	**108.2**

In the short term, the district requires 1.0ha of commercial land, 0.2ha of retail and 8.6ha of industrial. In the medium term this increases to 5.4ha of commercial, 1.9ha of retail and 31.5ha of industrial. The strong growth in industrial land reflects the requirement for large land areas for industrial uses, as well as strong in industrial employment generally.

4.3 Future Demand for Urban Business Floorspace

For the majority of retail and commercial sectors, floorspace is a more meaningful metric than land. The nature of floorspace differs between the three broad economic categories as well as discussed below. In total to cater for anticipated economic growth over the next 30 years, the FPP area requires over 4.5 million sqm of gross floor area of build space (GFA). 3.3million sqm of that for the industrial sectors, 884,000sqm for commercial activities and 322,000sqm for retail.

Figure 4.12: FPP Total Business Floorspace (GFA) Demand by Broad Sector, 2020-2050 ('000 sqm)

Broad Sector	Hamilton City	Waikato District	Waipa District	Total FPP Area
Commercial	652	122	109	884
Retail	245	39	38	322
Industrial	2,234	609	456	3,299
Total Bus. GFA Demand	**3,132**	**770**	**603**	**4,505**

4.3.1 Hamilton City Future Business Floorspace Demand

Translating economic growth in commercial employment terms into a floorspace requirement to house them results in overall demand of over 652,000sqm of built GFA over the long term. Much of this growth is focussed across Hamilton (Other representing 42% of total), in Te Rapa (26% of total), and in the CBD (17% of total commercial demand). A further 12% arises in the Frankton area.

Figure 4.13: Hamilton Commercial Space Demand (GFA sqm), Short, Medium and Long Term

Name	Short Term	Medium Term	Long Term
Te Rapa	33,803	88,392	166,990
Chartwell	- 334	1,599	6,329
Frankton	11,360	29,823	79,855
CBD	- 231	32,379	110,106
Ruakura	92	3,579	13,510
Other	33,465	104,586	275,556
Total	**78,155**	**260,358**	**652,346**

Approximately 78,200sqm of GFA is required in the short term and 260,400sqm GFA over the next 10 years.

Retail demand growth sees a requirement to accommodate 245,000sqm GFA over the long term in Hamilton. Again, the majority is spread across Hamilton but with large amount focused on Te Rapa, Frankton, and the CBD as well.

Figure 4.14: Hamilton Retail Space Demand (GFA sqm), Short Medium and Long Term

Name	Short Term	Medium Term	Long Term
Te Rapa	11,657	29,054	48,190
Chartwell	520	2,799	8,286
Frankton	27	8,253	30,426
CBD	1,259	10,943	32,082
Ruakura	- 162	1,589	6,683
Other	16,316	47,666	119,182
Total	**29,618**	**100,303**	**244,848**

In the short term (next 3 years) there is demand for almost 30,000sqm of GFA and over 100,000sqm of GFA over the next 10 years.

Industrial demand growth translates into over 2.2m sqm GFA in the long term. Over half of this demand is expected to be focused on the Te Rapa reporting area, with a further 15% in Frankton and approximately 18% spread across the rest of Hamilton. On average across the next 3 years around over 70,000sqm are required each year. That increases to 91,000sqm over the 10 year period and then drops down to approximately 75,000sqm of GFA over the entire 30 year period (Figure 4.15).

Figure 4.15: Hamilton Industrial Space Demand (GFA sqm), Short Medium and Long Term

Name	Short Term	Medium Term	Long Term
Te Rapa	175,459	605,601	1,175,173
Chartwell	1,769	6,128	17,355
Frankton	2,523	89,217	332,986
CBD	17,794	72,997	233,977
Ruakura	1,333	21,131	80,408
Other	16,326	120,167	394,503
Total	**215,205**	**915,240**	**2,234,402**

4.3.2 Waikato District Future Business Land Demand

Waikato District commercial space demand over the long term is over 120,000sqm GFA. As with land demand, the majority is in the north is spread across the district. Solid growth is also observed in in Tuakau, Te Kauwhata and Raglan.

Over the short term the District will require around 12,00sqm of GFA while over the medium term this grows to almost 49,000sqm GFA (Figure 4.16).

Figure 4.16: Waikato Commercial Space Demand (GFA sqm), Short Medium and Long Term

Name	Short Term	Medium Term	Long Term
Pokeno	1,070	3,637	8,564
Tuakau	5,387	14,469	23,146
Te Kauwhata	2,419	8,507	14,746
Huntly	1,196	4,048	9,677
Ngaruawahia	134	2,794	9,598
Raglan	2,410	6,627	15,970
Rest of Waikato	- 665	8,977	40,482
Total	**11,949**	**49,060**	**122,183**

Retail demand in built floorspace terms increases to almost 40,000sqm GFA in the long term. As with commercial space, the largest individual portion is in the North with Tuakau increasing by 11,400sqm while almost 12,000 is spread across the Rest of Waikato reporting area. In the short term, Waikato District requires approximately 3,340sqm Retail GFA, or around 1,100sqm annually. This increases to 15,450sqm GFA over 10 years of by 1,540sqm / annum (Figure 4.17).

Figure 4.17: Waikato Retail Space Demand (GFA sqm), Short Medium and Long Term

Name	Short Term	Medium Term	Long Term
Pokeno	875	1,292	2,521
Tuakau	2,977	7,749	11,401
Te Kauwhata	950	1,748	2,639
Huntly	-839	-98	1,044
Ngaruawahia	6	554	3,170
Raglan	1,265	2,836	6,417
Rest of Waikato	-1,895	1,374	11,966
Total	**3,339**	**15,454**	**39,159**

Figure 4.18: Waikato Industrial Space Demand (GFA sqm), Short Medium and Long Term

Name	Short Term	Medium Term	Long Term
Pokeno	-209	17,514	82,138
Tuakau	31,227	58,136	86,455
Te Kauwhata	4,725	33,801	57,785
Huntly	7,979	18,396	40,119
Ngaruawahia	-7,310	351	22,736
Raglan	9,118	27,239	70,486
Rest of Waikato	7,373	76,072	249,306
Total	**52,902**	**231,509**	**609,026**

Industrial space in Waikato is expected to grow by around 610,000sqm of GFA over 30 years. The largest volume is expected in the North with Pokenō experiencing 82,000sqm of growth and Tuakau experiencing 86,000sqm of growth. There are significant levels of growth spread across the rest of the district however, with almost 250,000sqm GFA of growth in the Rest of Waikato reporting area over the next 30 years.. Over the next 3 years almost 53,000sqm GFA is required and this grows to over 230,000sqm GFA over 10 years (Medium term) (Figure 4.18).

4.3.3 Waipā District Future Business Land Demand

Waipā District's commercial space growth is estimated to be almost 110,000sqm GFA over 30 years. This is dominated by Cambridge-Karapiro and Te Awamutu-Kihikihi as the two largest urban areas. Growth increases from approximately 7,000sqm in the short term, to over 35,000sqm GFA in the medium term.

Figure 4.19: Waipā Commercial Space Demand (GFA sqm), Short Medium and Long Term

Name	Short Term	Medium Term	Long Term
Cambridge-Karapiro	2,023	16,057	47,894
Te Awamutu-Kihikihi	3,664	13,590	44,582
Rukuhia-Ngahinapouri-Ohaupo-Pirongia	671	4,119	13,009
Rest of Waipa	607	1,551	3,824
Total	**6,965**	**35,317**	**109,309**

Retail demand translates into total additional GFA of almost 38,000sqm over the long term in Waipā. Again, this is dominated by the 2 large centres Cambridge-Karapiro and Te Awamutu-Kihikihi at 19,400sqm and 14,700sqm GFA respectively. Retail demand in the short term is less than 1,000sqm. This rises to almost 12,000sqm over the medium term.

Figure 4.20: Waipā Retail Space Demand (GFA sqm), Short Medium and Long Term

Name	Short Term	Medium Term	Long Term
Cambridge-Karapiro	1,526	7,504	19,382
Te Awamutu-Kihikihi	163	3,576	14,716
Rukuhia-Ngahinapouri-Ohaupo-Pirongia	- 328	747	3,381
Rest of Waipa	- 454	- 235	320
Total	**907**	**11,593**	**37,798**

Finally, industrial demand in Waipā translates to over 450,000 sqm GFA over the long term. As with commercial and retail GFA, The majority of this around Cambridge-Karapiro (217,000sqm or 48% of total demand) and Te Awamutu-Kihikihi (148,000 or 33% of total). The Rukuhia-Ngahinapouri-Ohaupo-Pirongia reporting area does show strong growth however, with growth of almost 71,000sqm GFA (16%) in the long term. Demand in the short term is just over 37,000sqm GFA and almost 135,000sqm GFA in the medium term.

Figure 4.21: Waipā Industrial Space Demand (GFA sqm), Short Medium and Long Term

Name	Short Term	Medium Term	Long Term
Cambridge-Karapiro	23,030	67,427	217,157
Te Awamutu-Kihikihi	10,233	42,859	148,277
Rukuhia-Ngahinapouri-Ohaupo-Pirongia	2,494	18,362	70,928
Rest of Waipa	1,442	5,845	19,240
Total	**37,198**	**134,494**	**455,601**

5 Business Land and Floorspace Capacity

In general, capacity estimates for each of the districts in the Future Proof Partnership are based on the final capacity estimates generated as part of the original HBA carried out in 2017 to meet the requirements of the NPS-UDC. From the final agreed parcel sets, parcels with CCC's issued for new buildings are removed from vacant capacity set. Larger greenfield parcels that have been split into smaller lots and either fully or partially developed have been identified and consumed capacity removed from the totals. Any additional land that has been earmarked for commercial use into the future has been identified and coded according to the current estimate of time it will become available.

In this section, we will review capacity from the HBA carried out under the NPS-UDC for each Council, then for each, identify changes in capacity due to uptake and any rezoning that has occurred. Final estimates of capacity will be presented for each TA divided into logical aggregations that will be used in the final assessments of sufficiency.

It is important to note that the RMA 1991 is an enabling Act, which means that as a guiding principle of land use planning, landowners should be enabled to develop their land for the uses they desire. This translates to provisions in district plans being broad - most parcels identified as vacant can meet a relatively wide range of needs. This means that capacity may not be exclusively sheeted back to one usage type or another. In this assessment we have identified the total amount of capacity – regardless of use and the amount available to each of the three broad economic activity types. They may not add to the same total if a piece of land enables both commercial activities and retail activities as will often be the case in town centres, but we make no call as to which activity has precedence[14].

5.1 Vacant Land Identified

As with the HBA 2017, vacant land capacity has been identified at the parcel level based on zone-specific rules that dictate the development typologies that may occur. Vacant land parcels were identified using a combination of existing built floor area metrics and improvement values, derived from each of the Council rating databases. A base level of development of 50sqm GFA or 2.5% site cover have been used as the lower limits of occupancy, in other words parcels either empty or with a building up to 50sqm are considered vacant. In addition, parcels where the built form exceeds 50sqm, but covers less than 2.5% of the total property are also considered vacant. This is a new classification from the 2017 assessment designed to capture large parcels – often on the urban edge, that have been earmarked for future non-residential uses, but may still have a farmhouse or some similar structure on them. They are effectively vacant and are now able to be recorded as such. This may lead to slight differences in measures of vacant capacity and make comparison between 2017 and 2020 problematic, but it is important that as the HBA process evolves, improvements are made.

[14] The exception being that we assume that retail activities will outbid commercial activities for ground floor space on the land.

Vacant land on each parcel was categorised into three broad sector types (Commercial, Retail, Industrial), based on the development types allowed within each zone.[15] Figure 5.1 contains the vacant land capacities output from M.E's model for entire period 2020 to 2050.[16] Feedback from each of the Councils (ground truthing) was incorporated where necessary to increase, reduce or remove specific areas from the capacity assessment. Data contained within Hamilton City Council plans indicated where roads, reserves, and other infrastructure was required to be removed. Within Waikato and Waipā Districts, M.E reduced the vacant land capacity of all vacant parcels over 1 hectare by 30% to take account of development requirements.

M.E also removed the ability for the Commercial – Other Built floorspace type to locate on industrial zones within the Waikato 2070 areas. This was to better reflect the expected *industrial* nature of businesses within these areas, rather than commercial.

Figure 5.1: FPP Long term Vacant Business Land by broad sector, 2020-2050 (ha)

Broad Sector	Hamilton City	Waikato District	Waipa District	Total FPP Area
Commercial	565	316	173	1,053
Retail	161	69	11	241
Industrial	640	1,174	231	2,045
Total Vacant Bus. Land*	**744**	**1,231**	**242**	**2,216**

Across the Councils at the TA level, there are significant areas of vacant land with non-residential capacity.

Vacant commercial land capacity within Hamilton City and Waipā District represent large proportions of total vacant business land identified within them. Within Hamilton City, the 565 hectares of vacant commercial land represents 76% of the total 744 hectares of vacant business capacity. Waipā District's commercial capacity represents 75% of the total vacant business land capacity, with 173 hectares of the total 242 hectares identified. Waikato District's commercial land capacity represents 316 hectares or 27% of the total 1,231 hectares identified, though the proportion is lower largely because so much industrial land has been earmarked in the district.

For all Partners, vacant retail land capacity represents the smallest proportion of total vacant land capacity available in the TA. Hamilton City contains the absolute largest amount of vacant retail land capacity, with 161 hectares (22% of 744 ha total). Waikato District contains the next largest amount of vacant retail land available, with 69 hectares representing 6% of the total 1,231 hectares identified. Waipā District contains the smallest total amount of vacant retail land capacity, with 11 hectares (4.5%) of the 242 hectares total.

For all the partnership councils, vacant industrial land capacity represents the largest proportion of total vacant capacity identified, with 640 hectares (86% of 744 ha total) in Hamilton City, 1,174 hectares (95% of 1,231 ha total) in Waikato District, and 231 hectares (95% of 242 hectares) in Waipā District. This is as a result of the fact that each of the councils have zoned or earmarked large swathes of land enabled for

[15] Vacant capacity values across each sector are additive within each individual Territorial Authority. There is no double-counting of vacant areas across the sectors.

[16] Note that the Industrial total for Hamilton City is the long term capacity once all Te Rapa North becomes available.

industrial development, reflecting the high proportion of primary, manufacturing, and related industries that exist in their economies. Waikato District in particular has enabled significant areas of land south of Auckland as they look to provide for some of the over-spill of businesses from the Auckland market.

5.2 Vacant Business Capacity

After identifying vacant land capacity by type, plan enabled gross floor area (GFA) was determined on each parcel based on the attached zoning rules. Rules relating to site coverages, building heights and floor area ratios were used in the calculation of GFA based on the zoning applied to each parcel.

The activity status tables from each of the Councils' District Plans were used to determine the floorspace activity types allowed, which have then been aggregated to the broad business categories used above. Figure 5.2 and Figure 5.3 provide examples of how the activity status table for Business Zones within Hamilton City have been broadly matched to M.E's floorspace types. Permitted, discretionary, and restricted discretionary activities have been incorporated under the assumption that these are essentially allowed under the various District Plans. Both Waikato and Waipā Districts have had similar frameworks applied, based on rules specific to zoning within their District Plans.

Figure 5.2: Example of District Plan Activity Table (Hamilton City District Plan)

	Character (for information only)						
	Commercial fringe	Major Event Facilities	Sub-Regional centre	Large Format Retail	Suburban Centre	Neigh bour-hood Centre	Frankton Comm-ercial Fringe
Business Zone	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Buildings							
a) New buildings, alterations and additions	RD*	RD*	RD*	RD*	RD*	RD*	RD*
b) Minor works	P	P	P	P	P	P	P
c) Accessory buildings	RD*	RD*	RD*	RD*	RD*	RD*	RD*
d) Demolition, removal , maintenance or repair of existing buildings (except heritage buildings scheduled in Volume 2, Appendix 8, Schedule 8A: Built Heritage)	P	P	P	P	P	P	P
e) Demolition or removal of existing buildings on Lot 129 DPS 930	-	-	-	-	-	NC	-

Industry							
f) Industrial activity i. excluding light or service industry ii. noxious or offensive activities	D NC	NC NC	NC NC	D NC	NC NC	NC NC	D NC
g) Light industry	RD	D	D	D	D	NC	P
h) Service industry	P	D	P	P	D	D	P
i) Transport depot	RD	D	NC	D	D	NC	RD
j) Emergency service facility	RD*	D	RD*	RD*	RD*	D	RD*
k) Research and innovation activities	P	NC	NC	NC	NC	NC	RD
Offices							
l) Ancillary office	P	P	P	P	P	P	P
m) Offices (excluding offices on land zoned Business 3 on The Base site shown on Figure 6.1b) i. <250m^2 GFA site ii. 250m^2 – 500m2 GFA per site iii. >500m^2 GFA per site whereby site excludes Unit Titles and Cross Leases in i – iii above	P RD* D	P D NC	P D NC	D NC NC	P D NC	D NC NC	NC NC NC

Figure 5.3: Relationship between Space types and Zones

Zone	SubZone	Office-Commercial	Office-Retail	Shops-Commercial	Shops-Retail	Accommodation	Warehouse	Factory	Yard-Commercial	Yard-Industrial	Other Built-Commercial	Other Built-Industrial	Education	Outdoor-Commercial	Outdoor-Industrial	Outdoor-Rural
Business Zone	Business 5 Zone	1	1	1	1	1	1	0	1	1	0	0	1	0	0	0
Business Zone	Business 7 Zone	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1
Business Zone	Business 6 Zone	0	0	1	1	0	0	0	0	1	0	0	1	0	0	0
Business Zone	Business 4 Zone	0	1	1	1	1	1	1	1	1	0	0	1	0	0	0
Business Zone	Business 3 Zone	1	1	1	1	1	1	0	1	1	0	0	1	0	0	0
Business Zone	Business 1 Zone	1	1	1	1	1	1	1	0	1	1	0	1	0	0	0
Business Zone	Business 2 Zone	1	1	1	1	1	1	0	0	1	0	0	1	0	0	0
Central City Zone	Precinct 1	1	1	1	1	1	0	0	0	0	1	0	1	0	0	0
Central City Zone	Precinct 2	1	1	1	1	1	1	0	1	1	1	0	1	0	0	0
Central City Zone	Precinct 3	1	1	1	1	1	0	0	0	0	1	0	1	0	0	0

Figure 5.4 contains M.E's estimates of business floorspace capacity on vacant land across the Future Proof Partner councils over the short-to-long term, 2020 to 2050. Once again, feedback from each of the councils has been incorporated to include, reduce, or remove floorspace on a case-by-case basis where necessary.

