Monday, 22 July 2024



Te Hui o Te Kaunihera ā-Rohe o Heretaunga Hastings District Council Napier-Hastings Future Development Strategy Joint Committee Meeting

# Kaupapataka

# **Attachments Vol 2**

<i>Te Rā Hui:</i> Meeting date:	Monday, 22 July 2024
<i>Te Wā:</i> Time:	1.00pm
<i>Te Wāhi:</i> Venue:	Council Chamber Ground Floor Civic Administration Building Lyndon Road East Hastings



ITEM	SUBJECT		PAGE
4.	ADOPTION OF DRAFT FUTURE DEVELOPMENT STRATEGY FOR NOTIFICATION		
	Attachment 4:	Napier Hastings FDS - Technical Report - Final Compiled (Attachment 4)	3

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Draft Napier Hastings Future Development Strategy 2024 - 2054

# **Technical Report**

# July 2024

<u>B&A Reference:</u> 19684

<u>Status:</u> Final Draft - Revision 1

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# 1. Purpose

The purpose of this report is to provide an overview of the policy background, methodology and analysis undertaken to prepare the Draft Napier Hastings Future Development Strategy (**the FDS**).

The FDS is a legal requirement of the National Policy Statement on Urban Development 2020 (NPSUD), and acts as a strategic tool to assist with the integration of planning decisions under the Resource Management Act 1991 (RMA) with infrastructure and funding decisions. It has been prepared jointly by Hastings District Council (HDC), Napier City Council (NCC), Hawke's Bay Regional Council (HBRC) (the councils), in partnership with Maungaharuru Tangitū Trust (MTT), Mana Ahuriri Trust (MAT) and Tamatea Pōkai Whenua (TPW).

This report will be updated following public consultation on the draft FDS to address any matters arising from submissions on the draft FDS.

# **1.1 Vision and objectives**

#### Vision

The overarching vision which has helped guide the development of the FDS is:

In 2054, Napier and Hastings have thriving, resilient, safe, equitable, sustainable and connected communities, within a protected and enhanced natural environment.

#### **Strategic objectives**

The strategic objectives set out below describe what the Draft FDS is seeking to achieve to ensure the vision is realised and were approved by the FDS Joint Committee in mid-2023. Objective 12 has been proposed by Tamatea Pōkai Whenua post approval of the FDS Joint Committee. These objectives will form the basis of future implementation and monitoring of the FDS.

- 1. Mana whenua and councils work in a genuine Te Tiriti partnership to achieve their shared goals for urban development.
- 2. We have a compact urban form, focussed around **consolidated and intensified urban centres** in Napier and Hastings.
- 3. Our communities and infrastructure are resilient to the effects of climate change and risks from natural hazards.
- 4. We have a diverse range of housing choices that meet people's needs in neighbourhoods that are safe and healthy.
- 5. We have a **strong economy**, and businesses can grow in locations that meet their functional needs.
- 6. The highly productive land of the Heretaunga Plains is protected for productive uses.

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- 7. Our communities and business areas are **well connected and accessible**, particularly by public and active transport.
- 8. We have sufficient land for housing and business to meet demand.
- 9. Te Taiao/our **natural environment is protected and enhanced,** including our water bodies, indigenous biodiversity, <u>wāhi taonga</u> and outstanding landscapes.
- 10. Our infrastructure is planned and designed to efficiently support development.
- 11. Urban growth and infrastructure investment supports equitable social outcomes.
- 12. The values and aspirations of mana whenua for development are a priority and are recognised and supported

# 2. Background

### 2.1 Statutory Requirements

#### **Resource Management Act 1991**

The FDS is an RMA planning document.

The purpose of the RMA, is the sustainable management of natural and physical resources. In achieving this purpose, matters of national importance must be recognised and provided for (section 6 matters).

These matters of national importance are summarised as follows:

- The preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins;
- The protection of outstanding natural features and landscapes;
- The protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna;
- The maintenance and enhancement of public access to and along the coastal marine area, lakes, and rivers;
- The relationship of Māori and their culture and traditions with their ancestral lands, water, sites, wāhi tapu, and other taonga;
- The protection of historic heritage from inappropriate subdivision, use, and development;
- The protection of protected customary rights; and
- The management of significant risks from natural hazards.

There are a range of other matters that must also be considered and these are listed in Section 7 of the RMA. They include kaitiakitanga, the ethic of stewardship, the efficient use and development of resources, the maintenance and enhancement of amenity values and the quality of the environment, the intrinsic values of ecosystems and the effects of climate change.

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The RMA also requires decision makers to take into account the principles of the Treaty of Waitangi.

These matters have directly informed the FDS, through:

- Informing the development of vision, principles and strategic objectives to guide the development of the FDS;
- · Providing a basis for understanding actual or potential development constraints; and
- Informing the development of a multi-criteria assessment to enable analysis of various spatial scenarios for growth and individual growth areas.

#### Local Government Act 2002

The NPS-UD requires the Councils to use the special consultative procedure in section 83 of the Local Government Act 2002 (**LGA**) when preparing an FDS. This procedure sets out detailed consultation requirements, and requires the councils to identify and analyse the reasonably practicable options that are relevant to the proposal.

The Technical Report below sets out the reasonably practicable growth options for Napier and Hastings (spatial scenarios) and evaluates them in detail. The evaluation is based on a comprehensive range of technical data and takes into account the relationship of Māori and their culture and traditions with their ancestral land, water, sites, wāhi tapu, valued flora and fauna, and other taonga.

The Technical Report also details the outcomes of engagement with iwi and hapū to date in **Section X**.

#### National Policy Statement on Urban Development 2020

The Napier and Hastings urban environment is identified as a Tier 2 urban environment by the NPS-UD.