M.E have applied a reduced site coverage of 38.3% to industrial zoned land across the partnership councils.[17] This is to better reflect the reality that industrial businesses do not tend to use the total plan-enabled floor area on sites. Oftentimes more emphasis is placed on yard- and outdoor-type activities, than on activities that require floorspace. As such, we have reduced the site coverage from the plan-enabled capacity to a more realistic measure.

Figure 5.4: FPP Long term Vacant Business Capacity (GFA) by broad sector, 2020-2050 ('000 sqm)

Broad Sector	Hamilton City	Waikato District	Waipa District	Total FPP Area
Commercial	10,013	4,115	1,774	15,902
Retail	756	341	95	1,192
Industrial	3,501	4,436	872	8,809
Total Vacant Bus. Land*	**12,416**	**8,785**	**2,742**	**23,942**

Within Hamilton City and Waipā District, the commercial sector has the greatest GFA capacity. Within Hamilton City plan-enabled commercial GFA represents 10 million sqm (81%) of the total 12.4 million sqm enabled in the city, and 63% of the total 15.9 million sqm in the total sub-region. Within Waipā, plan-enabled commercial floorspace represents 1.77 million sqm (65%) of the total 2.74 million sqm in the district. Within Waikato District, commercial floorspace represents the second-largest amount of plan-enabled floorspace with 4.1 million (47%) of the total 8.8 million square metres available.

The significant capacities determined for commercial floorspace are generally a function of the relatively intensive development patterns that commercial land uses occupy. Land uses as defined in the FPP Capacity Model allow for commercial occupation of levels above the ground floor. As well as this, zones that allow for commercial land uses often have higher coverage allowances, or floor area ratios (where applicable). Some forms of commercial land uses may also occupy space in a range of zones, including some mixed usage zones. These factors combined mean that plan enabled commercial capacity represents a much larger proportion of total enabled capacity than the vacant land capacity (from section 5.1, above) would imply.

Retail floorspace capacity across the TAs represents the smallest proportion of total floorspace capacity in all cases. Retail floorspace capacity within Hamilton City represents 0.76 million sqm (6% of the total 12.4 million sqm), 0.34 million sqm (4% of the total 8.78 million sqm) in Waikato District, and 0.09 million sqm

[17] The 38.3% site coverage was derived from the average site coverage in the Te Rapa North industrial zones, and reflects our assumption for industrial space availability going forward. District Plan rules indicate site coverages of between 58 and 80% for industrial type zones.

(3% of the total 2.74 million sqm) in Waipā District. Where Retail floorspace activities are permitted, they have been given primacy for ground floor occupation over all other land use types. This assumption has been made to reflect the likely development patterns, where Retail development is likely to outcompete other land uses on the ground floor.

Vacant realistic industrial space (RIS) within Hamilton City represents 3.5 million (28%) of the total 12.4 million sqm enabled within the TA. RIS capacity in the Waikato District totals 4.4 million sqm (51%) of the 8.8 million sqm enabled. Vacant RIS in the Waipā District equates to 0.87 million sqm, or 32% of the total 2.7 million sqm of business capacity in the area. Much of Hamilton City's previous industrial floorspace capacity has been taken up since the last assessment in 2017, especially in areas near Horotiu and Te Rapa. As with vacant industrial land, much of Waikato's industrial floorspace capacity exists in greenfields areas that are being developed into the future.

5.3 Discussion

5.3.1 Limitations

One of the key possible limitations in the identification of vacant land is the currency of the Rating Databases provided to M.E by each of the Councils. Due to the nature of these as a snapshot in time, there is the potential for key indicators of vacancy (e.g. improvement values, built floor area) to be out of date. This may cause the model to identify vacant capacity where none actually exists. Although calibrating with GIS building footprints may help with this, in some cases the GIS data too is non-representative due to age. To help remedy this limitation, some local knowledge has been supplied by the Councils relating to occupied sites, or sites with consents issued that may reduce or set capacity for the future. This knowledge has been incorporated in where applicable.

In some cases vacant capacity has been identified in this assessment where none was identified previously. This is especially prevalent where new greenfields developments have been identified for the future. We have incorporated information where it has been supplied – specifically for Waikato District and Hamilton City. This means that land that may not be vacant at this point in time (e.g. rural land with farmhouse on it) has been identified as capacity at some point in the future.

There are also some limitations with using the 2017 assessment as an indisputable baseline. In some cases, we've identified vacant capacity where there was none previously due to changes in modelling rules (e.g. less than 2.5% coverage) or where demolitions have occurred. Because we have used 2017 as a baseline however, this means that these parcels are not included in the final capacity assessment. Future iterations of the assessment should re-base capacity with updated data, in-line with policies of the NPS-UD.

We have made the assumption that most of the land earmarked for investigation under the Waikato 2070 strategy could become capacity into the future. There is no guarantee that the areas under investigation will be re-zoned or result in capacity.

Applying a blanket reduction in site area of 30% for parcels greater than 1 hectare in Waikato and Waipā Districts does remove some nuance from what may happen on the ground in future developments, but

overall we have assumed that this is a reasonable measure in light of development patterns we have seen elsewhere.

Using a realistic industrial space measure also changes the level of capacity identified across the sub-region. It necessarily causes industrial floorspace measurements to be more conservative than what is 'plan-enabled', but we believe it does more accurately reflect what will happen on the ground. The use of it may cause some sufficiency issues at the local level, but the fact is that if there is upward pressure for more capacity, businesses are able to develop to a higher floorspace than what has been identified in this report.

5.3.2 Cross over with Housing Capacity

The results presented above provide an indication of what the Business capacity is across the Future Proof Partner network, if all vacant business-zoned land was occupied by business activities. There is, however, an issue in some specific mixed use type zones where both residential and business land activities could occur.

In zones such as the City Centre Zone in Hamilton City, residential and (primarily) commercial land uses may occupy the same vacant sites. The issue does not impact upon retail capacity in these zones, as both the Business Capacity and Residential Capacity models recognise the primacy of retail uses on ground floors in mixed use zones such as these. What this does mean is that competition for upper-floor space could alter the actual developments types into the future. Although the issue does not reflect the plan-enabled capacity in a strictly quantitative sense (in terms of applying the zone rules), it is worth noting the potential double-counting that might occur.

5.3.3 Unoccupied Premises

When undertaking some ground truthing checks across the Future Proof Partners, it was noted that there exist some developed – but unoccupied – premises. The FPP Business Capacity Model does not take these unoccupied premises into account in terms of capacity, due to the difficulty required to isolate these sites and distinguish them from other developed (but occupied) sites. Adding to this, the number and size of unoccupied premises are often in flux, with occupation and relocation of businesses. This essentially means that there may be some extra capacity available for some less-specialised industries to occupy, but these are unable to be modelled effectively.

By excluding this from the assessment, the report presents a conservative picture with respect to capacity.

5.3.4 Redevelopment Capacity

There will be additional capacity available through the redevelopment process. Redevelopment occurs when a piece of already occupied land is purchased and additional development occurs to either change its usage, or to increase the amount of use that is made of it currently.

One way to estimate the amount of additional capacity potentially available in an area is to look at the average level of development intensity (number of storeys or floor area ratios) achieved across the entire area, then look at the level of intensity on sites that are significantly lower than the average. These may be

sites that have redevelopment potential to bring them closer to the revealed development intensity of the balance of the area.

This can be done across commercial centres and industrial areas. However, there are issues with redevelopment capacity that arise when the type and nature of business land use is not taken into consideration. For example, it may be that through an analysis of an industrial area, a number of seemingly under-utilised sites are identified that may represent capacity. However, they may exist as important parts of the production process either as turning bays for trucks or as storage areas for completed or partially completed goods.

In this study we have adopted a conservative stance and have assumed that the only capacity that is truly available is **vacant capacity**. This is an area that could be investigated further by Councils wishing to understand the depth of true capacity within the FPP area.

If the FPP area proves to have provided for sufficient capacity by simply providing for vacant capacity, then redevelopment capacity is not required. The amount of redevelopment capacity that is taken up over the short, medium and long term will obviously have an effect on the take up of vacant capacity.

We recommend Council monitor this.

5.3.5 Capacity in Rural Environment

Given the nature of the NPS-UD, M.E has only modelled business capacity in primarily urban environments and urban-type zones. Although the FPP-BCM does incorporate greenfield development where information is available, these greenfields are often within or adjacent to the urban environment and have specified activities associated. The FPP-BCM does not take into account other areas of the Rural Environment that could potentially enable capacity of some business activities, especially outdoor industrial activities or similar. Rural zones could potentially support a significant level of capacity, especially within Waikato and Waipā District Councils where the Rural zones are extensive. Although the exact capacity has not been modelled in these zones, it should be noted that the potential capacity for (currently) non-complying business activities may be high.

We recommend council monitor the growth of non rural industrial activities in rural locations by type and location.

6 Development Suitability

In the NPS-UD, development capacity to accommodate business activities is laid out in sections 3.28, 3.29 and 3.30. In 3.29, the NPS-UD states that development capacity provided by each Council should be plan enabled, infrastructure ready and suitable for each sector. In 3.29 (2) the NPS states that it is up to the local authority to define what it means for development capacity to be suitable, but that suitability must be (at a minimum) suitable in terms of location and site size.

Unlike assessing capacity to meet housing demand, to assess business capacity does not specifically require an assessment of 'Development Feasibility'. It is sufficient to provide suitable land in terms of location and scale.

In the 2017 assessment the approach focused on establishing plan-enabled capacity. That is, the amount of theoretical capacity that arises by way of the plans zoning and other provisions. This volume of capacity may not translate to actual business properties available to accommodate growth unless it is "feasible" to develop. The NPS-UDC defined "feasible" as follows:

> *Feasible means that development is commercially viable, taking into account the current likely costs, revenue and yield of developing; and feasibility has a corresponding meaning.*

The intent of that definition is that local authorities assess whether development capacity is feasible to a developer. The definition refers to the costs and revenue that would be faced by a developer, to develop capacity that is enabled by a plan and supported by public infrastructure.

This cost and revenue based approach for residential development was relatively simple, in that the numbers of development options for a residential developer are usually relatively small – as are the ownership options. This meant development feasibility could usually be determined with a simple residual value type development model. This type of model starts with the anticipated final sale price and deducts all the costs associated with development – including a developers margin. The difference then between the final sale price and all of the developers costs is the amount the developer can pay for the land and remain viable.

If the land is priced higher than that, then the development is not feasible and won't be developed – regardless of the zoning.

For business land, the situation is far more complex. The type and nature of business development is far more varied than residential – retail and commercial clients have a wide range of development types that might be suitable for a piece of land, each with different build costs, ownership types and developer margins. Industrial land may be developed in a bespoke manner by a particular manufacturer that may wish a purpose-built plant and plan to operate it for as long as the business is viable. This type of developer may be able to amortise costs across a very long timeframe, so is motivated very differently from a developer looking to build more generic tilt slab industrial units for rapid sale.

Because of these complexities a residual land value type model is not appropriate for business land assessments. This was a key driver of the change between the NPS-UDC and the NPS-UD. IT was recognised that assessing the amount of business land that provided a developer margin was impossible, therefore

local authorities should not be judged on whether they had achieved this rather spurious goal – given the diversity of development options available to businesses, few of which occurred with the aim of achieving a 'developer margin'.

However, Multi-Criteria Analysis provides a way for Councils to frame the development opportunities within their district by scoring them against a set of agreed criteria in terms of suitability to develop. Each criteria plays a large or small role in the development and locational decision, so is given a large or small share of the total area score.

Each broad area is then scored against the criteria and the ratings added to provide an overall score out of 100. Comparisons can then be made between where the plan enabled capacity resides and the MCA score for those areas. If capacity is provided in the areas that score highly in the MCA, Council can be confident that development will proceed. However, if capacity is clustered in areas that score poorly on the MCA process, they may find businesses do not develop that land, and pressure will be brought to bear on other land. This may lead to unintended consequences.

Once all areas have been coded and scored, the results can be placed alongside capacity to highlight any mismatches between plan enabled capacity and the areas that are most desirable to be developed.

6.1 Multi Criteria Framework Analysis

The MCA approach has been used because it allows council and other stakeholders to identify the key metrics that are important in the selection and development process for the land. The following tables present results that draw from both the stakeholder workshop plus longer term studies ME have carried out across industrial and commercial areas in other locations.

Figure 6.1: Retail Criteria, Weighting and FPP Area Scores, 2021

		1 to 10	1 to 10	1 to 15	1 to 15	1 to 5	1 to 10	1 to 15	1 to 5	1 to 5	1 to 5	1 to 5	Total Score	
		10	10	15	15	5	10	5	5	5	5	5	90	
TA	2020 Spatial Frame	Access to major Road / transport routes; good transport access, especially road/motorway	Proximity to market - households within 5km	Co-location or clustering with associated business activities - Retail Centre	Parking availability	Proximity to market - households within 5km - 10km	Proximity to labour	Proximity to market - tourist accommodation within 1km	Low level of traffic congestion in vacinity	Exposure / profile / visibility	Existing or proposed public transport	Access to complementary / supporting business services	TOTAL (out of 90)	Adjusted to 100%
Hamilton	Te Rapa	10	10	12	15	5	10	2	2	5	4	5	80	89
Hamilton	Frankton	4	9	10	10	5	9	2	3	3	4	5	64	71
Hamilton	Ruakura	10	9	1	10	5	9	1	5	4	4	5	63	70
Hamilton	Chartwell	6	10	10	10	5	10	1	4	3	4	5	68	76
Hamilton	CBD	6	9	15	15	5	9	5	1	5	4	5	79	88
Hamilton	Other	6	9	6	10	5	9	2	3	3	4	5	62	69
Waikato	Huntly	9	4	4	15	3	4	2	4	5	2	3	55	61
Waikato	Ngaruawahia	6	4	2	12	2	4	1	5	2	3	3	44	49
Waikato	Pokeno	9	3	1	15	3	3	1	5	4	2	1	47	52
Waikato	Tuakau	6	4	2	10	3	4	1	4	3	3	2	42	47
Waikato	Raglan	3	3	3	10	2	3	3	4	1	1	2	35	39
Waikato	Te Kauwhata	3	2	1	10	2	2	1	4	1	1	2	29	32
Waipa	Rukuhia/Ngahinapouri /Ohaupo/Pirongia	6	2	1	15	3	2	2	4	3	2	3	43	48
Waipa	Cambridge/Karapiro	8	6	11	10	4	6	2	3	3	2	4	59	66
Waipa	Te Awamutu/Kihikihi	5	5	11	10	4	5	1	3	3	2	4	53	59

Figure 6.2: Industrial Criteria, Weighting and FPP Area Scores, 2021

		1 to 20	1 to 20	1 to 15	1 to 20	1 to 10	1 to 10	1 to 5	1 to 5	1 to 10	1 to 5	TOTAL	
		20	10	15	15	10	20	5	10	5	5	115	
TA	2020 Spatial Frame	Access to major Road / transport routes; good transport access, especially road/motorway	Flat land, large land parcel (minimum size??) contiguous site	Service Infrastructure in place or proposed	Area has potential for co-location or clustering with associated business activities or is contiguous with existing business land zoned for industrial activities	Proximity to labour	Ability to buffer adverse effects from residential and sensitive activities, distance from sensitive land uses	Low level of traffic congestion in vacinity	Exposure / profile / visibility	Existing or proposed public transport	Access to complementary / supporting business services	TOTAL Score (out of 115)	TOTAL (out of 100)
Hamilton	Te Rapa	19	9	12	14	10	20	2	9	4	5	104	91
Hamilton	Frankton	8	6	15	13	9	20	3	5	4	5	88	77
Hamilton	Ruakura	19	10	11	2	9	20	5	7	4	5	92	80
Hamilton	Chartwell	12	5	15	4	10	5	4	5	4	5	69	60
Hamilton	CBD	12	2	15	10	9	5	1	8	4	5	71	62
Hamilton	Other	13	6	13	7	10	8	3	6	4	5	76	66
Waikato	Huntly	18	8	8	9	4	20	4	9	2	3	85	73
Waikato	Ngaruawahia	17	9	8	8	1	19	5	6	3	3	79	69
Waikato	Pokeno	18	8	10	4	3	18	5	7	2	1	76	66
Waikato	Tuakau	12	8	10	5	4	15	4	5	3	2	68	59
Waikato	Raglan	5	3	6	3	3	10	4	2	1	2	39	34
Waikato	Te Kauwhata	6	4	8	4	2	15	4	2	1	2	48	41
Waipa	Rukuhia/Ngahinapouri /Ohaupo/Pirongia	12	6	9	8	2	15	4	6	2	3	67	58
Waipa	Cambridge/Karapiro	15	6	14	10	6	15	3	6	2	4	81	70
Waipa	Te Awamutu/Kihikihi	10	6	14	10	5	15	3	5	2	4	74	64

Figure 6.3: Commercial Criteria, Weighting and FPP Area Scores, 2021

		1 to 10	1 to 10	1 to 5	1 to 15	1 to 15	1 to 10	1 to 5	1 to 5	1 to 10	1 to 10	1 to 5	TOTAL
		10	10	5	15	15	10	5	5	10	10	5	100
TA	2020 Spatial Frame	Access to major Road / transport routes; good transport access, especially road/motorway	Proximity to market - households within 5km	Exposure / profile / visibility	Co-location or clustering with associated business activities - Retail Centre	Parking availability	Proximity to labour	Low level of traffic congestion in vacinity	Existing or proposed public transport	Access to complementary / supporting business services	Secure infrastructure - high speed fibre, power etc.	Diversity of Space types	Total
Hamilton	Te Rapa	10	7	5	10	15	10	2	4	7	8	5	83
Hamilton	Frankton	4	9	3	9	7	9	3	4	6	10	2	66
Hamilton	Ruakura	10	8	4	5	15	9	5	4	3	7	5	75
Hamilton	Chartwell	6	8	3	5	7	10	4	4	3	10	2	62
Hamilton	CBD	8	10	4	15	13	9	1	4	10	10	5	89
Hamilton	Other	6	8	3	6	7	9	3	4	4	9	3	62
Waikato	Huntly	9	3	5	5	10	4	4	2	3	5	1	51
Waikato	Ngaruawahia/Horotiu	7	2	2	3	10	3	5	3	2	6	1	44
Waikato	Pokeno	9	1	4	1	10	3	5	2	1	7	1	44
Waikato	Tuakau	6	3	3	3	10	4	4	3	2	5	2	45
Waikato	Raglan	3	2	1	3	8	3	4	1	2	5	2	34
Waikato	Te Kauwhata	3	1	1	2	10	2	4	1	1	5	1	31
Waipa	Rukuhia/Ngahinapouri /Ohaupo/Pirongia	6	1	3	3	12	2	4	2	2	5	2	42
Waipa	Cambridge/Karapiro	8	5	3	9	10	6	3	2	5	9	4	64
Waipa	Te Awamutu/Kihikihi	5	5	3	9	10	5	3	2	5	9	4	60

7 Sufficiency of Capacity

In this section the results of the demand and capacity assessments are brought together to provide a quantitative comparison between them in order to determine the sufficiency of capacity provided for in the FPP area. Under Section 3.3 of the NPS-UD it states that local authorities must provide *"at lease sufficient development capacity in its region or district to meet the expected demand for business land"*. It goes on to define sufficiency as being capacity that must be;

- Plan enabled,
- Infrastructure ready,
- Suitable to meet the demands of different business sectors, and,
- Meets the expected demand plus the appropriate competitiveness margin

In practice, that means that the land required is zoned and feasible for the next 10 years (short to medium term) and has been identified in the various plans and strategic documents over the next 30 years (the long term).

Sections 7.1, 7.2 and 7.3 below report sufficiency levels based on base demand projections. Section 7.4 incorporates a margin above the base demand. In this section demand estimates have been increased by 20% in the short and medium terms and by 15% in the long term to meet the requirements of Section 3.22 of the NPS-UD, which states;

> *"A competitiveness margin of development capacity, over and above raw expected demand that tier 1 and 2 local authorities are required to provide, that is required in order to support choice and competitiveness in housing and business land markets*
>
> *The competitiveness margins for both housing and business land are;*
>
> - *For the short term, 20%,*
> - *for the medium term, 20%,*
> - *for the lang term, 15%*

In most, if not all cases, local authorities have provided sufficient business land capacity to exceed the requirements at the territorial authority-wide level over the 10-year period. Most have ample supply for the full 30-year period, available today or planned for the future. There are some localised insufficiencies and other areas where margins are close, but overall there is more than enough supply.

7.1 Hamilton Area Results

This section presents compares the results of the demand and capacity modelling together across the Hamilton City spatial framework. Results are presented for both land and floor space for each council, across the three broad economic sector types.

It is important to note that for land areas that are enabled for both commercial and retail activities the total has been split between the two categories. To a certain extent, this means that demand and supply for these should be read together, as there is no way of knowing what type of activity will actually occupy the land (at this distance). It is also the case that if either retail or commercial demand exceeds the amount of land allocated, there is the potential for competing land uses to either drive up prices or for the land to be dominated by the activity that can pay the most for the land. In addition, pressure is brought to bear on other land types (Industrial in particular and residential).

While this is the market operating in a normal manner and potentially leads to efficient outcomes, it may also have unintended consequences due to not all costs being captured in the price developers pay for the land. **We highly recommend Council monitor this situation – should it arise**.

Figure 7.1 shows that Hamilton has around 565ha of land zoned and available for Commercial development (Commercial type development as defined above) this has reduced from 643ha identified in the 2017/18 HBA. Figure 7.2, shows that on this land over 10 million sqm of GFA could potentially be constructed.

Given that in the long term some 101ha of land which translates into 652,300sqm of GFA is required, there remains a **significant surplus** as was the case in 2017/18. However, demand is lumpy and supply is concentrated into a few distinct areas (Te Rapa and the Rest of Hamilton account for 68% of total demand), local shortfalls may occur. They are indicated in Figure 7.1 in red with the word Insufficient in either the short, medium or long term.

Commercial activities are relatively foot loose, in that they are less tied to a single location, this means that capacity provided in other areas is likely to be suitable to meet the majority of needs.

Figure 7.1: Hamilton City Long term Commercial Land Sufficiency Summary (ha)

Name	Short Term	Medium Term	Long Term	Total Vacant Land (ha)	Short Term	Medium Term	Long Term
Te Rapa	5.2	13.7	26.0	123.5			
Chartwell	- 0.0	0.2	0.9	0.1		Insufficient	Insufficient
Frankton	1.8	4.7	12.5	22.5			
CBD	- 0.1	4.8	16.6	7.8			Insufficient
Ruakura	0.0	0.5	2.0	336.8			
Other	5.3	16.3	42.9	74.1			
Total	**12.1**	**40.1**	**100.9**	**564.8**			

Figure 7.2: Hamilton City Long term Commercial Space Sufficiency Summary (GFA)

Name	Short Term	Medium Term	Long Term	Total GFA Capacity (sqm)	Short Term	Medium Term	Long Term
Te Rapa	33,803	88,392	166,990	1,051,561			
Chartwell	- 334	1,599	6,329	1,228		Insufficient	Insufficient
Frankton	11,360	29,823	79,855	136,047			
CBD	- 231	32,379	110,106	221,788			
Ruakura	92	3,579	13,510	6,993,291			
Other	33,465	104,586	275,556	1,608,671			
Total	**78,155**	**260,358**	**652,346**	**10,012,586**			

Plan enabled Retail capacity sits at just under 161ha of land (down from 186ha identified in the 2017/18 HBA). On this could be developed approximately 755,700sqm retail GFA. However, the demand models indicate that only around 41ha of retail land accommodating 245,000sqm of GFA are likely to be required in the long run.

As with the Commercial, Hamilton's plan provisions significantly over provide for retail development in the short, medium and long term – in total. Retail is a little different from commercial in that there is a portion of retail that needs to sit locally with residential areas. It is not as foot loose as commercial activities.

Figure 7.3: Hamilton City Long term Retail Land Sufficiency Summary (ha)

Name	Short Term	Medium Term	Long Term	Total Vacant Land (ha)	Short Term	Medium Term	Long Term
Te Rapa	1.9	4.8	8.0	24.3			
Chartwell	0.1	0.5	1.4	0.1	Insufficient	Insufficient	Insufficient
Frankton	0.0	1.4	5.1	1.4			Insufficient
CBD	0.2	1.8	5.3	7.6			
Ruakura	- 0.0	0.3	1.1	60.9			
Other	2.7	7.9	19.9	66.5			
Total	**4.9**	**16.7**	**40.8**	**160.7**			

Figure 7.4: Hamilton City Long term Retail Space Sufficiency Summary (GFA)

Name	Short Term	Medium Term	Long Term	Total GFA Capacity (sqm)	Short Term	Medium Term	Long Term
Te Rapa	11,657	29,054	48,190	121,325			
Chartwell	520	2,799	8,286	307	Insufficient	Insufficient	Insufficient
Frankton	27	8,253	30,426	7,217		Insufficient	Insufficient
CBD	1,259	10,943	32,082	55,968			
Ruakura	- 162	1,589	6,683	233,300			
Other	16,316	47,666	119,182	337,548			
Total	**29,618**	**100,303**	**244,848**	**755,665**			

We note that there are some areas where little or no capacity exists, yet demand is strong (Chartwell and Frankton). Retail demand is mobile and alternatives are relatively proximate to these areas. However, we still recommend Council monitor these areas to ensure households are able to meet their retail needs in an efficient manner.

Hamilton's Industrial land supply is unevenly distributed. Some 96% of vacant industrial land occurs in 2 areas (Te Rapa and Ruakura). This is often the way in cities that have identified clear areas where industrial activities are able to locate. This is efficient and ensures any potential emissions and their negative impacts can be minimised.

Figure 7.5: Hamilton City Long term Industrial Land Sufficiency Summary (ha)

Name	Short Term	Medium Term	Long Term	Total Vacant Land (ha)	Short Term	Medium Term	Long Term
Te Rapa	42.8	147.5	285.8	278.0			Insufficient
Chartwell	0.4	1.5	4.1	-	Insufficient	Insufficient	Insufficient
Frankton	0.7	21.5	80.3	21.1		Insufficient	Insufficient
CBD	4.3	17.5	56.1	-	Insufficient	Insufficient	Insufficient
Ruakura	0.3	5.0	19.2	336.6			
Other	3.7	28.5	94.1	4.1		Insufficient	Insufficient
Total	**52.2**	**221.5**	**539.6**	**639.7**			

Figure 7.6: Hamilton City Long term Industrial Space Sufficiency Summary (GFA)

Name	Short Term	Medium Term	Long Term	Total GFA Capacity (sqm)	Short Term	Medium Term	Long Term
Te Rapa	175,459	605,601	1,175,173	2,050,237			
Chartwell	1,769	6,128	17,355	-	Insufficient	Insufficient	Insufficient
Frankton	2,523	89,217	332,986	131,864			Insufficient
CBD	17,794	72,997	233,977	-	Insufficient	Insufficient	Insufficient
Ruakura	1,333	21,131	80,408	1,293,383			
Other	16,326	120,167	394,503	25,421		Insufficient	Insufficient
Total	**215,205**	**915,240**	**2,234,402**	**3,500,905**			

The industrial space available to be developed on the land is significantly more than demand requires. Demand grows from 215,200 sqm GFA to 2,234,400 sqm GFA over the long term. This compares with capacity of over 3,500,000 sqm GFA in the long term.

What is important is that the areas identified as being "industrial development areas" are protected from encroachment by other uses (notably large format retail). In Hamilton, the difference between demand and supply in the long run is much less for industrial land than for either retail or commercial. Demand is expected to require 540 ha of land in the long term. Hamilton City has 640ha of industrial land currently identified and zoned. Demand in the long term accounts for 84% of capacity – the closest gap of the three land use types.

7.2 Waikato Area Results

In Waikato District there is approximately 280ha of plan-enabled Commercial business land that could potentially accommodate over 3.5 million sqm of commercial GFA in the short term. This grows to 316ha of land available over the total long term period able to accommodate over 4.1 million sqm of commercial GFA (if developed in line with the plan provisions) should zoning aspirations play out as indicated by Council. Note that the figures represented in Figures 7.7 and 7.8 are the maximum development capacity for each of the sub areas in Waikato. The amount of plan enabled supply greatly exceeds demand over the long

term – this is partly because the plan provisions allow significant flexibility to develop commercial activities in the commercial zones. In total 19.2ha of land are estimated to be required over 30 years which translates into 122,200 sqm GFA. This represents approximately 6% of the available land capacity.

Waikato District has sufficient commercial capacity for almost any development future.

Figure 7.7: Waikato District Long term Commercial Land Sufficiency Summary (ha)

Name	Short Term	Medium Term	Long Term	Total Vacant Land (ha)	Short Term	Medium Term	Long Term
Pokeno	0.2	0.6	1.3	34.5			
Tuakau	0.9	2.2	3.5	94.0			
Te Kauwhata	0.4	1.4	2.4	28.2			
Huntly	0.2	0.7	1.6	9.1			
Ngaruawahia	0.0	0.4	1.5	73.3			
Raglan	0.4	1.0	2.5	4.4			
Rest of Waikato	- 0.1	1.5	6.4	72.2			
Total	**1.9**	**7.7**	**19.2**	**315.6**			

Figure 7.8: Waikato District Long term Commercial Space Sufficiency Summary (GFA sqm)

Name	Short Term	Medium Term	Long Term	Total GFA Capacity (sqm)	Short Term	Medium Term	Long Term
Pokeno	1,070	3,637	8,564	504,775			
Tuakau	5,387	14,469	23,146	1,427,266			
Te Kauwhata	2,419	8,507	14,746	340,409			
Huntly	1,196	4,048	9,677	129,404			
Ngaruawahia	134	2,794	9,598	634,655			
Raglan	2,410	6,627	15,970	61,414			
Rest of Waikato	- 665	8,977	40,482	1,017,518			
Total	**11,949**	**49,060**	**122,183**	**4,115,441**			

In terms of retail land, Waikato District has 52ha of vacant retail-enabled land in the short term. This could potentially accommodate 281,700sqm of retail built floorspace. Again, this is in excess of the long term demand of 6.5ha of retail land or almost 39,200sqm of GFA. Waikato has sufficient retail land and space in all urban locations.

Capacity increases in the medium term to around 65ha and to 69ha in the combined long term as the various plans and developments anticipated come into fruition. This facilitates additional retail GFA of 281,700 sqm in the short term rising to 325,300 sqm in the medium term and on to just over 341,000 sqm GFA in the combined long term (Figure 7.10).

Figure 7.9: Waikato District Long term Retail Land Sufficiency Summary (ha)

Name	Short Term	Medium Term	Long Term	Total Vacant Land (ha)	Short Term	Medium Term	Long Term
Pokeno	0.1	0.2	0.4	21.5			
Tuakau	0.5	1.3	1.9	18.1			
Te Kauwhata	0.2	0.3	0.4	14.1			
Huntly	- 0.1	- 0.0	0.2	5.8			
Ngaruawahia	0.0	0.1	0.5	3.5			
Raglan	0.2	0.5	1.1	3.2			
Rest of Waikato	- 0.3	0.2	2.0	3.0			
Total	**0.6**	**2.6**	**6.5**	**69.2**			

Figure 7.10: Waikato District Long term Retail Space Sufficiency Summary (GFA sqm)

Name	Short Term	Medium Term	Long Term	Total GFA Capacity (sqm)	Short Term	Medium Term	Long Term
Pokeno	875	1,292	2,521	82,703			
Tuakau	2,977	7,749	11,401	71,388			
Te Kauwhata	950	1,748	2,639	88,743			
Huntly	- 839	- 98	1,044	34,655			
Ngaruawahia	6	554	3,170	19,355			
Raglan	1,265	2,836	6,417	25,834			
Rest of Waikato	- 1,895	1,374	11,966	18,408			
Total	**3,339**	**15,454**	**39,159**	**341,086**			

Waikato District has identified 415ha of vacant industrial land in the short term under the Operative District Plan. This land could accommodate approximately 1.5 million sqm of GFA under the realistic industrial space scenario of 38.3% site coverage. While demand for industrial land in the short term is low (12.4ha over three years) over the long term total land demand rises to 145ha. This figure remains significantly lower than provision for Industrial land – even in the short term. However, Waikato District is best placed of the three Councils within the FPP to benefit from any Auckland industrial land demand spill over that may occur.[18] Over the long term, industrial land capacity reaches 1,174 hectares largely due areas identified under the Waikato 2070 strategy.

We recommend Council monitor demand growth and uptake of industrial land in Waikato District in order to ensure appropriate volumes of land are provided for in appropriate locations. In the medium and long term, Council have identified significant additional tranches of land to potentially be zoned should additional demand be required. These are mostly located along the northern edge, adjacent to Auckland Region and adjacent to State Highway 1 at Ohinewai. However, we note that Huntly faces demand growth in the short, medium and long term that is not likely to be able to be meet locally. The same is true for Raglan in the medium and long term. Council have identified only 5ha available in Raglan to cater for growth of 6.5ha in the medium term and 17 ha in the combined long term. We recommend Council identify additional industrial land in both these locations to endure those economies are not constrained due to capacity constraints.

[18] No analysis has been done on any spill over that may occur. Broadly, if land of a low enough price is located within short enough distance of requirements, then businesses will be willing to relocate. Up-zoning swathes of (lower-value) rural land in northern Waikato may be all the incentive that certain businesses need to relocate.