The NPS-UD sets out specific requirements for Tier 2 urban environments and local authorities, with Policies 1, 2 and 5 being particularly relevant to the preparation of an FDS. These policies require councils to plan for a well-functioning urban environment, provide for at least sufficient development capacity to meet demand over the short (three years), medium (ten years) and long term (30 years), and enable heights and densities commensurate with levels of accessibility or relative demand in any given area.

The NPS-UD states that the purpose of an FDS is to promote long term strategic planning by setting out how local authorities intend to:

- Achieve well-functioning urban environments in existing and future urban areas;
- Provide at least sufficient development capacity over the next 30 years to meet expected demand; and
- Assist with the integration of planning decisions under the RMA with infrastructure planning and funding decisions.

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At a minimum, an FDS is required to show:

- The general locations for growth in existing and new urban areas over the next 30 vears;
- The infrastructure needed to support and service that growth; and
- Development constraints.

#### Well Functioning Urban Environments

A key requirement of the FDS is to set out how Napier and Hastings will achieve wellfunctioning urban environments. These are described in Policy 1 of the NPS-UD as urban environments that, at a minimum:

- Have or enable a variety of homes that meet the needs, in terms of type, price and location, of different households; and
- Have or enable a variety of homes that enable Māori to express their cultural traditions and norms; and
- Have or enable a variety of sites that are suitable for different business sectors in terms of location and site size; and
- Have good accessibility for all people between housing, jobs, community services, natural spaces and open spaces, including by way of public or active transport; and
- Support, and limit as much as possible adverse impacts on, the competitive operation of land and development markets; and
- Support reductions in greenhouse gas emissions; and
- Are resilient to the likely current and future effects of climate change.

#### Information required to inform an FDS

An FDS must be informed by those matters set out in section 3.14 of the NPS-UD. Detail on how the development of the Draft FDS has taken these matters into account is set out below.

#### The most recent applicable HBA

Napier and Hastings councils completed housing and business development capacity assessments in late-2021 and late-2022 which have been used as the basis for the draft FDS (see **Appendix 5**). An additional economic assessment (May 2024) has been prepared that updates housing demand estimates and assesses the capacity provided by the Napier PDP and HDC's Plan Change 5 in addition to the different spatial scenarios that have been identified in the Draft FDS (see **Appendix 5**).

# A consideration of the advantages and disadvantages of different spatial scenarios for achieving the purpose of the FDS

A number of spatial scenarios (broad locations for growth) have been considered as part of the development of the FDS. These spatial scenarios, along with the advantages and disadvantages of each are set out in **Section 7** of this report.

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# The relevant long-term plan and its infrastructure strategy, and any other relevant strategies and plans

Each of the partner councils' Long Term Plans (**LTP**) and infrastructure strategies have been taken into account in preparing this draft FDS. Consultation on each of the partner council's 2024-2027 LTPs was undertaken in early-2024 with hearing and deliberations taking place during the development of the draft FDS.

Due to the disruption to the region as a result of Cyclone Gabrielle, the requirements for the partner councils to produce a 10-year LTP was reduced to a three-year plan covering 2024-2027. This change acknowledged the effects Cyclone Gabrielle had on the resources of each council and their ability to deliver previously planned projects. Despite preparing a three-year plan, information on budgets and plans beyond 30 June 2027 for NCC and HDC have been provided to show the community what is in the pipeline over the long term.

One of the key drivers of the FDS, as reflected in the purpose, is to integrate planning decisions with infrastructure planning and funding. Taking stock of each of the partner council's LTPs and infrastructure planning has been critical to ensuring the preferred spatial scenario makes the most efficient use of existing and committed infrastructure. Engineers and officers from across each of the councils have contributed to the development and review of the spatial scenarios as well as the evaluation of potential growth areas (as set out in **Section 7**). They have also assisted in identifying strategic development infrastructure necessary to support the spatial scenarios assessed.

Other relevant strategies that have been considered in the preparation of the FDS include plans and strategies that relate to planning for growth and these are referenced where relevant in **Section 3** of this report.

# *Māori, and in particular tangata whenua, values and aspirations for urban development*

The partner councils have worked with iwi and hapū to develop the FDS, and the outcome of this is reflected in the draft FDS document itself. We have had ongoing korero, engagement and hui with iwi and hapū who wanted to be involved. This occurred across a number of project stages and involved identifying strategic issues for growth, identifying potential areas for growth that reflect iwi and hapū aspirations, and inputting to the evaluation of the spatial scenarios. Engagement with iwi and hapū will be on-going throughout the consultation period on the draft FDS.

# Feedback received through the consultation and engagement required by clause 3.15

Clause 3.15 of the NPS-UD requires the partner councils to use the 'Special Consultative Procedure' (SCP) set out in section 83 of the LGA. The SCP requires the partner councils to make the draft FDS available to the public and to seek the public's views on it. This is the stage that the FDS preparation is currently at. The partner councils are seeking written feedback on

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this draft through submissions, and submitters will also have the opportunity to speak to their submission at a hearing. The FDS will then be updated in response to feedback received through this statutory SCP process.

Prior to the SCP process, the partner Councils have undertaken consultation and engagement with a number of relevant stakeholders and the general public. A summary of this process is set out in **Section 5** of this report.

# *Every other National Policy Statement under the Act, including the New Zealand Coastal Policy Statement*

The FDS has also been informed by the policy set in the following national policy statements:

- New Zealand Coastal Policy Statement 2010 (NZCPS)
- National Policy Statement for Freshwater Management 2020 (NPS-FM)
- National Policy Statement on Electricity Transmission 2008 (NPS-ET)
- National Policy Statement for Highly Productive Land 2022 (NPS-HPL)
- National Policy Statement for Indigenous Biodiversity 2023 (NPS-IB)
- National Policy Statement for Renewable Energy Generation 2011 (NPS-REG)

More detail on how these national policy statements have informed the FDS and the supporting evaluation process are set out in the sections below.

The previous Government released a proposed National Policy Statement for Natural Hazards Decision Making in September 2023. The NPS has not progressed beyond the draft phase and has therefore not been taken into account. However, natural hazards have been a key consideration in developing the Draft FDS as detailed in the report below.