Figure 7.11: Waikato District Long term Industrial Land Sufficiency Summary (ha)

Name	Short Term	Medium Term	Long Term	Total Vacant Land (ha)	Short Term	Medium Term	Long Term
Pokeno	- 0.0	4.2	19.7	53.3			
Tuakau	7.6	14.1	20.9	103.0			
Te Kauwhata	1.1	8.0	13.7	14.0			
Huntly	1.9	4.3	9.5	3.3		Insufficient	Insufficient
Ngaruawahia	- 1.7	0.1	5.4	258.8			
Raglan	2.2	6.5	17.0	1.2	Insufficient	Insufficient	Insufficient
Rest of Waikato	1.5	17.8	58.7	740.8			
Total	**12.4**	**55.1**	**144.9**	**1,174.4**			

Figure 7.12: Waikato District Long term Industrial Space Sufficiency Summary (GFA sqm)

Name	Short Term	Medium Term	Long Term	Total GFA Capacity (sqm)	Short Term	Medium Term	Long Term
Pokeno	- 209	17,514	82,138	198,603			
Tuakau	31,227	58,136	86,455	393,554			
Te Kauwhata	4,725	33,801	57,785	46,974			Insufficient
Huntly	7,979	18,396	40,119	11,058		Insufficient	Insufficient
Ngaruawahia	- 7,310	351	22,736	957,991			
Raglan	9,118	27,239	70,486	4,013	Insufficient	Insufficient	Insufficient
Rest of Waikato	7,373	76,072	249,306	2,824,206			
Total	**52,902**	**231,509**	**609,026**	**4,436,399**			

7.3 Waipā Area Results

Waipā District has identified 173ha of commercial land capacity in their various planning documents. This is significantly more than the 17ha of demand over the combined long term. This capacity is concentrated in Rukuhia/Ngahinapouri/Ohaupo/Pirongia areas (54%). A further 20% is in Cambridge/Karapiro and 4% in Te Awamutu/Kihikihi. Only growth anticipated for Te Awamutu comes close to matching capacity.

Figure 7.13: Waipā District Long term Commercial Land Sufficiency Summary (ha)

Name	Short Term	Medium Term	Long Term	Total Vacant Land (ha)	Short Term	Medium Term	Long Term
Cambridge-Karapiro	0.2	2.4	7.3	34.2			
Te Awamutu-Kihikihi	0.6	2.1	6.9	9.7			
Rukuhia-Ngahinapouri-Ohaupo-Pirongia	0.1	0.7	2.0	94.4			
Rest of Waipa	0.1	0.2	0.6	34.2			
Total	**1.0**	**5.4**	**16.9**	**172.5**			

Figure 7.14: Waipā District Long term Commercial Space Sufficiency Summary (ha)

Name	Short Term	Medium Term	Long Term	Total GFA Capacity (sqm)	Short Term	Medium Term	Long Term
Cambridge-Karapiro	2,023	16,057	47,894	459,221			
Te Awamutu-Kihikihi	3,664	13,590	44,582	153,696			
Rukuhia-Ngahinapouri-Ohaupo-Pirongia	671	4,119	13,009	759,676			
Rest of Waipa	607	1,551	3,824	401,694			
Total	**6,965**	**35,317**	**109,309**	**1,774,287**			

In total almost 1.8 million sqm of commercial GFA is provided for, whereas demand over the long term is only 109,300sqm. Within Cambridge demand in the long term is 47,900sqm compared with capacity of

460,000sqm of GFA. In Te Awamutu demand in the long term is 44,580sqm GFA while capacity is estimated to be 153,700sqm GFA

Waipā has provided for 10.6ha of retail land upon which 95,430sqm GFA could be developed. At the District level this exceeds the demand even in the long term. However Council will need to monitor Cambridge and Te Awamutu for demand-supply balance in the long term. In these towns retail land demand is expected to consume over 60% of available retail land in the long run (Figure 7.15).

Figure 7.15: Waipā District Long term Retail Land Sufficiency Summary (ha)

Name	Short Term	Medium Term	Long Term	Total Vacant Land (ha)	Short Term	Medium Term	Long Term
Cambridge-Karapiro	0.3	1.3	3.2	5.3			
Te Awamutu-Kihikihi	0.0	0.6	2.5	4.0			
Rukuhia-Ngahinapouri-Ohaupo-Pirongia	- 0.1	0.1	0.6	1.3			
Rest of Waipa	- 0.1	- 0.0	0.1	-			Insufficient
Total	**0.2**	**1.9**	**6.3**	**10.6**			

From a floorspace perspective the situation is less of an issue with capacity provided in both the major centres exceeding demand in the long term by more of a margin. Growth is expected to have consumed only 40% of available capacity by then. However, once a buffer of 15% is added to facilitate a competitive market (Figure 7.35) this increase to 46% of capacity.

Figure 7.16: Waipā District Long term Retail Space Sufficiency Summary (ha)

Name	Short Term	Medium Term	Long Term	Total GFA Capacity (sqm)	Short Term	Medium Term	Long Term
Cambridge-Karapiro	1,526	7,504	19,382	47,847			
Te Awamutu-Kihikihi	163	3,576	14,716	35,991			
Rukuhia-Ngahinapouri-Ohaupo-Pirongia	- 328	747	3,381	11,593			
Rest of Waipa	- 454	- 235	320	-			Insufficient
Total	**907**	**11,593**	**37,798**	**95,431**			

We recommend that Council continue to monitor uptake of this land to ensure that all sectors are enabled.

Waipā's District Plan enables 231ha of industrial land – this is more than identified in 2017/18 HBA where some 193ha of land was identified as vacant and available for Industrial purposes. Capacity is concentrated into the Rukuhia/Ngahinapouri/Ohaupo/Pirongia areas (42%) and Cambridge/Karapiro, (25%). This is highly concentrated in and around Titanium Park and Hautapu, both of which are identified as strategic industrial nodes by the partners. In total the amount of land provided exceeds demand over the long term (231ha provided compared with 108ha demanded). We suggest that Council monitor industrial land uptake in Cambridge-Karapiro and Te Awamutu-Kihikihi, where the difference between land supply and demand are slim in the long term.

Figure 7.17: Waipā District Long term Industrial Land Sufficiency Summary (ha)

Name	Short Term	Medium Term	Long Term	Total Vacant Land (ha)	Short Term	Medium Term	Long Term
Cambridge-Karapiro	5.4	15.9	51.9	56.6			
Te Awamutu-Kihikihi	2.3	9.9	34.8	44.2			
Rukuhia-Ngahinapouri-Ohaupo-Pirongia	0.6	4.4	17.0	95.9			
Rest of Waipa	0.4	1.4	4.5	34.3			
Total	**8.6**	**31.5**	**108.2**	**230.9**			

Figure 7.18: Waipā District Long term Industrial Space Sufficiency Summary (ha)

Name	Short Term	Medium Term	Long Term	Total GFA Capacity (sqm)	Short Term	Medium Term	Long Term
Cambridge-Karapiro	23,030	67,427	217,157	203,920			Insufficient
Te Awamutu-Kihikihi	10,233	42,859	148,277	166,567			
Rukuhia-Ngahinapouri-Ohaupo-Pirongia	2,494	18,362	70,928	386,396			
Rest of Waipa	1,442	5,845	19,240	114,931			
Total	**37,198**	**134,494**	**455,601**	**871,814**			

One potential insufficiency for industrial floorspace has been identified in the Cambridge-Karapiro area over the long term. Floorspace demand is expected to exceed the estimated realistic industrial space in the long term by 13,200 sqm. The margins in Te Awamutu-Kihikihi also come close under the base demand scenario. We strongly advise council to monitor these two areas to ensure that industrial land (and floorspace) are reserved for industrial uses. Overall, Waipā has more than enough industrial floorspace capacity at the district-level, with the long term total demand of 455,600 sqm representing only 52% of the 871,800 sqm of realistic industrial space identified.

7.4 Incorporating a Margin Over and Above Demand

As part of NPS-UD Part 3, Implementation Councils are asked, in 3.26 to estimate what is feasible and reasonably expected to be realised. This is in recognition that portions of plan enabled and serviced capacity may not be realised as capacity. This means that Councils must allow more land than is actually demanded to allow for a shortfall that may not be realised. In addition, the NPS-UD requires that Councils allow for an appropriate competitiveness margin. This is set at 20% over and above projected demand in the short and medium term and 15% in the long term.

The tables that follow first outline land sufficiency across the FPP area by incorporating the additional margins over and above demand. The structure follows the structure above. The main points are;

- At the TA level, all Councils provide sufficient capacity for demand including margin across all sectors.
- Localised industrial land demand plus margin is the most likely demand type to significantly exceed capacity. This is especially true for much of Hamilton City, Huntly, Raglan and Te Kauwhata in Waikato, and Cambridge-Karapiro in Waipā.
- Localised industrial floorspace demand plus margin follows a similar trend to land, above.
- There is generally enough commercial and retail land and floorspace capacity to accommodate projected growth plus margin.

The appearance of insufficiency at the local level requires some investigation. In several places, the margins of insufficiency are low and could easily be met with minor re-zoning where required. In others demand apportioned to specific reporting areas could easily be met in other parts of the TA or the wider sub-region.

Particularly for industrial land and floorspace demand, there appears to be a lack of capacity at the local level. This is appears true for Hamilton City, but it obscures the fact that much of the demand can be accommodated within two areas – Ruakura and Te Rapa (615ha capacity out of 621ha demand + margin). This is ideal, since co-locating industrial businesses in similar areas has a range of benefits, and stops the spread of industrial businesses across the city. Similarly, all of Huntly's industrial demand could easily be provided for in nearby Ngāruawāhia and Horotiu (Rest of Waikato). In this way then, it makes sense to look at demand and capacity as somewhat trans-locational and see the sub-region as a reasonably well-connected network of nodes. In most cases areas where there are insufficiencies will have adjacent areas with ample capacity which are easy to access or make sense from a co-location point of view. The main exception to this is Raglan where it appears that industrial land is insufficient for demand requirements across all time-scales. The main issue here however is the topography, which does not allow for much re-zoning of land near the town. Overall though, ample capacity has been supplied in or adjacent to the places where it is required long term.

7.4.1 Land Sufficiency plus Margin Results

Figure 7.19: Hamilton Commercial Land Sufficiency plus Margin (ha)

	Demand Growth + Margin (ha)			Estimated Land Availability (ha)			Sufficiency Measure		
Name	**Short Term (+20%)**	**Medium Term (+20%)**	**Long Term (+15%)**	**Short Term**	**Medium Term**	**Long Term**	**Short Term**	**Medium Term**	**Long Term**
Te Rapa	6.3	16.4	29.9	123.5	123.5	123.5			
Chartwell	- 0.1	0.3	1.1	0.1	0.1	0.1		Insufficient	Insufficient
Frankton	2.1	5.6	14.4	22.5	22.5	22.5			
CBD	- 0.2	5.7	19.0	7.8	7.8	7.8			Insufficient
Ruakura	0.0	0.7	2.4	146.1	212.8	336.8			
Other	6.3	19.5	49.3	40.3	46.5	74.1			
Total	**14.5**	**48.2**	**116.0**	**340.3**	**413.1**	**564.8**			

Figure 7.20: Hamilton Retail Land Sufficiency plus Margin (ha)

	Demand Growth + Margin (ha)			Estimated Land Availability (ha)			Sufficiency Measure		
Name	**Short Term (+20%)**	**Medium Term (+20%)**	**Long Term (+15%)**	**Short Term**	**Medium Term**	**Long Term**	**Short Term**	**Medium Term**	**Long Term**
Te Rapa	2.3	5.8	9.2	24.3	24.3	24.3			
Chartwell	0.1	0.6	1.6	0.1	0.1	0.1	Insufficient	Insufficient	Insufficient
Frankton	0.0	1.7	5.8	1.4	1.4	1.4		Insufficient	Insufficient
CBD	0.3	2.2	6.1	7.6	7.6	7.6			
Ruakura	- 0.0	0.3	1.3	60.9	60.9	60.9			
Other	3.3	9.5	22.8	32.7	38.9	66.5			
Total	**5.9**	**20.1**	**46.9**	**126.9**	**133.1**	**160.7**			

Figure 7.21: Hamilton Industrial Land Sufficiency plus Margin (ha)

	Demand Growth + Margin (ha)			Estimated Land Availability (ha)			Sufficiency Measure		
Name	**Short Term (+20%)**	**Medium Term (+20%)**	**Long Term (+15%)**	**Short Term**	**Medium Term**	**Long Term**	**Short Term**	**Medium Term**	**Long Term**
Te Rapa	51.4	177.0	328.7	99.3	99.3	278.0		Insufficient	Insufficient
Chartwell	0.5	1.7	4.8	-	-	-	Insufficient	Insufficient	Insufficient
Frankton	0.8	25.8	92.3	21.1	21.1	21.1		Insufficient	Insufficient
CBD	5.2	21.0	64.5	-	-	-	Insufficient	Insufficient	Insufficient
Ruakura	0.3	6.0	22.0	145.8	212.6	336.6			
Other	4.5	34.2	108.2	4.1	4.1	4.1	Insufficient	Insufficient	Insufficient
Total	**62.7**	**265.8**	**620.6**	**270.3**	**337.0**	**639.7**			

Figure 7.22: Waikato District Commercial Land Sufficiency plus Margin (ha)

	Demand Growth + Margin (ha)			Estimated Land Availability (ha)			Sufficiency Measure		
Name	**Short Term (+20%)**	**Medium Term (+20%)**	**Long Term (+15%)**	**Short Term**	**Medium Term**	**Long Term**	**Short Term**	**Medium Term**	**Long Term**
Pokeno	0.2	0.7	1.5	26.8	34.5	34.5			
Tuakau	1.0	2.7	4.1	87.5	94.0	94.0			
Te Kauwhata	0.4	1.6	2.7	22.8	24.2	28.2			
Huntly	0.3	0.8	1.8	5.2	9.1	9.1			
Ngaruawahia	0.0	0.5	1.7	70.0	72.7	73.3			
Raglan	0.5	1.2	2.8	4.4	4.4	4.4			
Rest of Waikato	- 0.1	1.7	7.4	63.1	72.2	72.2			
Total	**2.3**	**9.3**	**22.1**	**279.8**	**311.0**	**315.6**			

Figure 7.23: Waikato District Retail Land Sufficiency plus Margin (ha)

	Demand Growth + Margin (ha)			Estimated Land Availability (ha)			Sufficiency Measure		
Name	**Short Term (+20%)**	**Medium Term (+20%)**	**Long Term (+15%)**	**Short Term**	**Medium Term**	**Long Term**	**Short Term**	**Medium Term**	**Long Term**
Pokeno	0.2	0.3	0.5	15.8	21.5	21.5			
Tuakau	0.6	1.5	2.2	16.6	18.1	18.1			
Te Kauwhata	0.2	0.3	0.5	8.8	10.2	14.1			
Huntly	- 0.2	- 0.0	0.2	3.3	5.8	5.8			
Ngaruawahia	0.0	0.1	0.6	1.6	2.9	3.5			
Raglan	0.3	0.6	1.2	3.2	3.2	3.2			
Rest of Waikato	- 0.4	0.3	2.3	2.6	3.0	3.0			
Total	**0.7**	**3.1**	**7.5**	**51.9**	**64.6**	**69.2**			

Figure 7.24: Waikato District Industrial Land Sufficiency plus Margin (ha)

	Demand Growth + Margin (ha)			Estimated Land Availability (ha)			Sufficiency Measure		
Name	**Short Term (+20%)**	**Medium Term (+20%)**	**Long Term (+15%)**	**Short Term**	**Medium Term**	**Long Term**	**Short Term**	**Medium Term**	**Long Term**
Pokeno	- 0.0	5.1	22.6	15.5	17.5	53.3			
Tuakau	9.1	16.9	24.0	97.9	103.0	103.0			
Te Kauwhata	1.3	9.7	15.8	14.0	14.0	14.0			Insufficient
Huntly	2.3	5.2	10.9	2.0	3.3	3.3	Insufficient	Insufficient	Insufficient
Ngaruawahia	- 2.1	0.1	6.2	68.4	222.8	258.8			
Raglan	2.6	7.8	19.5	1.2	1.2	1.2	Insufficient	Insufficient	Insufficient
Rest of Waikato	1.8	21.3	67.5	216.4	343.1	740.8			
Total	**14.9**	**66.1**	**166.6**	**415.3**	**705.0**	**1,174.4**			

Figure 7.25: Waipā District Commercial Land Sufficiency plus Margin (ha)

Name	Demand Growth + Margin (ha)			Total Vacant Land (ha)	Sufficiency Measure		
	Short Term (+20%)	Medium Term (+20%)	Long Term (+15%)		Short Term	Medium Term	Long Term
Cambridge-Karapiro	0.3	2.9	8.4	34.2			
Te Awamutu-Kihikihi	0.7	2.6	8.0	9.7			
Rukuhia-Ngahinapouri-Ohaupo-Pirongia	0.1	0.8	2.4	94.4			
Rest of Waipa	0.1	0.3	0.7	34.2			
Total	**1.3**	**6.5**	**19.4**	**172.5**			

Figure 7.26: Waipā District Retail Land Sufficiency plus Margin (ha)

Name	Demand Growth + Margin (ha)			Total Vacant Land (ha)	Sufficiency Measure		
	Short Term (+20%)	Medium Term (+20%)	Long Term (+15%)		Short Term	Medium Term	Long Term
Cambridge-Karapiro	0.3	1.5	3.7	5.3			
Te Awamutu-Kihikihi	0.0	0.7	2.8	4.0			
Rukuhia-Ngahinapouri-Ohaupo-Pirongia	- 0.1	0.1	0.6	1.3			
Rest of Waipa	- 0.1	- 0.0	0.1	-			Insufficient
Total	**0.2**	**2.3**	**7.2**	**10.6**			

Figure 7.27: Waipā District Industrial Land Sufficiency plus Margin (ha)

Name	Demand Growth + Margin (ha)			Total Vacant Land (ha)	Sufficiency Measure		
	Short Term (+20%)	Medium Term (+20%)	Long Term (+15%)		Short Term	Medium Term	Long Term
Cambridge-Karapiro	6.5	19.1	59.7	56.6			Insufficient
Te Awamutu-Kihikihi	2.7	11.8	40.1	44.2			
Rukuhia-Ngahinapouri-Ohaupo-Pirongia	0.7	5.2	19.5	95.9			
Rest of Waipa	0.4	1.6	5.2	34.3			
Total	**10.3**	**37.8**	**124.5**	**230.9**			

7.4.2 Floorspace Sufficiency plus Margin Results

Once a margin is added to floorspace requirements some insufficiencies start to appear or appear more rapidly. Generally, there are fewer insufficiencies associated with floorspace than there are with land, as floorspace can be developed more intensively than land – especially for commercial and retail uses.