#### New Zealand Coastal Policy Statement 2010

Policy 7 of the NZCPS deals with strategic planning (albeit in relation to regional policy statements and plans). Policy 7 requires consideration as to where, how and when to provide for future residential or other forms of urban development in the coastal environment at a regional and district level. In addition, there is a need to identify areas of the coastal environment where particular activities and forms of subdivision, use, and development are inappropriate.

The FDS study area and the urban environments of Napier and Hastings span the coastal area and are, or will be, subject to a range of coastal hazards over the long-term. These matters are considered in more detail within the constraints analysis set out in **Section 6** of this report.

#### **National Policy Statement on Freshwater Management 2020**

The NPS-FM sets out the objectives and policies for freshwater management under the RMA. HBRC is primarily responsible for implementing the NPS-FM in the Hawke's Bay by way of updating land and freshwater-related provisions in the Regional Policy Statement and regional plan. New freshwater plans giving effect to the NPS-FM's directions need to be publicly notified (open for submissions) by 31 December 2027.

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By 2030, all regional councils are required to identify and map natural wetlands in accordance with the NPS-FM and National Environmental Standards for Freshwater Regulations 2020 (**NES-FW**). The NES-FW contains a number of provisions which heavily restrict or prohibit development in and around natural wetlands.

In addition to wetlands, the NPS-FM identifies a number of freshwater features which are of significance and amongst other things require protection to improve water quality for ecosystem and human health. At a strategic level, the FDS needs to consider the potential impacts of urban development on water bodies and also look at opportunities to maintain or enhance these. Many of these matters are identified in **Section 6** of this report.

The Government has signalled that replacement work on the NPS-FM has commenced. While work on a replacement is undertaken, councils remain obligated to give full effect to the NPS-FM as it currently stands through their new policy statements and plans.

#### National Policy Statement on Electricity Transmission 2008

The NPS-ET provides a high-level framework that gives guidance across New Zealand for the management and future planning of the national grid. In particular;

- it acknowledges the national significance of the national grid, which has to be considered in local decision making on resource management issues; and
- it guides the management of the adverse effects of activities from third parties on the grid which helps reduce constraints on the operation, maintenance, upgrading and development of the grid.

In response to the above, this FDS has identified the electricity transmission network as part of its constrains mapping exercise and has considered potential effects on the transmission network as part of the assessment of potential growth areas.

#### National Policy Statement on Highly Productive Land 2022

The NPS-HPL was approved in September 2022 and requires that highly productive land is protected for use in land-based primary production, both now and for future generations. According to the NPS-HPL, highly productive land is to be mapped and included in regional policy statements and district plans, and urban rezoning and subdivision of this land is to be avoided except as provided in the NPS-HPL.

Under the NPS-HPL highly productive land is any land that:

- (a) is in a general rural zone or rural production zone; and
- (b) is predominantly LUC 1, 2, or 3 land; and
- (c) forms a large and geographically cohesive area.

The mapping may also include other land that is not LUC 1, 2 or 3 but is or has the potential to be (based on current uses of similar land in the region), highly productive for land-based

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primary production in that region, having regard to the soil type, physical characteristics of the land and soil, and climate of the area.

However, land that, at the commencement date of the NPS-HPL (i.e. 17 October 2022), is identified for future urban development must not be mapped as highly productive land. "Identified for future urban development" is defined in the NPS-HPL as:

- (a) identified in a published Future Development Strategy as land suitable for commencing urban development over the next 10 years; or
- (b) identified:
  - (i) in a strategic planning document as an area suitable for commencing urban development over the next 10 years; and
  - (ii) at a level of detail that makes the boundaries of the area identifiable in practice

Because there was no FDS in place as at 17 October 2022, the above will refer to the Heretaunga Plains Urban Development Strategy (**HPUDS**).

At this stage, HBRC has not completed the mapping exercise so an interim definition of highly productive land applies as set out in clause 3.5(7) of the NPS-HPL.

The NPS-HPL restricts urban rezoning of highly productive land unless:

- (a) the urban rezoning is required to provide sufficient development capacity to meet demand for housing or business land to give effect to the National Policy Statement on Urban Development 2020; and
- (b) there are no other reasonably practicable and feasible options for providing at least sufficient development capacity within the same locality and market while achieving a well-functioning urban environment; and
- (c) the environmental, social, cultural and economic benefits of rezoning outweigh the long-term environmental, social, cultural and economic costs associated with the loss of highly productive land for land-based primary production, taking into account both tangible and intangible values.

It is noted that Government has signalled its intention to redefine 'highly productive land' by removing LUC3. Until that proposal passes into law, councils and consent authorities remain obligated to implement the NPS-HPL as it currently stands.

#### National Policy Statement for Indigenous Biodiversity 2023

The NPS-IB seeks to maintain indigenous biodiversity across Aotearoa New Zealand so that there is at least no overall loss in indigenous biodiversity. It seeks to achieve this by:

- (a) recognising the mana of tangata whenua as kaitiaki of indigenous biodiversity;
- (b) recognising people and communities, including landowners, as stewards of indigenous biodiversity;

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- (c) protecting and restoring indigenous biodiversity as necessary to achieve the overall maintenance of indigenous biodiversity; and
- (d) while providing for the social, economic, and cultural wellbeing of people and communities now and in the future.

The NPS-IB requires the councils to map Significant Natural Areas (**SNAs**) using a specified methodology. Where information about areas used by specified highly mobile fauna is available, HBRC must record areas outside SNAs that are highly mobile fauna areas. HBRC must also assess the percentage of indigenous vegetation cover in its urban and non-urban environments and set a target of at least 10 per cent indigenous vegetation cover for any urban or non-urban environment that has less than 10% cover of indigenous vegetation. In consultation with mana whenua and the councils, it may also set higher targets for indigenous vegetation cover.

This work has not yet been completed by HBRC or the councils. The Government has also signalled its intent to amend the NPS-IB and has advised that councils are no longer required to comply with the SNA provisions.

Information on ecological areas held by the councils has been to inform the constraints analysis set out in **Section 6** of this report.

#### National Policy Statement for Renewable Energy Generation 2011

The NPS-REG seeks to provide for the development, operation, maintenance and upgrading of new and existing renewable electricity generation activities. The Draft FDS does not impact existing renewable energy operations in the FDS study area or surrounds.

### 2.2 Study Area

In preparing the FDS a study area has been identified around the existing urban areas of Napier and Hastings. The study area is shown on **Figure 1** and includes Napier, Taradale, Hastings, Flaxmere, Havelock North, the surrounding Heretaunga Plains and peripheral areas including Bay View and Whirinaki, Whakatu, Clive, Haumoana and Te Awanga and a number of rural settlements on the Heretaunga Plains within an approximate 20-minute (uncongested) drive time from the main centres of Napier and Hastings.

The study area is not intended to represent the full extent and locations where urban development will occur. Within the study area there are locations where land would be inappropriate for urban development.

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Figure 1 FDS Study Area extent within the Hawke's Bay region

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### 2.3 Heretaunga Plains Urban Development Strategy

HPUDS, initially developed in 2010, was a joint strategy developed by Hastings District Council, Napier City Council, Hawke's Bay Regional Council and mana whenua to manage urban growth on the Heretaunga Plains over a 30-year timeframe through to 2045. Subsequent updates and amendments to HPUDS were made in 2017.

The Draft FDS builds on and replaces HPUDS, responding to the new requirements of the NPS-UD and other recent national direction, including the National Policy Statement for Highly Productive Land 2022 (NPS-HPL). In preparing this Draft FDS, all unzoned future growth areas identified within HPUDS have been reconsidered to determine their appropriateness to accommodate future development.

HPUDS was based on a preferred settlement pattern that recognised the community's preference to maintain the versatile land of the Heretaunga Plains for production purposes. The strategy defined growth areas and urban limits (refer to **Figure 2**), with a need to balance increased intensification and higher densities close to the commercial nodes and higher amenity areas in the districts, against the provision of lifestyle choice. Under HPUDS, development was expected to transition to 60 per cent intensification, 35 per cent greenfield, and five per cent in rural areas by 2045.

HPUDS sought to recognise and provide for mana whenua values and aspirations, including through governance and implementation of the strategy, and by recognising the unique relationship that mana whenua have with the land, waterways and other people. HPUDS specifically provided for Marae-based settlements at Bridge Pa and Omahu, noting that servicing could be more practically achieved in these locations from a physical and cost viewpoint than more remote marae. HPUDS also acknowledged and supported the development of papakāinga housing. The Draft FDS continues to promote this approach.

Strong growth since 2015 has seen development in rural and greenfields areas maintain their shares of the market, although a significant proportion of greenfield development has been in higher density retirement villages. It is only in recent years, in a cooling housing market, that a proportionate shift towards intensification and more efficient use of greenfield growth areas has started to occur.

A number of growth areas identified within HPUDS have been enabled through plan changes and detailed planning, and now form part of the existing urban environment. Several have been recently developed or are under development, including:

- Parklands
- Te Awa
- Mission Hills
- Brookvale Road
- Lyndhurst
- York Road (Wairatahi Fast Track Consent)

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- Howard Street
- Tomoana (industrial)
- Irongate (industrial)
- Omahu Road (industrial).



Figure 2 - HPUDS Overview Map (2017)

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# **3.** Relevant Documents and Strategies

The partner councils have prepared and adopted (or are currently developing) a number of different strategies which have been used to help inform the development of the draft FDS. A summary of key documents and relevant aspects of these to the FDS is included below.

### **3.1 Napier Spatial Picture**

The Napier Spatial Picture provided a stocktake of statutory and non-statutory documents prepared by Napier City Council as a precursor to the development of the FDS. The Spatial Picture also identified growth opportunities at a conceptual level, making recommendations for further work to be undertaken as part of the development of a Spatial Plan for Napier and Hastings, or as a precursor to that if necessary. This included identification and evaluation of potential intensification areas (e.g. medium density residential areas) in more detail in the context of the NPS-UD requirements to help inform the District Plan Review.



Figure 3 - Napier Spatial Picture High-level Intensification Strategy (2022)

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# 3.2 Napier Proposed District Plan

The Napier Proposed District Plan (**PDP**) was notified on 21 September 2023. This follows a Draft District Plan that the Napier City Council sought public feedback on in 2021.

The PDP introduces a new planning framework for Napier, including a suite of new zones to manage development within the city. The zoning proposed was informed by the Napier Spatial Picture and High-Level Structure Plans that NCC prepared in 2022.

A total of 290 submissions were received on the PDP. Hearings for the PDP are scheduled to commence from the end of 2024 and will continue throughout 2025.

Three topics were not included in the PDP and will be progressed as a variation to the PDP. These topics include:

- Natural hazards;
- Sites of significance to Māori;
- Significant Natural Areas and other provisions required to implement the NPS-IB.

The zoning proposed in the PDP is current and based on recent planning work undertaken. It has therefore formed the starting point for the Draft FDS in terms of defining areas of residential intensification.

## 3.3 Hastings District Plan – Plan Change 5

Plan Change 5 was notified by HDC on 29 October 2022 with its purpose being to implement Policy 5 of the NPS-UD. Policy 5 required all Tier 2 authorities to undertake a plan change to enable increased heights and density in highly accessible urban areas. At the same time, there was also a growing recognition within the District that greater intensification should be enabled to help reduce the demand or requirement for further greenfield expansion and to help create a more compact urban form. PC5 was originally notified in October 2022 and re-notified in July 2023. A total of 152 submissions and 31 further submissions were received.