Hamilton City

At a TA-level, Hamilton is very well provided for with respect to commercial, retail and industrial floorspace under the current District plan provisions. There are some points of local insufficiencies especially for industrial land, but for reasons outlined above, these are not as critical as Council looks to focus industrial activity into a few key locations. Frankton appears to have a deficit in the level of retail floorspace capacity available, however this could easily be met in the CBD, or further afield in the planned developments near Rotokauri. Once again, the industrial floorspace estimates here are much lower than what is actually plan enabled, as M.E have applied the realistic industrial space measure to it.

Figure 7.28: Hamilton Commercial Floorspace Sufficiency plus Margin (sqm GFA)

	Demand Growth + Margin (sqm)			Estimated GFA Availability (sqm)			Sufficiency Measure		
Name	**Short Term (+20%)**	**Medium Term (+20%)**	**Long Term (+15%)**	**Short Term**	**Medium Term**	**Long Term**	**Short Term**	**Medium Term**	**Long Term**
Te Rapa	40,563	106,071	192,038	1,051,561	1,051,561	1,051,561			
Chartwell	- 401	1,918	7,279	1,228	1,228	1,228		Insufficient	Insufficient
Frankton	13,632	35,787	91,833	136,047	136,047	136,047			
CBD	- 277	38,855	126,621	221,788	221,788	221,788			
Ruakura	110	4,295	15,537	2,610,205	4,143,677	6,993,291			
Other	40,159	125,504	316,890	764,332	918,343	1,608,671			
Total	**93,786**	**312,430**	**750,198**	**4,785,160**	**6,472,643**	**10,012,586**			

Figure 7.29: Hamilton Retail Floorspace Sufficiency plus Margin (sqm GFA)

	Demand Growth + Margin (sqm)			Estimated GFA Availability (sqm)			Sufficiency Measure		
Name	**Short Term (+20%)**	**Medium Term (+20%)**	**Long Term (+15%)**	**Short Term**	**Medium Term**	**Long Term**	**Short Term**	**Medium Term**	**Long Term**
Te Rapa	13,989	34,865	55,418	121,325	121,325	121,325			
Chartwell	624	3,359	9,529	307	307	307	Insufficient	Insufficient	Insufficient
Frankton	32	9,904	34,990	7,217	7,217	7,217		Insufficient	Insufficient
CBD	1,511	13,132	36,894	55,968	55,968	55,968			
Ruakura	- 194	1,906	7,685	233,300	233,300	233,300			
Other	19,580	57,199	137,059	168,680	199,482	337,548			
Total	**35,542**	**120,364**	**281,576**	**586,797**	**617,599**	**755,665**			

Figure 7.30: Hamilton Industrial Floorspace Sufficiency plus Margin (sqm GFA)

	Demand Growth + Margin (sqm)			Estimated GFA Availability (sqm)			Sufficiency Measure		
Name	**Short Term (+20%)**	**Medium Term (+20%)**	**Long Term (+15%)**	**Short Term**	**Medium Term**	**Long Term**	**Short Term**	**Medium Term**	**Long Term**
Te Rapa	210,551	726,721	1,351,448	620,473	620,473	2,050,237		Insufficient	
Chartwell	2,123	7,353	19,958	-	-	-	Insufficient	Insufficient	Insufficient
Frankton	3,028	107,060	382,933	131,864	131,864	131,864			Insufficient
CBD	21,353	87,596	269,073	-	-	-	Insufficient	Insufficient	Insufficient
Ruakura	1,599	25,357	92,469	562,869	818,447	1,293,383			
Other	19,591	144,200	453,679	25,421	25,421	25,421		Insufficient	Insufficient
Total	**258,245**	**1,098,287**	**2,569,562**	**1,340,626**	**1,596,205**	**3,500,905**			

Waikato District

Broadly, the Waikato District has ample capacity for commercial and retail floorspace at all levels. Areas of undersupply only exist in the industrial sector – mainly in Huntly and Raglan, with some insufficiency in Te Kauwhata in the long term. Again, Huntly and Te Kauwhata's deficits can largely be met by capacity in adjacent areas. Raglan may require further though and pro-active zoning if possible. Again, realistic industrial space capacity estimates come in below what the district plan rules and may cause local insufficiencies that may not actually be realised in the future. The overall position is that Waikato remains well served by its District Plan in terms of the amount of built floorspace the provisions allow.

Figure 7.31: Waikato District Commercial Floorspace Sufficiency plus Margin (sqm GFA)

	Demand Growth + Margin (sqm)			Estimated GFA Availability (sqm)			Sufficiency Measure		
Name	**Short Term (+20%)**	**Medium Term (+20%)**	**Long Term (+15%)**	**Short Term**	**Medium Term**	**Long Term**	**Short Term**	**Medium Term**	**Long Term**
Pokeno	1,284	4,364	9,848	382,248	504,775	504,775			
Tuakau	6,464	17,363	26,618	1,323,728	1,427,266	1,427,266			
Te Kauwhata	2,902	10,209	16,957	254,933	276,625	340,409			
Huntly	1,435	4,857	11,128	68,042	129,404	129,404			
Ngaruawahia	161	3,353	11,038	582,315	625,027	634,655			
Raglan	2,892	7,952	18,366	61,414	61,414	61,414			
Rest of Waikato	- 799	10,773	46,555	873,638	1,017,518	1,017,518			
Total	**14,339**	**58,872**	**140,511**	**3,546,319**	**4,042,029**	**4,115,441**			

Figure 7.32: Waikato District Retail Floorspace Sufficiency plus Margin (sqm GFA)

	Demand Growth + Margin (sqm)			Estimated GFA Availability (sqm)			Sufficiency Measure		
Name	**Short Term (+20%)**	**Medium Term (+20%)**	**Long Term (+15%)**	**Short Term**	**Medium Term**	**Long Term**	**Short Term**	**Medium Term**	**Long Term**
Pokeno	1,050	1,550	2,899	63,322	82,703	82,703			
Tuakau	3,573	9,299	13,111	66,481	71,388	71,388			
Te Kauwhata	1,140	2,098	3,035	70,427	75,075	88,743			
Huntly	- 1,006	- 118	1,201	26,028	34,655	34,655			
Ngaruawahia	7	665	3,645	12,687	17,291	19,355			
Raglan	1,518	3,403	7,380	25,834	25,834	25,834			
Rest of Waikato	- 2,274	1,648	13,761	16,957	18,408	18,408			
Total	**4,007**	**18,545**	**45,033**	**281,737**	**325,355**	**341,086**			

Figure 7.33: Waikato District Industrial Floorspace Sufficiency plus Margin (sqm GFA)

	Demand Growth + Margin (sqm)			Estimated GFA Availability (sqm)			Sufficiency Measure		
Name	**Short Term (+20%)**	**Medium Term (+20%)**	**Long Term (+15%)**	**Short Term**	**Medium Term**	**Long Term**	**Short Term**	**Medium Term**	**Long Term**
Pokeno	- 251	21,017	94,459	54,088	61,741	198,603			
Tuakau	37,472	69,764	99,424	374,005	393,554	393,554			
Te Kauwhata	5,670	40,561	66,453	46,974	46,974	46,974			Insufficient
Huntly	9,575	22,076	46,137	6,583	11,058	11,058	Insufficient	Insufficient	Insufficient
Ngaruawahia	- 8,772	422	26,146	229,328	819,969	957,991			
Raglan	10,941	32,686	81,059	4,013	4,013	4,013	Insufficient	Insufficient	Insufficient
Rest of Waikato	8,848	91,286	286,702	819,826	1,301,274	2,824,206			
Total	**63,482**	**277,811**	**700,380**	**1,534,816**	**2,638,583**	**4,436,399**			

Waipā District

Generally, Waipā District remains well provided for even in the face of the additional competitiveness margins. As with the other partnership councils, there are some local insufficiencies for industrial floorspace capacity in the Cambridge-Karapiro and Te Awamutu-Kihikihi reporting areas. The Cambridge-Karapiro reporting area has the largest deficit when taking into account demand + margin, with a deficit of 45,800 sqm.

Figure 7.34: Waipā District Commercial Floorspace Sufficiency plus Margin (sqm GFA)

Name	Demand Growth + Margin (sqm)			Total Vacant GFA (sqm)	Sufficiency Measure		
	Short Term (+20%)	Medium Term (+20%)	Long Term (+15%)		Short Term	Medium Term	Long Term
Cambridge-Karapiro	2,427	19,268	55,078	459,221			
Te Awamutu-Kihikihi	4,397	16,307	51,269	153,696			
Rukuhia-Ngahinapouri-Ohaupo-Pirongia	805	4,943	14,961	759,676			
Rest of Waipa	729	1,861	4,397	401,694			
Total	**8,358**	**42,380**	**125,705**	**1,774,287**			

Figure 7.35: Waipā District Retail Floorspace Sufficiency plus Margin (sqm GFA)

Name	Demand Growth + Margin (sqm)			Total Vacant GFA (sqm)	Sufficiency Measure		
	Short Term (+20%)	Medium Term (+20%)	Long Term (+15%)		Short Term	Medium Term	Long Term
Cambridge-Karapiro	1,832	9,005	22,289	47,847			
Te Awamutu-Kihikihi	195	4,291	16,923	35,991			
Rukuhia-Ngahinapouri-Ohaupo-Pirongia	- 394	897	3,888	11,593			
Rest of Waipa	- 545	- 282	368	-			Insufficient
Total	**1,088**	**13,911**	**43,468**	**95,431**			

Figure 7.36: Waipā District Industrial Floorspace Sufficiency plus Margin (sqm GFA)

Name	Demand Growth + Margin (sqm)			Total Vacant GFA (sqm)	Sufficiency Measure		
	Short Term (+20%)	Medium Term (+20%)	Long Term (+15%)		Short Term	Medium Term	Long Term
Cambridge-Karapiro	27,636	80,913	249,730	203,920			Insufficient
Te Awamutu-Kihikihi	12,279	51,431	170,519	166,567			Insufficient
Rukuhia-Ngahinapouri-Ohaupo-Pirongia	2,993	22,035	81,567	386,396			
Rest of Waipa	1,730	7,014	22,126	114,931			
Total	**44,637**	**161,393**	**523,942**	**871,814**			

7.5 FPP Level Results

At the Total Future Proof Partners level, the plan enabled capacity across all three broad economic areas is sufficient to meet the anticipated growth needs. Figure 7.37 shows that commercial and retail land demand over the long term is significantly less than the amount of land provided for in the various district plans. Demand for commercial land is approximately 15% of commercial land capacity over the long term, while retail demand is 26% of retail land capacity. Across the FPP area, industrial land demand reaches approximately 45% of total industrial land capacity in the long term, although margins within Hamilton City (97%) are much closer than Waikato (14%) and Waipā (54%).

Figure 7.37: Future Proof Business Land Sufficiency Summary (ha)

	Demand Growth (ha)			Estimated Land Availability (ha)			Sufficiency Measure		
Sector	**Short Term (+20%)**	**Medium Term (+20%)**	**Long Term (+15%)**	**Short Term**	**Medium Term**	**Long Term**	**Short Term**	**Medium Term**	**Long Term**
Commercial									
Hamilton City	14.5	48.2	116.0	340.3	413.1	564.8			
Waikato District	2.3	9.3	22.1	279.8	311.0	315.6			
Waipa District	1.3	6.5	19.4	172.5	172.5	172.5			
TOTAL FUTURE PROOF	**18.1**	**64.0**	**157.6**	**792.6**	**896.7**	**1,052.9**			
Retail									
Hamilton City	5.9	20.1	46.9	126.9	133.1	160.7			
Waikato District	0.7	3.1	7.5	51.9	64.6	69.2			
Waipa District	0.2	2.3	7.2	10.6	10.6	10.6			
TOTAL FUTURE PROOF	**6.8**	**25.5**	**61.7**	**189.5**	**208.3**	**240.5**			
Industrial									
Hamilton City	62.7	265.8	620.6	270.3	337.0	639.7			
Waikato District	14.9	66.1	166.6	415.3	705.0	1,174.4			
Waipa District	10.3	37.8	124.5	230.9	230.9	230.9			
TOTAL FUTURE PROOF	**87.9**	**369.6**	**911.6**	**916.5**	**1,272.9**	**2,045.0**			

As with land supply, there are significant levels of business floorspace capacity across all sector types within the FPP area. Total commercial floorspace demand reaches just over 6% of supply long term, while retail demand reaches 31% of plan-enabled floorspace long term. Industrial floorspace demand plus margin reaches 43% of the realistic industrial space identified across the partnership councils.

Figure 7.38: Future Proof Business Space Sufficiency Summary (sqm GFA)

	Demand Growth (sqm)			Estimated GFA Availability (sqm)			Sufficiency Measure		
Sector	**Short Term (+20%)**	**Medium Term (+20%)**	**Long Term (+15%)**	**Short Term**	**Medium Term**	**Long Term**	**Short Term**	**Medium Term**	**Long Term**
Commercial									
Hamilton City	93,786	312,430	750,198	4,785,160	6,472,643	10,012,586			
Waikato District	14,339	58,872	140,511	3,546,319	4,042,029	4,115,441			
Waipa District	8,358	42,380	125,705	1,774,287	1,774,287	1,774,287			
TOTAL FUTURE PROOF	**116,483**	**413,681**	**1,016,414**	**10,105,766**	**12,288,959**	**15,902,313**			
Retail									
Hamilton City	35,542	120,364	281,576	586,797	617,599	755,665			
Waikato District	4,007	18,545	45,033	281,737	325,355	341,086			
Waipa District	1,088	13,911	43,468	95,431	95,431	95,431			
TOTAL FUTURE PROOF	**40,636**	**152,820**	**370,077**	**963,964**	**1,038,385**	**1,192,182**			
Industrial									
Hamilton City	258,245	1,098,287	2,569,562	1,340,626	1,596,205	3,500,905			
Waikato District	63,482	277,811	700,380	1,534,816	2,638,583	4,436,399			
Waipa District	44,637	161,393	523,942	871,814	871,814	871,814			
TOTAL FUTURE PROOF	**366,365**	**1,537,491**	**3,793,883**	**3,747,257**	**5,106,602**	**8,809,119**			

These results indicate that there is more than enough capacity enabled to meet demand across the Future Proof Partnership area in terms of both vacant land and floorspace supply.

7.6 MCA Sufficiency Results

In this section results from the multi-criteria analysis are placed alongside the sufficiency tables to highlight any mismatches between areas where Council are providing for capacity, areas that are growing strongly and the areas that appear to have the most favourable development characteristics.

Note that in this section, the MCA has been applied across the key urban centres, rather than across the entirety of each district within FPP. This means that there are no specific scores for 'Other' or 'Rest of Waikato', because they are not locations with locational characteristics.

7.6.1 Hamilton City MCA

Figure 7.39: Hamilton City Commercial Land Sufficiency and MCA Scores

Name	Short Term	Medium Term	Long Term	Total Vacant Land (ha)	MCA Score
Te Rapa	5.2	13.7	26.0	123.5	83
Chartwell	- 0.0	0.2	0.9	0.1	62
Frankton	1.8	4.7	12.5	22.5	66
CBD	- 0.1	4.8	16.6	7.8	89
Ruakura	0.0	0.5	2.0	336.8	75
Other	5.3	16.3	42.9	74.1	
Total	**12.1**	**40.1**	**100.9**	**564.8**	

For the most part, there is alignment between areas with high amount of capacity and areas that score highly via the MCA process for Commercial land. The exception being the CBD. This area scores highest for locating Commercial land therefore it is highly developed with limited vacant capacity. In fact, in commercial land terms, the CBD runs short of vacant capacity in the long run. This is not the case with respect to the ability of that land to provide commercial GFA, where the land available supports GFA capacity significantly in excess of long term demand.

Other than the CBD the areas with the next 2 highest MCA scores are those with the most capacity. This indicates that Hamilton City Council's plan provisions closely match the commercial development market (Figure 7.39).

Retail land is reasonably well aligned with areas that show the potential for development. However there is some mismatch here. Te Rapa and the CBD score the highest with respect to provision of Retail Land – yet the most capacity is located at Ruakura – which scores the lowest. All areas have provision in excess of demands in the long run – with the exception of Chartwell, where 1.4 ha is demanded but only 0.1ha is provided for. The new centre to the north or Chartwell at Rototuna, will meet plenty of the growth needs of the Chartwell catchment although this is an area that needs monitoring.