The notified version of Plan Change 5 provided for a relaxation of density controls as well as bulk and location standards across the General Residential Zone. However, following review of submissions, the completion of the Infrastructure Constraints Report and an additional demand assessment, it was recommended by Council officers that Medium Density Residential Development be confined to a zone generally 400m from the main urban centre and key transportation routes (for example, see **Figure 4**). The remainder of the General Residential Zone was recommended to retain the existing density provisions. HDC's refined position has been used as a basis for the level of intensification to be enabled across Hastings, Flaxmere and Havelock North within the spatial scenarios considered within this report.

The hearings for Plan Change 5 occurred in early April 2024. After consideration of submissions, the commissioners requested additional information from officers to assist in

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decision making. Following receipt of this information the commissioners have deliberated but as of the date of publishing the draft FDS, decisions have not been received.

The zoning proposed in Plan Change is current and based on recent planning work undertaken. It has therefore formed the starting point for the Draft FDS in terms of defining areas of residential intensification.



Figure 4 - Proposed Medium Density Residential Zone Extent (March 2024)

### 3.4 Growth in the Hills

In 2020, NCC investigated residential development options in the western hills near Taradale to help inform the District Plan Review.

This work involved the development of high-level structure plans to identify land that could be suitable for housing and supporting land uses such as neighbourhood centres, reserves, and transport routes. Two areas were investigated - Taradale Hills and Tironui Drive.

The analysis used to prepare the structure plans determined that the growth options in the hills are expensive and produce relatively little housing yield. This was largely driven by topographical challenges for conventional urban development in these areas. The cost of delivering individual lots was considered to be prohibitive and would likely be unfeasible for market-led development.

#### 3.5 Napier High Level Structure Plans

In 2023, NCC prepared High Level Structure Plans for eight of Napier's neighbourhoods, including Ahuriri, City Centre fringe, Marewa, Maraenui, Onekawa and Pirimai, Tamatea,

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Greenmeadows and Taradale. The purpose of these structure plans was to fine tune the approach to intensification outlined in the Spatial Picture as a means of informing the zoning proposed in the PDP. The structure plans also outlined the local infrastructure needed to support growth in these areas to inform Council investment. It also outlined priority areas for Council investment, based on development capacity and accessibility. This prioritisation was intended to give a high-level indication of which areas will be expected to grow the quickest, and therefore would benefit most from council investment in response to urban growth.

The high level structure plans also provided analysis of Napier's greenfield sites, including Bay View, the western hills and the area south of Napier (South Pirimai, Riverbend and the Loop). This aspect of the project was prepared to a preliminary level and was intended to inform the preparation of the Draft FDS.



Figure 5 - Napier High Level Structure Plan overview map (2023)

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# 3.6 Hawke's Bay Regional Resource Management PlanPlan Change 9 (TANK)

HBRC is currently progressing Plan Change 9 to the Regional Resource Management Plan to include new rules to manage water quality and quantity for the Tūtaekurī, Ahuriri, Ngaruroro and Karamū (**TANK**) catchments. Decisions for the TANK Plan Change were notified September 2022, and Environment Court appeal proceedings are currently underway. The TANK Plan change is one of several initiatives that the HBRC has underway to implement the NPS-FM.

The decision version of the TANK Plan Change includes a number of provisions that will limit water take consents and the ability to increase water supply capacity to accommodate growth to cater for residents and businesses as the aquifer is considered to be over-allocated.

Historically, the amount of water taken for urban uses from the aquifer has been limited by consents which may no longer be sufficient for future demand even with more efficient use.

# 3.7 Hawke's Bay Regional Land Transport Plan 2024-2034

The Regional Land Transport Plan (**RLTP**) is the primary document guiding integrated land transport system planning and investment across the Hawke's Bay Region. A draft RLTP, prepared under the Land Transport Management Act 2003, was consulted on in early-2024.

The draft RLTP sets out the strategic direction for land transport in the region over the next 10 years and describes what the region seeks to achieve to contribute to an efficient, resilient, and safe land transport system.

In addition to outlining the strategic direction for the region, the RLTP also outlines the activities and key investments proposed to deliver the strategic direction. The RLTP also sets out the devastation caused by Cyclone Gabrielle and the impacts this has had on the region's transport system.

# 3.8 Hawke's Bay Regional Public Transport Plan 2022-2032

The Regional Public Transport Plan (**RPTP**) was adopted by HBRC in 2022 and sets out a step change in public transport provision across Hawke's Bay from mid-2025. This change seeks to deliver a public transport service that is safe and accessible while improving the economic, social, and environmental wellbeing of our communities.

A key feature of the RPTP is a new bus network where services have been designed around the needs of current and future passengers, enabling greater integration across the network. The new bus network will move to a high frequency, more direct patronage model with routes that run the same way in both directions, reducing travel times, and increasing reliability for

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passengers. In addition, the time of day over which bus service will operate will be expanded to create a more useful and convenient service for passengers.



Figure 4 - Proposed 2030 Bus Service Route Schematic

## 3.9 Te Matau-a-Maui Regional Recovery Plan

The 2023 Regional Recovery Plan (**RRP**) set out a pathway for the first fifteen months post Cyclone Gabrielle through to May 2024. Of particular relevance to the preparation of the Draft FDS, the RRP included priorities relating to:

- restoring and enhancing flood protections to prevent or reduce impacts of future extreme weather events;
- restoring the natural environment to build resilience and help mitigate impacts of future extreme weather events; and
- planning and prioritising critical infrastructure assets that are more resilient to the impacts of future extreme weather events.

A second iteration of the RRP is under development and will be released in mid-2024. This iteration will more fully set out the reconstruction and improvement activities to take place over the medium and long terms.

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# 3.10 Napier Hastings Sub-Regional Industrial Land Supply Strategy

In May 2020, Napier City Council and Hastings District Council released the draft Sub-Regional Industrial Land Strategy (**RILS**). The objective of RILS was to recommend a strategy for accommodating industrial development over the next 30 years, with land demand projections focused on the next 10-year period for the Hastings District and Napier City local authority areas.