Second, Hamilton's CBD has 7.6ha of land potentially available for Retail development and raw demand in the long run for 5.3ha. This combined with demand for retail land in Frankton (immediately adjacent to the CBD) of 5.1ha with provision for only 1.4 ha, places the CBD and central Hamilton under pressure (10.4ha of long run demand but only 9ha of provision) (Figure 7.40).

Figure 7.40: Hamilton City Retail Land Sufficiency and MCA Scores

Name	Short Term	Medium Term	Long Term	Total Vacant Land (ha)	MCA Score
Te Rapa	1.9	4.8	8.0	24.3	89
Chartwell	0.1	0.5	1.4	0.1	76
Frankton	0.0	1.4	5.1	1.4	71
CBD	0.2	1.8	5.3	7.6	88
Ruakura	- 0.0	0.3	1.1	60.9	70
Other	2.7	7.9	19.9	66.5	
Total	**4.9**	**16.7**	**40.8**	**160.7**	

Hamilton City's industrial land supply most closely aligns with high development potential areas. Those that score over 80% account for 96% of total plan enabled capacity. This is unsurprising as Hamilton's industrial capacity is more concentrated into fewer appropriate areas than commercial or retail.

Figure 7.41: Hamilton City Industrial Land Sufficiency and MCA Scores

Name	Short Term	Medium Term	Long Term	Total Vacant Land (ha)	MCA Score
Te Rapa	42.8	147.5	285.8	278.0	91
Chartwell	0.4	1.5	4.1	-	60
Frankton	0.7	21.5	80.3	21.1	77
CBD	4.3	17.5	56.1	-	62
Ruakura	0.3	5.0	19.2	336.6	80
Other	3.7	28.5	94.1	4.1	
Total	**52.2**	**221.5**	**539.6**	**639.7**	

In summary, Hamilton City's plan enabled capacity broadly aligns with areas that score well through the MCA process. This means that Hamilton City's capacity is likely to be developed in line with demand, that there are unlikely to be significant issues that may halt development or cause bottlenecks in supply of land to meet growth needs.

The one exception that requires monitoring is the long term shortfall in the CBD and Frankton, where 10.4ha of retail land demand is met by only 9ha of retail land.

7.6.2 Waikato District MCA

Development areas in Waikato District, in general score lower than those in Hamilton City. Only the Industrial land competes effectively with Hamilton City from a development perspective. This is to be expected as the size and growth potential in the urban parts of the FPP area are much more attractive to commercial and retail land developers, whereas Industrial developers are likely to be seeking lower cost land with fewer sensitive neighbours making Waikato and Waipā more attractive.

Figure 7.42: Waikato District Commercial Land Sufficiency and MCA scores

Name	Short Term	Medium Term	Long Term	Total Vacant Land (ha)	MCA Score
Pokeno	0.2	0.6	1.3	34.5	44
Tuakau	0.9	2.2	3.5	94.0	45
Te Kauwhata	0.4	1.4	2.4	28.2	31
Huntly	0.2	0.7	1.6	9.1	51
Ngaruawahia	0.0	0.4	1.5	73.3	44
Raglan	0.4	1.0	2.5	4.4	34
Rest of Waikato	- 0.1	1.5	6.4	72.2	
Total	**1.9**	**7.7**	**19.2**	**315.6**	

Of the areas assessed there is a reasonable match between areas that score highly for commercial land development and capacity. The largest areas all score in the upper middle range across Waikato District (Ngāruawāhia, Pōkeno and Tuakau).

Waikato Retail land is also reasonably aligned, with the two largest plan enabled capacity areas (Pōkeno and Tuakau) scoring in the upper middle bracket.

Figure 7.43: Waikato District Retail Land Sufficiency and MCA Scores

Name	Short Term	Medium Term	Long Term	Total Vacant Land (ha)	MCA Score
Pokeno	0.1	0.2	0.4	21.5	52
Tuakau	0.5	1.3	1.9	18.1	47
Te Kauwhata	0.2	0.3	0.4	14.1	32
Huntly	- 0.1	- 0.0	0.2	5.8	61
Ngaruawahia	0.0	0.1	0.5	3.5	49
Raglan	0.2	0.5	1.1	3.2	39
Rest of Waikato	- 0.3	0.2	2.0	3.0	
Total	**0.6**	**2.6**	**6.5**	**69.2**	

Industrial land plan enabled capacity in Waikato District is broadly aligned with the MCA scores. The largest area of capacity (Ngāruawāhia in the long run) scores highly on the MCA framework (second only to Huntly as a location) meaning there is a good fit between planning provisions and development potential.

The only area of concern is Huntly, which scores highly as a location for industrial activity, yet has only 3.3ha of vacant industrial land provided. In the long run, demand likely to be focused on Huntly is 9.5ha.

Figure 7.44: Waikato District Industrial Land Sufficiency and MCA Scores

Name	Short Term	Medium Term	Long Term	Total Vacant Land (ha)	MCA Score
Pokeno	- 0.0	4.2	19.7	53.3	66
Tuakau	7.6	14.1	20.9	103.0	59
Te Kauwhata	1.1	8.0	13.7	14.0	41
Huntly	1.9	4.3	9.5	3.3	73
Ngaruawahia	- 1.7	0.1	5.4	258.8	69
Raglan	2.2	6.5	17.0	1.2	34
Rest of Waikato	1.5	17.8	58.7	740.8	
Total	**12.4**	**55.1**	**144.9**	**1,174.4**	

7.6.3 Waipā District MCA

Development potential in Waipā District is really limited to the two large urban centres (Cambridge and Te Awamutu) and Titanium Park contained within Rukuhia-Ngahinapouri/Ohaupo/Pirongia area. Lack of differentiation within each of these areas means the MCA is limited. What it does tell us is that the majority of commercial plan enabled capacity identified in Titanium Park, scores lower than the rest. This is because of its location away from the population centres of Waipā.

This pattern is repeated across the industrial areas, however retail vacant capacity is aligned with the MCA in that Cambridge scores highest and has the most capacity (Figure 7.46 and Figure 7.47).

Figure 7.45: Waipā District Commercial Land Sufficiency and MCA Scores

Name	Short Term	Medium Term	Long Term	Total Vacant Land (ha)	MCA Score
Cambridge-Karapiro	0.2	2.4	7.3	34.2	64
Te Awamutu-Kihikihi	0.6	2.1	6.9	9.7	60
Rukuhia-Ngahinapouri-Ohaupo-Pirongia	0.1	0.7	2.0	94.4	42
Rest of Waipa	0.1	0.2	0.6	34.2	
Total	**1.0**	**5.4**	**16.9**	**172.5**	

Figure 7.46: Waipā District Retail Land Sufficiency and MCA Scores

Name	Short Term	Medium Term	Long Term	Total Vacant Land (ha)	MCA Score
Cambridge-Karapiro	0.3	1.3	3.2	5.3	66
Te Awamutu-Kihikihi	0.0	0.6	2.5	4.0	59
Rukuhia-Ngahinapouri-Ohaupo-Pirongia	- 0.1	0.1	0.6	1.3	48
Rest of Waipa	- 0.1	- 0.0	0.1	-	
Total	**0.2**	**1.9**	**6.3**	**10.6**	

Figure 7.47: Waipā District Industrial Land Sufficiency and MCA Scores

Name	Short Term	Medium Term	Long Term	Total Vacant Land (ha)	MCA Score
Cambridge-Karapiro	5.4	15.9	51.9	56.6	70
Te Awamutu-Kihikihi	2.3	9.9	34.8	44.2	64
Rukuhia-Ngahinapouri-Ohaupo-Pirongia	0.6	4.4	17.0	95.9	58
Rest of Waipa	0.4	1.4	4.5	34.3	
Total	**8.6**	**31.5**	**108.2**	**230.9**	

7.7 Conclusions

In general, the MCA framework has aligned well with Plan enabled capacity across the FPP area. The key exception is in Hamilton's CBD where Retail Land is potentially in short supply in the long term and the MCA scores this area highest for retail potential. In Waipā, Industrial and Commercial Land capacity is over supplied in Titanium Park which scores lower than the major centres (Cambridge and Te Awamutu). This may mean that uptake of this land (Titanium Park) may be slower than growth in demand indicates. When aligned with the limited surplus vacant capacity within the rest of Waipā (as discussed in the sufficiency sections above), means that Waipā District will need to monitor uptake and land use closely to ensure it provides sufficient capacity.

Overall, the various Future Proof Partners have, through their planning documents, structure plans and other strategic documents, made sound provision for growth in demand for business land and floorspace. The potential pressure likely to be felt in Hamilton's CBD and Waipā District with respect to land is not necessarily reflected in floorspace as commercial floorspace co-exists with retail ground floorspace well. What it may indicate is that there is pressure brought to bear on existing business land areas to maximise their potential across the Cambridge and Te Awamutu areas. Redevelopment potential tends to occur when other options are either not available or are poorly located or too expensive as redevelopment is relatively costly and carries a higher risk.

Key points include;

- In Hamilton and Waipā, the gap between Industrial land supply and industrial land demand is closer than for either retail or commercial. This means these Councils should be particularly vigilant in terms of monitoring uptake and usage of industrial land. Industrial land is particularly sensitive to being used for other purposes. Due to its relatively low value, it is often targeted by large format retail operators who seek large footprint sites at relatively low cost. As they are destinations in and of themselves, they have the ability to drive trade their way. This changes the dynamics of cities and can lead to very significant adverse outcomes as trade is drawn away from traditional centres impacting on their ability to function and deliver amenity to the city.
- In Waikato District there appears to have been some effort to identify and recognise very large areas for future industrial capacity. As it currently stands, in the long run demand makes up less than 15% of the identified capacity to meet that demand (167ha demand + margin and provision

of over 1,170ha). Some reduction in developable site area and floor coverage has reduced the total level of capacity downward somewhat. Although swathes of land have been earmarked for investigation, these are by no means set in stone nor legislated. Decision-makers should be aware that re-zoning such large areas of land has the potential to muddy the waters in the future as technologies change and needs shift. It is likely that the majority of this land won't be needed – yet by identifying it may limit its use for other purposes.

- High level of cross over between retail and commercial in terms of land requirements means that they could potentially be viewed as a single entity.
- Reasonably strong alignment between results of the MCA framework and plan enabled capacity indicate Councils are zoning land that is appropriately located and is likely to meet developer requirements.
- Price is the key factor when establishing whether land will be developed or not. Land price encompasses a range of the variables identified within the MCA. Price is often the first hurdle to development, but not the only factor. While it is important to get the price right, price will not necessarily compensate for deficiencies in either location or other physical characteristics of a parcel of land.

7.8 Monitoring

The National Policy Statement requires that Councils carry out a range of monitoring of business land development, uptake and redevelopment. While most areas appear to be well served by plan enabled capacity and that this capacity appears to be well chosen within the development MCA framework, there are areas of concern which requires Council to carry out monitoring.

Concerns and monitoring areas include;

- Shortage of identified Industrial Capacity in Huntly and Raglan in relation to growth in demand.
- It will be helpful to monitor the update of all vacant business land to understand the rate, space type and GFA of that development. Especially in the major centres and development cells across the sub-region.
- All Councils will need to monitor the development of retail and commercial floorspace across the major centres to assess the impact of out of centre developments – in particular retail in Te Rapa and impact on Hamilton CBD.
- Monitoring the redevelopment of existing sites – by location and land use type. If capacity is provided by increasing the number of storeys, this should be identified and tracked by location.
- Monitor the spread of non-rural industrial activity into rural areas – by location and type.
- Monitor the actual occupation of development by activity type (using an ANZSIC framework) to understand how locational trends might be shifting.

- Waipā and Waikato are advised to monitor closely the uptake of commercial retail and industrial land – especially in the key centres (Pōkeno, Tuakau, Huntly, Horotiu, Cambridge, Te Awamutu,). Monitoring of building consents and the nature of occupation by ANZSIC to ensure locational trends are captured.
- Last, Councils are advised to monitor trends in business and employment activity occurring in non-business zones in the urban environment.

8 Future Updates

The NPS-UD requires high growth Councils to carry out this assessment every three years. In that light the 2020/21 study is the first update from the 2017/18 baseline. The important point from this assessment is that the FPP have ensured that there is sufficient business land capacity to cater for anticipated growth in the short to medium term (with a few localised exceptions). Given that the long term covers 30 years, shortfalls identified at the extreme are areas that will cause Councils to consider, but they are unlikely to be significantly impacted in terms of land use decisions made in the near future.

As with the key findings in the 2017/8 report, the most important thing Councils can do to ensure they remain in touch with growth and change, is to constantly monitor business land development. By consistently updating datasets on development and occupancy, Councils will be well placed to address development and broader economic trends as they begin to emerge.

8.1 Overview of Process

The process followed in this report is based strongly on that outlined in the Guidance on Evidence and Monitoring, published by MfE and MBIE, June 2017, updated to reflect the NPS-UD guidance published in 2020 to align with the NPS-UD. It is noted that the base assessment processes are the same between the NPS-UDC and the NPS-UD with a very few exceptions. The overall purpose and intent of the work is to provide Councils with more information about demand, supply and sufficiency, such that they are able to make better informed decisions about business land.

The assessment process breaks down into 2 workstreams; a Demand Assessment based on WISE – particularly the population projections and economic model within, and a Capacity assessment based on existing supply and future zone ambitions. Capacity is estimated based on Council data including spatial data and property ratings data. Assumptions and results of the capacity assessment are also 'ground-truthed' by Council to ensure they truly reflect current conditions. These are brought together at the end to draw conclusions about sufficiency of the various plans to provide for capacity. In the 2017/18 assessment, Council officers spent significant time in the field carrying out the ground truthing of the raw data. In this iteration, that baseline ground-truthed capacity was updated using building consent information, updated aerials and CCC's – rather than field time.

In addition, the development community was consulted to provide inputs into an assessment framework covering the potential of different pieces of land to be developed. This picked up on locational and physical characteristics of the areas development opportunities and provided a weighting in terms of how important each aspect is to the development decision. Each broad area was then assessed against this framework to produce an overall development score out of 100 for the MCA.

In 2021, this process was not repeated, rather the existing scores have been realigned to reflect the adjusted spatial framework (brought about by Statistics New Zealand updating their geographies to Statistical Areas, from Census Area Units).

By aligning the MCA scores with the sufficiency results it becomes clear whether the district plans are providing capacity in appropriate locations on appropriate land.

It is the combination of volume of land and how appropriate it is that provides the final measure of sufficiency.

8.2 Key Issues Faced

As with the original assessment in 2017/18, there have been a number of issues faced in preparing this report;

1. While there have been updates over the past 2 years, a key issue remains the state of the base data sets. Significant time was required to align the core datasets – ratings database, planning zone shapefiles, structure plan information and other sets of spatial data.

   While the overall process is a relatively simple one – assuming a set of robust reasonably granular economic projections can be sourced or produced, issues with the capacity information have significantly impacted on the delivery timings of this report.

2. Having relied on the 2017/18 data as the starting point and taking Council's lead that the 2017/18 information was to be updated – rather than replaced, has highlighted a few issues with the base data. These have been addressed as they have emerged, but it is our opinion that rebasing the information each year will be important moving forward. This may require additional work on the ground truthing phase (to be carried out by Council).

3. Delays in receiving the population and economic projections from WISE meant that the analysis phase has been compressed into a 3-week window prior to release of the draft report. In future it will be important to allow more time for interpretation prior to delivery. The WISE delays were caused by Statistics New Zealand delays in releasing updated projections that draw from the problematic 2018 Census. This is unlikely to be the case for future assessments.

4. As with the 2017/18 assessment, translation of activity tables into distinct amounts of capacity across each core economic category is problematic. Often land has permissive zoning – especially deferred business development land. This means that allocating capacity between the economic codes is problematic as there is no way to tell which type of business will out-bid the other into the future. This requires Councils to continually monitor the uptake and occupancy of business land, to ensure that all sectors of the growth economy are provided for and changing trends can be applied in future updates.

8.3 Key Learnings

The key learnings from the 2020/21 study are similar to those from the 2017/18 study.

The first relates to capacity data. Having established with Council the type and nature of data required to carry out this work, it is becoming a simpler task to update the plan enabled capacity. Now that the FPP and M.E know what data is required for future updates, a comprehensive list can be created and supplied to all involved that defines the key datasets and inclusions into those.

The second key learning is that a point needs to be reached whereby all data received is final, so that cogent and efficient modelling can be undertaken without further issues being created toward the end of the process. This lesson goes hand in hand with lesson one above and may be informed by inter-departmental communication within Councils and M.E. In this iteration, issues with the demand projections and the processes around agreeing to those caused modelling and analysis to become compressed. The unique circumstances that surrounded those processes this time, are unlikely to be repeated for future assessments.

The third and final relates to the monitoring of data. After bringing the data together, it has become clear where gaps exist in the data. Several of these gaps are due to non-existent data, while others are due to old or out-of-date data. Monitoring of business land uptake and trends help with both future capacity and help with ground-truthing exercises.

Appendix 1 – NPS Objectives

Objective 1: New Zealand has well-functioning urban environments that enable all people and communities to provide for their social, economic, and cultural wellbeing, and for their health and safety, now and into the future.

Objective 2: Planning decisions improve housing affordability by supporting competitive land and development markets.

Objective 3: Regional policy statements and district plans enable more people to live in, and more businesses and community services to be located in, areas of an urban environment in which one or more of the following apply:

a) the area is in or near a centre zone or other area with many employment opportunities
b) the area is well-serviced by existing or planned public transport
c) there is high demand for housing or for business land in the area, relative to other areas within the urban environment.