The key observations of RILS include:

- Population growth and economic activity in the Napier Hastings area has been strong (relatively) in recent years and further growth in both appears likely;
- · Land supply does not necessarily match the specific requirements of the market;
- Existing industrial nodes have developed from and about legacy industry rather than in locations selected for amenity, function and long-term growth;
- Many nodes are surrounded by land developed for residential or commercial activity and/or land of high productive value, limiting opportunity for the expansion of the node;
- Infrastructure servicing to numerous industrial nodes is expensive (capital & maintenance) and requires volume and scale to be viable;
- Whilst appropriate for the study period, incremental expansion of existing industrial areas to keep up with land demand is not a strategic solution for the future.

Based on the above, the RILS recommended the development of a long-term industrial growth strategy, and the investigation of the development of one to three industrial hubs to serve the wider region. The hub(s) will need to meet the future standards in relation to infrastructure, climate change protection, environmental impact and accessibility.

The RILS identified the land between Whakatu and Tomoana as an ideal location for at least one hub. However, this area contains some of region's most productive land and the loss of this is land is not consistent with community preference or the NPS-HPL.

# 3.11 Regional Freight Distribution Strategy

The Regional Freight Distribution Strategy 2024 (**RFDS**) was commissioned by the Matariki Governance Group and provides a 30-year strategic view of the Hawke's Bay freight network.

The RFDS outlines that the region's trade, domestic and international imports and exports rely on the reliable performance of three strategic freight corridors – State Highways 2 and 5 providing connections to the north, west and south, and Napier Port connecting the region to the South Island and overseas markets.

The RFDS sets out a number of key themes and projects it considers are required to support the region's economy. Of particular relevance to the FDS study area are:

• further investments / upgrades to state highway corridors;

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- potential establishment of a multi-modal industrial hub along the State Highway 2 corridor near Paki Paki;
- improving connections in the Ahuriri Triangle; and
- develop the Napier Airport freight hub.



Figure 5 - RFDS Hawke's Bay Network Map

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# 3.12 Clifton to Tangoio Coastal Hazards Strategy 2120

The coastline south of Clive through to Te Awanga which falls within the FDS study area is particularly vulnerable to coastal hazards and has been subject to the effects of coastal inundation and coastal erosion, most recently in June 2024.

The Clifton to Tangoio Coastal Hazards Strategy 2120 sets an adaptive management pathway to manage these risks over the next 100 years. The strategy focuses on 'Coastal Units' that are based on a combination of ward boundaries, land area units and topography. The units are identified from north to south along the coast (A to L), with four additional units (M to P) extending landward to incorporate land areas that may be affected by coastal inundation and tsunami (refer to **Figure 6**).



Figure 6 - Clifton to Tangoio Coastal Units

In 2025, the partner councils will be seeking feedback from the community on proposed coastal adaptation options.

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# 4. Inputs and Assumptions

### 4.1 Growth Assumptions

A key input into the development of the Draft FDS was Housing and Business Capacity assessments prepared for Napier and Hastings. Napier and Hastings councils completed housing and business development capacity assessments in late-2021 and late-2022 which have been used as the basis for the draft FDS (see **Appendix 5**). An additional economic assessment (May 2024) has been prepared that updates housing demand estimates and assesses the capacity provided by the Napier PDP and HDC's Plan Change 5 in addition to the different spatial scenarios that have been identified in the Draft FDS (see **Appendix 5**).

#### Demand

To understand the future *demand for housing* in Napier and Hastings, a Housing Capacity Assessment (**HCA**) was prepared in 2021. The HCA demand has since been updated to include the most up-to-date StatsNZ population projections<sup>1</sup> which reflects the impact of COVID-19 and more recent information about birth and mortality rates. The updated information is used to inform the Draft FDS and was based on the StatsNZ medium-high outlook. This included updating the baseline to 2022 and undertaking additional development capacity analysis of the Napier PDP and PC5 in Hastings.

The HCA identifies that approximately 5,700 additional dwellings will be required in Napier over the next 30-years, while approxaimtely 8,220 additional dwellings will be required in urban areas of Hastings.

In addition to this, the councils are also required to consider a competitiveness margin over and above the expected demand, to support choice and competitiveness in housing land markets. The competiveness margin is equivalent to 20% over the short and medium-term, and 15% over the long-term. When this is accounted for, the Draft FDS needs to ensure there is capacity for at least an additional **16,320 dwellings** across the Napier and Hastings urban area over the next 30-years. Of this, approximately **6,700 additional dwellings** will be needed in Napier and approximately **9,620 additional dwellings** will be needed in Hastings.<sup>2</sup>

In terms of *demand for business land*, the Business Capacity Assessment (see **Appendix 5**) identifies that their will be demand for 21.4 additional hectares of commercial and retail floorspace in Napier and 13 hectares in Hastings over the long term. Demand for industrial land of approximately 55 hectares in Napier and 141 hectares in Hastings over the long term has also been identified.

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<sup>&</sup>lt;sup>1</sup> December 2022.

<sup>&</sup>lt;sup>2</sup> Across the wider Hastings District, a further 2,050 dwellings, are required to meet demand in rural areas. These will need to be met in rural parts of the Hastings District (including rural residential areas) outside of the main urban areas and are not required to be provided as part of the FDS.

#### The Existing Situation

**Table 1** below identifies residential capacity which exists within greenfield development areas around the urban areas of Napier and Hastings. In total, it is esimtaed that there is approximate capacity of 4,210 dwellings in these locations.