Objective 4: New Zealand's urban environments, including their amenity values, develop and change over time in response to the diverse and changing needs of people, communities, and future generations.

Objective 5: Planning decisions relating to urban environments, and FDSs, take into account the principles of the Treaty of Waitangi (Te Tiriti o Waitangi).

Objective 6: Local authority decisions on urban development that affect urban environments are:

a) integrated with infrastructure planning and funding decisions; and
b) strategic over the medium term and long term; and
c) responsive, particularly in relation to proposals that would supply significant development capacity.

Objective 7: Local authorities have robust and frequently updated information about their urban environments and use it to inform planning decisions.

Objective 8: New Zealand's urban environments:

a) support reductions in greenhouse gas emissions; and
b) are resilient to the current and future effects of climate change.

Appendix 2 – EFM Drivers of Growth

The economic projections of the economic models contained within WISE are driven by a set of "Business as Usual" commodity and service parameters, translated into demands. However, the key drivers of future demand are based on projections of population growth and tourism flows provided by Rationale. In the Input-Output framework (the basis of the Multi-Regional Input-Output Table (MRIO)) these demands are termed 'final demands'.

Within the model final demands are made up of five categories: household consumption, international exports, inter-regional exports, gross fixed capital formation (GFKF), and changes in inventory. The process for deriving future BAU estimates for each category is as follows:

a) Household Consumption: The household consumption final demand is made up of four sub-consumption categories, 'Households', 'Private non-profit institutions servings households', 'Central Government' and 'Local Government'. Future estimates of demand in each sub-category is primarily driven by changes in future population. The Model uses Rationales recommended projections covering all of QLD. It is assumed that each person within the region consumes a constant mix of goods and services. Thus, any population growth for the area will result in a proportional increase in the amount of goods and services consumed within each sub-category.

   In addition, the model includes the implications of changing demographic structure on household consumption. For all sub-categories, future demands by each cohort are adjusted by a cohort-specific consumption scalar. These scalars define the ratio of spending by an average person across all cohorts, to the spending of an average person within the subject cohort.

   The resulting value for a particular year provides an estimate of the growth in total household consumption from the base year.

b) International Exports: are overseas demand of goods and services produced by an area and are exogenous inputs to the model. The growth projections used include BAU projections of international exports and future projections for each industry are generated by applying long-run average growth rates to the base year international export values as obtained from the MRIO. The exception to this is for sectors that are driven primarily by tourism flows. For these, growth projections of tourism nights developed by Rationale have been used in place of the long run averages for the export performance of the Accommodation, retail, transport, recreational activity and personal services sectors.

   The growth rates were generated using a number of different statistical methods. Selection of the time series techniques applied depended on the availability of the data and underlying production structure of the industry output being analysed. For example, long-run growth rates for agricultural industries were estimated based on long-run projections of physical stocks and land availability constraints. Conversely, industries with less physical constraints, such as services, were estimated based on long-run national export trends. The data utilised in these time series analyses were derived from SNZ's Overseas Trade Exports – Trade, Merchandise: Monthly Estimates of all Harmonised System Items 1989–2014.

c) Inter-regional Exports: are demands of good and services produced within a study area by areas outside the study area, but within New Zealand. In other words, trades between QLD areas and the rest of New Zealand affects demand for the production activities in each area.

d) Gross Fixed Capital Formation (GFKF): Future increases in investment demand are represented as a change in GFKF and is an exogenous input into the model. The future GFKF projections for each industry is generated by applying long-run average growth rates to the base year GFKF values as obtained from the MRIO. The growth rates were determined by econometric time-series analysis. The data utilised in the time-series analysis of GFKF are derived from SNZ's National Accounts gross fixed capital formation by industry time series.

e) Changes in Inventory: these are an endogenous variable within the model, where future projections are the weighted average of future values of other final demand categories. Within the national accounts framework, the changes in inventory is an accounting balancing item and records changes in financial inventory stocks. Note: for many industries changes in inventory are very small compared with international exports, inter-regional exports, and GFKF.

Appendix 3 – Sector to Land Use Relationships

48 Sector Description	Office---Commercial	Office---Retail	Shops---Commercial	Shops---Food and Beverage	Accommodation	Warehouse	Factory	Yard---Commercial	Yard---Industrial	Other.Built---Commercial	Other.Built---Industrial	Education	Outdoor---Commercial	Outdoor---Industrial	Outdoor---Rural	Total
Horticulture and fruit growing	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%	0%	0%	0%	90%	100%
Sheep, beef cattle and grain farming	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%	0%	0%	0%	90%	100%
Dairy cattle farming	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%	0%	0%	0%	90%	100%
Poultry, deer and other livestock farming	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%	0%	0%	0%	90%	100%
Forestry and logging	0%	0%	0%	0%	0%	0%	9%	0%	17%	0%	0%	0%	0%	0%	74%	100%
Fishing and aquaculture	0%	0%	0%	0%	0%	19%	0%	0%	0%	0%	47%	0%	0%	0%	35%	100%
Agriculture, forestry and fishing support services	20%	0%	0%	0%	0%	20%	20%	0%	0%	0%	0%	0%	40%	0%	0%	100%
Mining, quarrying, exploration and other mining support services	0%	0%	0%	0%	0%	0%	10%	0%	20%	0%	0%	0%	70%	0%	0%	100%
Oil and gas extraction	0%	0%	0%	0%	0%	0%	10%	0%	20%	0%	0%	0%	70%	0%	0%	100%
Meat and meat product manufacturing	2%	0%	0%	0%	0%	23%	75%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Dairy product manufacturing	2%	0%	0%	0%	0%	11%	88%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Other food manufacturing	2%	0%	0%	0%	0%	17%	69%	0%	12%	0%	0%	0%	0%	0%	0%	100%
Beverage and tobacco product manufacturing	2%	0%	0%	0%	0%	23%	75%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Textile, leather, clothing and footwear manufacturing	2%	0%	0%	0%	0%	12%	83%	0%	2%	0%	0%	0%	0%	0%	0%	100%
Wood product manufacturing	2%	0%	0%	0%	0%	11%	60%	0%	28%	0%	0%	0%	0%	0%	0%	100%
Pulp, paper and converted paper product manufacturing	2%	0%	0%	0%	0%	20%	63%	0%	16%	0%	0%	0%	0%	0%	0%	100%
Printing	2%	0%	0%	0%	0%	21%	78%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Petroleum and coal product manufacturing	2%	0%	0%	0%	0%	11%	20%	0%	68%	0%	0%	0%	0%	0%	0%	100%
Chemical, polymer and rubber product manufacturing	2%	0%	0%	0%	0%	20%	63%	0%	16%	0%	0%	0%	0%	0%	0%	100%
Non-metallic mineral product manufacturing	2%	0%	0%	0%	0%	11%	50%	0%	38%	0%	0%	0%	0%	0%	0%	100%
Primary metal and metal product manufacturing	2%	0%	0%	0%	0%	6%	60%	0%	33%	0%	0%	0%	0%	0%	0%	100%
Fabricated metal product manufacturing	2%	0%	0%	0%	0%	38%	40%	0%	20%	0%	0%	0%	0%	0%	0%	100%
Transport equipment manufacturing	2%	0%	0%	0%	0%	11%	68%	0%	20%	0%	0%	0%	0%	0%	0%	100%
Machinery and equipment manufacturing	2%	0%	0%	0%	0%	11%	68%	0%	20%	0%	0%	0%	0%	0%	0%	100%
Furniture and other manufacturing	2%	0%	0%	0%	0%	11%	68%	0%	20%	0%	0%	0%	0%	0%	0%	100%
Electricity generation and supply	9%	0%	0%	0%	0%	14%	0%	0%	18%	0%	58%	0%	0%	0%	0%	100%
Gas supply	0%	0%	0%	0%	0%	15%	0%	0%	20%	0%	65%	0%	0%	0%	0%	100%
Water, sewerage, drainage and waste services	2%	0%	0%	0%	0%	15%	0%	0%	27%	0%	56%	0%	0%	0%	0%	100%
Construction	2%	0%	0%	0%	0%	15%	6%	0%	16%	31%	31%	0%	0%	0%	0%	100%
Wholesale trade	5%	0%	0%	0%	0%	95%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Retail Trade	0%	0%	66%	0%	0%	0%	0%	34%	0%	0%	0%	0%	0%	0%	0%	100%
Accommodation and food services	0%	0%	0%	50%	50%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Road transport	3%	0%	0%	0%	0%	10%	10%	0%	78%	0%	0%	0%	0%	0%	0%	100%
Other transport, postal, courier, transport support and warehousing services.	5%	0%	0%	0%	0%	21%	10%	0%	24%	0%	40%	0%	0%	0%	0%	100%
Air and space transport	10%	0%	0%	0%	0%	10%	60%	0%	10%	0%	10%	0%	0%	0%	0%	100%
Information media and telecommunications	59%	0%	0%	0%	0%	23%	18%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Finance	98%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	100%
Insurance and superannuation funds	98%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	100%
Auxiliary finance and insurance services	98%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	100%
Rental, hiring and real estate services	14%	15%	6%	0%	0%	12%	0%	12%	10%	3%	0%	0%	0%	0%	27%	100%
Owner Occupied Dwellings	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Professional, scientific, technical, administrative and support services	22%	0%	27%	0%	0%	15%	10%	0%	13%	13%	0%	0%	0%	0%	0%	100%
Central government administration, defence and public safety	16%	0%	0%	0%	0%	10%	0%	0%	10%	56%	0%	0%	10%	0%	0%	100%
Local government administration	50%	0%	0%	0%	0%	0%	0%	0%	0%	50%	0%	0%	0%	0%	0%	100%
Education and training	27%	0%	19%	0%	0%	0%	0%	0%	0%	0%	0%	54%	0%	0%	0%	100%
Health care and social assistance	17%	21%	21%	0%	0%	0%	0%	0%	0%	40%	0%	0%	0%	0%	0%	100%
Arts and recreation services	25%	0%	29%	0%	0%	3%	3%	0%	0%	40%	0%	0%	0%	0%	0%	100%
Personal and other services	11%	0%	39%	0%	0%	14%	10%	0%	0%	26%	0%	0%	0%	0%	0%	100%

Source: M.E., based on national averages

Appendix 4 - Evaluation Criteria Index

TO BE UPDATED…..

The following table identifies the section(s) of this BDCA that are relevant to each of the criteria identified in the MBIE Evaluation Sheet (DRAFT, November 2017). It is included as a check list for M.E and Council and to assist with MBIE's evaluation.

Content	
The assessment produces an estimate of demand for business space in the short, medium and long term.	
Does the assessment provide a rigorous narrative on the key sectors, trends and possible future changes in the local economy? *Does this cover broad sectoral composition, employment densities, spatial characteristics and emerging trends and the sectors that are expected to drive future land/space demands?*	Section 3.1 covers all sectors by TA within FPP, along with distribution. Section 3.2 looks at recent change over past 16 years by sector, by TA. Section 3.3 provides sector and location specific projections and discusses key driving sectors.
Does the assessment analyse different business demands for different locations, property types, sizes and tenure?	Section 4 focuses on demand by sector translated into land and GFA, by location and space type.
Does the assessment contain future medium and long term projections of demand (especially for industrial land) by discussing the key drivers to business demand space?	Section 4.2: By subzone and ward within each TA in FPP. Appendix 3
The assessment produces an estimate of capacity for business space	
Does the assessment reasonably identify all business development capacity enabled by relevant proposed and operative RPSs, regional plans and district plans (including a stocktake of vacant land by zone and type and redevelopment potential), and is the assessment clear about what enabled capacity is also supported by development infrastructure?	Section 4.3 Yes, Section 4 and Section 7
Have these assessments been qualitatively assessed or ground-truthed? *For example have they been tested and supplemented by visual inspections or surveys of business occupiers?*	Section 5.1
Does the assessment consider the feasibility of capacity, particularly for industrial land? *E.g. has a multicriteria analysis been used?*	Section 6 describes the process Section 7.6 presents results.

Are the methods and assumptions used in this assessment clear?	
Is there a rigorous conclusion on whether development capacity for business is sufficient now and in the short, medium and long terms? *Is there a quantitative comparison between the demand and capacity assessments?* *Is sufficiency measured by zone type, geographical area and in the short, medium and long terms?* *Are there more detailed sufficiency measures for the short and medium terms?* *Are the industrial zone land price differentials used to inform a conclusion about whether zoning matches demand of different activities for particular locations?*	Section 7.6 and 7.7 Section 7.6 Section 7.6 Same level of detail provided for short, medium and longer terms No, price differentials do not inform about necessity of industrial zoned land. Highest and best use a fallacy with respect to Industrial land demand.
Does the assessment analyse the contributing factors to any shortfall in sufficiency*? I.e. how do different factors (enablement in plans, development infrastructure or feasibility) contribute to a shortfall in sufficiency?*	Section 7.6
The assessment considers interactions between housing and business activities and their impact on each other	
Does the assessment consider the interactions between business and housing capacity? *Does the assessment ensure that capacity is not double counted or under- or over-estimated?* *Does it consider the positive and negative spatial interactions between housing and business capacity, and impacts on accessibility and transport?* *Does it analyse barriers and opportunities for development and change?*	Section 5.3 Section 5.3 Section 5.3
The assessment explicitly uses market and price efficiency indicators	
Are results from the quarterly monitoring of market indicators reflected in the assessment and are they consistent with the final assessments of housing and business land sufficiency?	Handled elsewhere in supporting report.
Does the assessment include consideration of price efficiency indicators as a package and an analysis of what these suggest about the sufficiency of supply and location of development capacity?	Handled elsewhere by Council's other reporting
Communication	
Clarity *Is the capacity assessment easy to read and understand?*	Yes

Does it use appropriate headings, plain English, exec summary and visuals or spatial information where appropriate? *Is it of a readable length?*	Yes It is a necessary length to cover the material required.
Narrative *Does the assessment provide a clear narrative about the urban markets for housing and business space and their interaction with land use planning?* *Is the analysis of the indicators clearly grounded in the local context?* *Is it an appropriate level of detail for the local authority in question?*	Section 1 and Section 2 Section 2.3 outlines spatial context Yes
Usefulness to decision-makers *Will the assessment inform targets, plan changes and future development strategies (where relevant), and long term plans?* *Does it draw clear conclusions on the 'so what' and next steps (possibly through a recommendations section)?* *Does it link the HBA to other key responsive planning requirements under the NPS?* *Does it contain the key information necessary for further decisions?* *Are key risks and timing issues highlighted?*	Yes Section 7.7 and Section 7.8, Section 8 N/A Yes Section 8
Process	
Agreement between the relevant councils on the geographic area of focus for the assessment *Is this clearly delineated and does it have some logical basis e.g. the functional market, coordination arrangements, the application of planning decisions?*	Section 2 outlines the spatial framework used.
Local expertise sought and used *Is there evidence that the input of iwi authorities, the property development sector, significant land owners, social housing providers, requiring authorities, and the providers of development infrastructure and other infrastructure has been sought and used?*	Section 1.6 Section 6
Transparency *Are the methodology and assumptions clear, even when work has been procured?* *If there is a disclosure statement, does this detail key gaps, strengths and weaknesses?* *Are options for filling these gaps explored?* *Has consideration been given to releasing the report to the public?*	Yes Section 8.2 Section 8.3

Appendix 5 - Acronyms

The following acronyms can be found in this report:

- ANZSIC – Australia New Zealand Standard Industrial Classification
- BDCA – Business Development Capacity Assessment
- BMU – Business Mixed Use
- EFM – Economic Futures Model
- FDS – Further Development Strategy
- GDP – Gross Domestic Product
- GFA – Gross Floor Area
- GU – Geographic Unit (Business)
- HA – Hectare
- HDCA – Housing Development Capacity Assessment
- LDR – Low Density Residential
- LTP – Long Term Plan
- MCA – Multi Criteria Analysis
- MDR – Medium Density Residential
- M.E – Market Economics Limited
- MEC – Modified Employee Count
- NPS – National Policy Statement
- NPS-UD – National Policy Statement – Urban Development
- NZTA – New Zealand Transport Agency
- ODP – Operative District Plan
- EW – Environment Waikato
- PDP – Proposed District Plan
- HCC – Hamilton City Council
- RMA – Resource Management Act 1991
- SHA – Special Housing Area

- SNZ – Statistics New Zealand
- SQM – Square meters
- VA – Visitor Accommodation

To:	The Chairperson and Members of the Strategic Planning and Policy Committee
From:	Strategic Projects Driver
Subject:	**Determination report for the development of a Beekeeping Bylaw**
Meeting Date:	7 September 2021

1 EXECUTIVE SUMMARY

The purpose of this report is to seek approval for a proposal to initiate a bylaw regulating the keeping of animals, bees and poultry. This follows a recent Hearings Panel determination on Plan Change 18 on the issue of regulating bees in the District Plan.

The options for Council are:

1) to not have a bylaw and rely on existing district plan provisions;

2) to develop a beekeeping bylaw; or

3) to develop a bylaw for the keeping of animals, bees and poultry.

Staff recommend that Council proceed with a new bylaw with a wider scope (option 3).