Table	1 -	Existing	Zoned	Greenfield	Residential	Capacity
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Existing Zoned or Consented Greenfield Development Areas	Estimated Remaining Capacity (Dwellings)
Mission Hills, Napier	800
Te Awa, Napier	615
Parklands, Napier	320
Wharerangi Road, Napier	350
Wairatahi, Flaxmere	460
Waingakau Village, Flaxmere	85
Brookvale (Stages 1 - 3), Havelock North	550
Iona, Havelock North	345
Keiranga Road, Havelock North	20
Ryman Village, Havelock North	45
Havelock Plateau	20
Howard Street, Hastings	350
Lyndhurst Stage 2, Hastings	140
Te Awanga	100
Haumoana	10
Total	4,210

In addition to the above, Market Economics have estimated the quantity of commercially feasible residential capacity and potential development capacity (**PDC**) that could be provided for within existing urban areas. PDC refers to the number of dwellings that could be reasonably be expected to be realised, noting that there are a range of reasons why a landowner may not wish to sell or redevelop their property. Modelling from Market Economics indicates that between 2,770 and 4,080 dwellings in Napier<sup>3</sup> could be realised in existing urban areas while the equivalent figure for Hastings is between 3,940 and 5,850 depending on the uptake of intensification opportunities.<sup>4</sup>

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<sup>&</sup>lt;sup>3</sup> Table 4-14.

<sup>&</sup>lt;sup>4</sup> Table 4-13.

Attachment 4

When combined with the residential capacity which exists in greenfield areas, there is currently supply for up to **14,140** additional dwellings across Napier and Hastings. This means that at a minimum, the draft FDS must find capacity for an additional **2,180 dwellings**.

#### **Uptake of Intensification Opportunities**

A key aspect of the baseline information that needed to be considered in the development of the Draft FDS was the intensification opportunities enabled by the Napier PDP and Hastings' Plan Change 5. This information was critical in understanding the long-term residential development capacity that could be available in meeting the requirements of the NPS-UD.

The uptake of residential capacity through intensification, particularly within existing urban areas, is influenced by factors such as:

- Location attributes (accessibility, community facilities, and local land values);
- Affordability as influenced by household incomes, interest rates, inflation rates and construction costs;
- Macro-economic conditions (economic growth levels, business/consumer confidence levels, and growth cycles); and
- Households' dwelling preferences (e.g., detached-vs-attached).

To facilitate the move from away from the predominant pattern of growth of Napier and Hastings over the past few decades from detached homes in greenfield areas towards intensification, a shift in housing preferences is needed. Generally speaking, this is a shift in demand away from detached dwellings on larger sites to attached dwellings and apartments, as well as detached dwellings on smaller sites.

To look at how realistic such a shift in demand could be in the local context, Market Economics analysed building consents data for Napier and Hastings and compared these against patterns observed in other urban economies.<sup>5</sup> These economies are represented by territorial authorities classified by the NPS-UD as Tier 1 and Tier 2.

This analysis which utilised attached dwellings as a proxy for the uptake of intensification opportunities in existing urban areas and considered five different development pathways based on trends observed elsewhere in New Zealand (refer to **Figure 7**). This analysis identifies that a strong and sustained shift towards attached dwellings will be required over the long-term to support a greater share of new housing being delivered within the existing urban areas of Napier and Hastings.

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<sup>&</sup>lt;sup>5</sup> Market Economic, Section 3.4 pg. 21-27.



Figure 7 - Potential Growth Profiles for Attached Dwellings in Napier-Hastings (Source: Market Economics, 2024).

There is however some uncertainty around the overall scale of change and how fast the transition may occur. However, factors such as affordability and accessibility as well as changing household structures (small families and the ageing population) are likely to support the shift towards more attached forms of housing over the long-term.

#### **Retirement Villages**

Retirement villages constitute a different housing market with its own attributes and features that aren't easily captured in the assessment of commercially feasible housing development.

Birman Consulting prepared a report **('Birman Report')** of forecast demand growth under the 'medium-high' projections for retirement village housing in the Napier-Hastings area over the next 30 years (from 2023 to 2053). The Birman Report concluded that the Hawke's Bay population is undergoing a fundamental compositional change as a growing percentage of the population passes into retirement age. Within the next 30 years, the number of people aged 65+ will increase by 60%; those aged over 75 will double; and the number of people aged 90+ will more than triple. This trend will also continue and intensify beyond the 30-year projection period.<sup>6</sup>

Based on the similar trends following the existing supply and occupancy of retirement villages in the Napier and Hastings area, the Birman Report anticipated a total of **2,450** additional retirement village-based independent living units (equal to approximately **80** units per year) would be needed over the next 30 years.<sup>7</sup> This demand anticipates a growing general interest in retirement village living over time and the existing unmet demand across the Napier and Hastings areas. In their revised Housing Capacity Assessment, ME estimated around 1,560

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 <sup>&</sup>lt;sup>6</sup> Birman Consulting Limited May 2023, Retirement Village Sector Housing Demand Forecasts 2023 – 2053, pg. 4.
<sup>7</sup> Birman Consulting Limited May 2023, pg. 15.

additional retirement village-based independent living units (equal to approximately **52** units per year) would be required. The two different projections arise from the assumption of penetration rates<sup>8</sup> and the average number of occupants per unit being used in the two reports.

Despite the difference between the two projections, the FDS needs to acknowledge that the ageing populations of both Napier and Hastings will have significant implications for future housing development, particularly regarding the types of housing likely to be in demand. It is reasonable to assume that this will mean a preference for smaller properties, including smaller lots. Furthermore, because the trend will be largely driven by people of retirement age who are often selling up a larger family home to down-size, there is likely to be a corresponding relative increase in the availability of larger old homes coming onto the market, versus that of smaller homes.

In terms of the locational preferences for retirement village developers, the Birman Report indicates a preference for sites that are close to an existing urban area with the majority of new residents typically coming from the local area. Hence, in the FDS study area, people from Napier, Hastings and Havelock North will tend to gravitate to a retirement village within their home town, and often (if the choice is available) within their home suburb. Other features that may be considered for siting a village include proximity to bus routes and shopping.