2 RECOMMENDATION

That the Strategic Planning and Policy Committee:

a) ***RECEIVES*** *the report "*Determination report for the development of a Beekeeping Bylaw*" (document number 10663708) of Graham Pollard, Strategic Projects Driver; and*

b) ***DETERMINES*** *that a bylaw is the most appropriate mechanism to address issues relating to the regulation of the keeping of animals, bees and poultry pursuant to section 155(1) of the Local Government Act 2002 , and*

c) ***DETERMINES*** *that staff prepare a new draft bylaw and draft Statement of Proposal and Consultation document for regulating the keeping of animals, bees and poultry in accordance with the requirements of the Local Government Act 2002.*

3 ISSUES AND OPTIONS

Background

Section 145 of the LGA provides for the making of bylaws by local authorities for the purpose of:

- Protecting the public from nuisance;
- Protecting, promoting and maintaining public health and safety; and
- Minimising the potential for offensive behaviour in public places.

In addition, section 146 of the LGA specifically enables the making of bylaws for regulating the keeping of animals, bees and poultry.

A proposal to develop a bylaw for the keeping of bees has arisen as a result of Plan Change 18 to the operative Waipā District Plan. This was initiated by Council after approaches from the public highlighting that the current provisions for beekeeping in the residential and large lot residential zones were unnecessarily restrictive and did not reflect the realities of keeping beehives on residential properties. The Hearings Panel determined that on the date of a beekeeping bylaw coming into effect, all provisions in the Waipā District Plan relating to beekeeping in residential zones will be deleted from the District Plan.

The power to determine whether any bylaw should be made rests with Council under section 155 of the LGA. Accordingly, the purpose of this report is to consider whether a bylaw should be proceeded with to align with the Hearings Panel decision.

Before developing any bylaw under the LGA, Council must first determine whether a bylaw is the most appropriate way of addressing the perceived problems (section 155(1) LGA). This requires Council to consider the issues, to consider the options available to address the issues, and to decide if a bylaw is the most appropriate way of addressing the perceived problems.

Determination

In order to determine whether a bylaw is the most appropriate mechanism to address the perceived problem (LGA section 155(1)) of managing and regulating beekeeping in Waipā, it is necessary to provide an analysis of the current issues, and to identify and assess the options available to achieve the desired outcomes.

Is there a problem to be addressed?

In developing Plan Change 18, Council reviewed the extent of beekeeping activities undertaken, the number of complaints received, and the number of consented beehives within the Residential Zones of the Waipā District. Following this review, it became apparent that the District Plan restriction on beekeeping in residential zones is both ineffective and inefficient.

In the last five years, 6 complaints and 9 queries in relation to existing beekeeping activities have been received. In the same time period, 1 resource consent has been issued by Council for the keeping of beehives in residential areas.

Records from the Management Agency that regulates the National American Foulbreed Pest Management Plan Agency with which all beehives must be registered show that there are 38 apiaries located in the Cambridge and Te Awamutu urban areas and 363 beehives. It is not known how many unregistered beehives and apiaries there are in the Waipā urban areas.

It is recognised that beekeeping activities may result in potential effects where:

- they can result in a loss of on-site amenity for adjoining properties where they are not managed or controlled in urban environments;
- they are located too close to sensitive receiving environments (e.g. houses, schools, neighbourhood reserves etc); or
- there are multiple beehives with a high number of bee movements across neighbouring properties.

Is a bylaw the most appropriate way of addressing the problem?

The Plan Change 18 Hearing Panel considered that a bylaw for the control of nuisance from animals would be a more appropriate vehicle than the District Plan for controlling bees in residential zones. A bylaw provides the ability to deal with nuisance arising from animals including bees in residential areas. The Hearing Panel also expressed the view, that unlike the District Plan, there would be no need to ensure retrospective consents were applied for by people who currently have beehives in residential areas. A bylaw would also enable nuisance effects to be dealt with on a case by case basis and not by applying a blanket rule over all properties with beehives located on them.

Council has no data for compliance issues related to animal and poultry keeping. However, benchmarking against other councils shows that issues related to the keeping of animals, bees and poultry are normally addressed through bylaws.

In determining whether a bylaw is the most appropriate way of addressing the perceived problem of keeping bees, animals and poultry in residential areas, the following options have been identified:

OPTION 1 – DETERMINE THAT A NEW BYLAW IS NOT APPROPRIATE

This option *is not* recommended.

In determining that a bylaw should not be made, Council leaves the management of beekeeping to the District Plan. The Plan Change 18 Hearing Panel has previously concluded that the District Plan provisions are inappropriate, ineffective and inefficient and should be removed. Therefore without a bylaw alternative, Council would need to continue to rely on the District Plan provisions, which have been identified as

ineffective. Although bylaw enforcement can be difficult, lengthy and expensive, a bylaw can be a useful and persuasive regulatory tool.

OPTION 2 – MAKE A BYLAW FOR THE KEEPING OF BEES

This option *is not* fully recommended.

A bylaw allows staff to effectively deal with the problems associated with the management of bees in residential areas. It would enable Council to change the District Plan in accordance with the determination of the Plan Change 18 Hearing Panel. Council could also retain some control over bee management through the use of any nuisance provisions in the bylaw.

The Plan Change 18 Hearing Panel considered that a bylaw for the control of nuisance from animals and bees would be a more appropriate vehicle than the District Plan. If Council is to make a bylaw for one animal [bees], the opportunity should be taken to expand the scope of the bylaw to include other animals and poultry, thus removing the need to make another bylaw in the future. The District Plan could then be changed to remove provisions for managing animals and poultry.

OPTION 3 – MAKE A BYLAW FOR THE KEEPING OF ANIMALS, BEES AND POULTRY

This option *is* recommended.

As considered under option 2, expanding the scope of a new bylaw to include animals, bees and poultry enables Council to remove all animal management provisions from the District Plan. While this creates the need for a future plan change, it removes the potential need to create a further bylaw, or for amending a Bee Bylaw. Other councils have developed single bylaws for keeping animals, bees and poultry. It is therefore recommended that the scope of a new bylaw is widened.

Next steps

If either option 2 or 3 is chosen, then staff will progress with developing a draft bylaw. In accordance with section 156 of the LGA, the draft bylaw will then be subject to the Special Consultative Procedure in accordance with the following proposed timetable:

- The Committee to approve draft bylaw and Statement of Proposal for public notification – November 2021
- Consultation period – November to December 2021
- Hearing of submissions – February or March 2022
- Council adoption of final bylaw – February or March 2022.

Local Government Act 2002

The proposed bylaw aligns with the purpose of local government as defined in the LGA section 10.

Significance

Any new or amended bylaw needs to be the subject of public engagement and consultation under section 156 of the Local Government Act 2002.

Council's Significance and Engagement Policy 2021 highlights the need for public engagement and consultation where it is critical for Council to understand the needs, views, opinions and preferences of people likely to be affected by, or interested in, this bylaw proposal. The presence of 38 apiaries in Cambridge and Te Awamutu and 363 known beehives, plus neighbouring properties, indicates there is an identifiable community of interest whose opinions, preferences, and values need to be sought.

Financial status

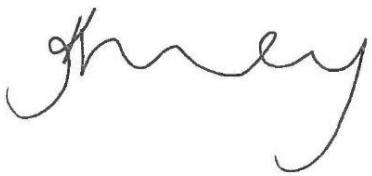
The cost of developing and reviewing bylaws is already budgeted for in the Strategy Team operating budget. However, this bylaw is not part of the Bylaw Review Programme and no additional budget has been allocated for its development.

Climate change impact

Although a bylaw for keeping bees will have no impact on Council's or the community's efforts towards climate change mitigation, the good management of bees is important for the welfare of an important crop pollinator in Waipā and surrounding areas. Bees may be adversely affected by climate change impacts such as temperature increases, extreme weather events, changes in rainfall patterns and intensity, biosecurity changes and land use changes. The good management of bees should therefore be encouraged and a new bylaw can make a contribution to that outcome.

Graham Pollard
STRATEGIC PROJECTS DRIVER

Reviewed by Diana Aquilina
LEGAL COUNSEL



Approved by Kirsty Downey
MANAGER STRATEGY

SUPPORTING INFORMATION: ASSESSMENT OF PROPOSAL

1 BACKGROUND TO PROPOSED BYLAW

Proposed Plan Change 18 'Beekeeping in Residential Zones Proposed Plan Change 18 to the operative Waipā District Plan focused on addressing the effects of beekeeping in residential areas (being the residential and large lot residential zones). The plan change was initiated by Council) after approaches from the public highlighting that the current provisions for beekeeping in the residential and large lot residential zones were unnecessarily restrictive and did not reflect the realities of keeping beehives on residential properties.

The District Plan currently contains controls around beekeeping in the Residential and Large Lot Residential Zones (the Residential Zones). The keeping of up to 2 beehives in the Residential Zone requires resource consent for a discretionary activity while consent for a restricted discretionary activity is required for the same activity in the Large Lot Residential Zone.

In developing the plan change, Council reviewed the extent of beekeeping activities undertaken, the number of complaints received, and the number of consented beehives within the Residential Zones of the Waipā District. Following this review, it became apparent that the restriction on beekeeping in residential zones is both ineffective and inefficient. In the last 5 years, 6 complaints and 9 queries in relation to existing beekeeping activities have been received. In the same time period, 1 resource consent has been issued by Council for the keeping of beehives in residential areas.

Records from the Management Agency National American Foulbreed Pest Management Plan Agency with which all beehives must be registered show that there are 38 apiaries located in the Cambridge and Te Awamutu urban areas and 363 beehives. It is not known how many unregistered beehives and apiaries there are in the Waipā urban areas. It is recognised that beekeeping activities may result in potential effects where:

- they can result in a loss of on-site amenity for adjoining properties where they are not managed or controlled in urban environments;
- they are located too close to sensitive receiving environments (e.g. houses, schools, neighbourhood reserves etc); or
- there are multiple beehives with a high number of bee movements across neighbouring properties.

Hearing and Decision

A hearing was held on 29 March 2021. After hearing from submitters, the Hearing Panel determined to accept the submissions which sought the development of an animal nuisance bylaw and deletion of the beekeeping provisions in residential zones, contained in the operative Waipā District Plan.

Three submitters attended the hearing and spoke about there preference for a bylaw to regulate the keeping of bees in residential areas rather than the use of rules in the

district plan. They argued that it was the nuisance element that may arise from bees in a residential area that needed to be addressed, rather than controlling the activity of bee-keeping.

In the decisions report, consideration was given to what the most appropriate mechanism was for dealing with nuisance from bees.

a) Resource Management Act 1991 (RMA)

- The district plan is an instrument of the RMA. The Act focuses on the adverse effects of activities. This means beekeeping in residential zones would need to be causing an adverse effect that is more than minor.
- Effects under the RMA are defined as north positive and adverse, temporary or permanent, past, present or future and cumulative which arise over time on their own or in conjunction with other effects.
- Enforcement options under the RMA include abatement and enforcement notices which require a person to stop doing something which contravenes the Act or a rule in a district plan. These notices can also require a person to remedy or mitigate an adverse effect or to do something that results in compliance under the Act.

b) Local Government Act 2002 (LGA)

- One of the purposes of the LGA is to promote the social, economic, environmental, and cultural well-being of communities in the present and for the future.
- Section 146 of the LGA gives the Council the ability to address the keeping of animals, bees and poultry causing a nuisance effect for people around them.
- Before a bylaw is made, Council must be satisfied that it can be justified as a reasonable limitation on people's rights and freedoms.
- Bylaws are used to control or modify nuisance effects and the behaviour of individuals or businesses.
- Enforcement options include injunctions granted by the District Court, removal of works in breach of a bylaw (if provided for in the bylaw), and the seizure of property from private land by warrant.

The Hearing Panel considered that a bylaw for the control of nuisance from animals was the most appropriate method for controlling bees in residential zones. A bylaw provides the ability to deal with nuisance arising from animals including bees in residential areas.

The Hearing Panel also expressed the view, that unlike the district plan, there would be no need to ensure retrospective consents were applied for by people who currently have beehives in residential areas. A bylaw would also enable nuisance effects to be dealt with on a case by case basis and not seek to apply a blanket rule over all properties with beehives located on them.

The Hearing Panel's decision is contained in section 1.2 for the Decision Report and reads:

"1.2.1 Pursuant to clause 10 of Schedule 1 of the Resource Management Act 1991, the submissions to Proposed Plan Change 18 'Beekeeping in the Residential Zones' seeking the development of a bylaw to control nuisance from beekeeping are accepted and all other submissions are rejected, with the decisions on submissions set out in section 2.4 of this report and the final amendments as set out in section 3.

1.2.2 The Hearings Panel has determined that on the date of this bylaw coming into effect, all provisions in the Waipā District Plan (as outlined in paragraph 1.2.6 below) relating to beekeeping in residential zones will be deleted from the District plan including any consequential amendments to give effect to the panel's decision" (p5 of Decision Report)."

The appeal period for Plan Change 18 closed on Monday, 12 July 2021. No appeals were lodged.

2 STATUTORY AND POLICY REQUIREMENTS

Local Government Act 2002

In accordance with section 145 of the LGA territorial authorities are authorised to make bylaws. The LGA sets out requirements for the creation and review process for bylaws in sections 155, 156 and 158. Sections 83 and 86 outline the special consultative procedure used to draft or review bylaws.

The purpose of local government is defined in section 10 of the LGA, as follows:

"10 Purpose of local government

(1) The purpose of local government is—

(a) to enable democratic local decision-making and action by, and on behalf of, communities; and

(b) to promote the social, economic, environmental, and cultural well-being of communities in the present and for the future.

"Section 78 Community views in relation to decisions

(1) A local authority must, in the course of its decision-making process in relation to a matter, give consideration to the views and preferences of persons likely to be affected by, or to have an interest in, the matter.

(2) [Repealed]

(3) A local authority is not required by this section alone to undertake any consultation process or procedure.

(4) This section is subject to section 79."

Section 78(2): repealed, on 27 November 2010, by section 9 of the Local Government Act 2002 Amendment Act 2010 (2010 No 124).

"Section 145 General bylaw making power for territorial authorities

A territorial authority may make bylaws for its district for 1 or more of the following purposes:

(a) protecting the public from nuisance:

(b) protecting, promoting, and maintaining public health and safety:

(c) minimising the potential for offensive behaviour in public places."

"146 Specific bylaw-making powers of territorial authorities

Without limiting section 145, a territorial authority may make bylaws for its district for the purposes—

(a) of regulating 1 or more of the following:

(i) on-site wastewater disposal systems:

(ii) waste management:

(iii) trade wastes:

(iv) solid wastes:

*(v) **keeping of animals, bees, and poultry**:*

(vi) trading in public places:

"Section 155 Determination whether a bylaw made under this Act is appropriate

(1AA) This section applies to a bylaw only if it is made under this Act.

(1) A local authority must, before commencing the process for making a bylaw, determine whether a bylaw is the most appropriate way of addressing the perceived problem.

(2) If a local authority has determined that a bylaw is the most appropriate way of addressing the perceived problem, it must, before making the bylaw, determine whether the proposed bylaw—

(a) is the most appropriate form of bylaw; and

(b) gives rise to any implications under the New Zealand Bill of Rights Act 1990."

(3) No bylaw may be made which is inconsistent with the New Zealand Bill of Rights Act 1990, notwithstanding section 4 of that Act.

(3) If, after the review, the local authority considers that the bylaw—

(a) should be amended, revoked, or revoked and replaced, it must act under section 156:

(b) should continue without amendment, it must—

(i) consult on the proposal using the special consultative procedure if—

(A) the bylaw concerns a matter identified in the local authority's policy under section 76AA as being of significant interest to the public; or

(B) the local authority considers that there is, or is likely to be, a significant impact on the public due to the proposed continuation of the bylaw; and

(ii) in any other case, consult on the proposed continuation of the bylaw in a manner that gives effect to the requirements of section 82."

(4) For the purposes of subsection (3)(b), the local authority must make available —

(a) a copy of the bylaw to be continued; and

(b) the reasons for the proposal; and

(c) a report of any relevant determinations by the local authority under section 155.

(5) This section does not apply to any bylaw to which section 10AA of the Dog Control Act 1996 applies."

Section 160: substituted, on 28 June 2006, by section 19 of the Local Government Act 2002 Amendment Act 2006 (2006 No 26).

STRATEGIC PLANNING AND POLICY COMMITTEE REPORT

Waipā DISTRICT COUNCIL

To:	The Chairperson and Members of the Strategic Planning and Policy Committee
From:	Governance
Subject:	**RESOLUTION TO EXCLUDE THE PUBLIC**
Meeting Date:	7 September 2021

1 RECOMMENDATION

THAT the public be excluded from the following parts of the proceedings of this meeting.

The general subject of the matter to be considered while the public is excluded, the reason for passing this resolution in relation to each matter, and the specific grounds under section 48(1) of the Local Government Official Information and Meetings Act 1987 for the passing of this resolution are as follows:

General subject of each matter to be considered	Reason for passing this resolution in relation to each matter	Ground(s) under section 48(1) for the passing of this resolution
9. Confirmation of Public Excluded Minutes – 3 August 2021 *10. Consultation on draft 2021 Future Proof Strategy* *11. District Plan Work Programme*	*Good reason to withhold exists under section 7 Local Government Official Information and Meetings Act 1987*	*Section 48(1)(a)*

This resolution is made in reliance on section 48(1)(a) of the Local Government Official Information and Meetings Act 1987 and the particular interest or interests protected by Section 6 or Section 7 of that Act, or Sections 6, 7 or 9 of the Official Information Act 1982, as the case may be, which would be prejudiced by the holding of the whole or relevant part of the proceedings of the meeting in public, are as follows:

Item No.	Section	Interest
9,11	*Section 7(2)(j)*	*To prevent the disclosure or use of official information for improper gain or advantage*
10	*Section 7(2)(c)*	*To protect information which is subject to an obligation of confidence.*