#### Social / Affordable Housing

Like many other urban centres across New Zealand, demand for social and more affordable housing options across Napier and Hastings is growing. This demand is often accommodated by non-mainstream providers such as Community Housing Providers (**CHPs**) and Kāinga Ora. The Ministry of Social Development records that there is currently a waitlist of 1,380 households on the social housing register across both Napier and Hastings.<sup>9</sup> To help address this latent demand for housing, Kāinga Ora currently has several hundred new homes in various stages of planning being advanced across both Napier and Hastings.

Households associated with these providers have housing needs, but affordability constraints mean that they are often unable to find suitable accommodation through the private market. The development activities of non-mainstream providers do not follow the same due-diligence steps as the mainstream market because they tend to have different risk-return profiles that are not easily captured in housing capacity assessments.

Demand projections indicate the majority of demand will be from households in lower income bands, which modelling indicates will be challenging for the private market to deliver from a commercial feasibility perspective. Overall, this indicates that social housing providers will have an important role to play in helping to meet the future housing needs of Napier and Hastings.

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<sup>&</sup>lt;sup>8</sup> "Penetration Rates" refers to the estimated resident numbers in retirement villages as a percentage of the over 75+ population.

<sup>&</sup>lt;sup>9</sup> Ministry of Social Development, March 2024.

## 4.2 Methodology

#### Strategy Development

The evaluation of the overall Draft FDS strategy, including the spatial scenarios and potential growth areas, was completed in five stages with stages 3, 4 and 5 being an iterative process of review.

- (1) Stage 1 involved a review of existing council plans and strategies related to growth (refer to Section 3 above) and undertaking a high-level assessment of development opportunities and constraints (refer to Section 6 below). This analysis was then used to identify indicative areas that could be considered for future growth and to inform initial public engagement through the Issues and Options report and the Call for Opportunities.
- (2) Stage 2 involved developing thematic spatial scenarios for engagement with Council staff, elected officials and key stakeholders (refer to Section 7 below). Broad areas for growth that informed the thematic scenarios were derived drawing on a range of factors including whether the site was contiguous with the existing urban area, whether the site broadly fell within the areas identified within the Issues and Options report, feedback from key stakeholders (including through the Call for Opportunities), discussions with Council planning staff on where there was known interest in development based on pre-application discussions or lodged resource consents, and consideration of the opportunities and constraints mapping. The purpose of this stage of the development of the strategy was to identify potential issues with the spatial scenarios, understand potential infrastructure requirements and to refine the scenarios prior to more detailed analysis.
  - a. A qualitative evaluation of each thematic spatial against broad criteria was undertaken (refer to **Section 7.3**). This qualitative assessment used a traffic light approach:
    - Green: the scenario aligns with/can align with the criteria better relative to other scenarios.
    - Amber: the scenario partially aligns outcome/criteria or performs similarly relative to other scenarios.
    - Red: the scenario does not or is unlikely to align with the outcome/criteria or performs poorly relative to other scenarios.
- (3) Stage 3 involved more detailed evaluation and engagement on a series of refined spatial scenarios and long-list of growth areas drawing on feedback received on the thematic spatial scenarios. This includes an analysis of the advantages and disadvantages of each spatial scenario (as required by the NPS-UD) at a strategic level, which was informed by the opportunities and constraints mapping analysis, along with the FDS outcomes. This analysis was also supported by further technical analysis

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regarding development capacity and transport impacts. Refer to **Appendix X** for this technical evaluation.

- a. As part of this analysis assumptions for each growth area including the size of the growth area, typology and density of future development and the potentially realisable yield were calculated to help understand the potential costs or benefits of development.
- (4) Stage 4 involved a more granular evaluation of potential growth areas that were aligned with the refined spatial scenarios.<sup>10</sup> This is explained in more detail in the report below but broadly involved more detailed analysis of 38 individual growth areas (29 residential and 9 business). These were then assessed using a multi-criteria analysis (MCA) that was informed by the draft FDS outcomes and relevant national guidance. Additional areas identified through ongoing engagement or more detailed information provided by landowners about development opportunities (the type and scale of development) or constraints (e.g. operational requirements for Hastings Aerodrome) as also included within this assessment and assessed against the same framework.
- (5) Stage 5 involved taking on board the more detailed analysis of individual growth areas to inform the final assessment of the advantages and disadvantages of the refined spatial scenarios to establish a preferred spatial strategy for growth.

#### **Multi-criteria Analysis**

Multi-criteria analysis (**MCA**) is a planning tool used to objectively evaluate different options. It is a common tool used for spatial planning exercises in New Zealand and internationally.

An MCA can assist to navigate differing values amongst members of the community about growth and consider trade-offs where multiple values may overlap. For the Draft FDS, an MCA process has been used to help inform decision making by assessing how potential growth areas scored relative to each other for each criterion and to better understand the potential advantages and disadvantages of development in that location (relative to other options).

An MCA process is useful for providing a transparent and robust tool in deriving the 'best possible' outcome. In relation to the consideration of growth areas, this means that clear and carefully considered criteria are essential to reaching a result that best meets the FDS objectives. These criteria were initially developed by the internal TAG and workshopped with the FDS Joint Committee in advance of the Call for Opportunities. The criteria that were

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<sup>&</sup>lt;sup>10</sup> During this more detailed analysis, constraints mapping was taken into account when refining growth site boundaries. This means that several sites were redrawn to deliberately avoid significant growth constraints such as large areas highly productive land.

developed link back to the FDS objectives as well as relevant national policy direction (e.g. the NPS-UD) and represents a best practice approach that has also been adopted for other Tier 2 FDSs (or Spatial Plans) including those prepared by Queenstown Lakes, Rotorua, Gisborne and Nelson/ Tasman.

**Table** 2 below sets out the criteria used within the MCA process and also provides links back to the Draft FDS objectives and other relevant statutory documents such as the RMA and NPS-UD. Slight variations in the criteria were used to consider residential(\*) and business(^) sites in recognition that they have different functional needs in terms of their location.

A range of information was used to evaluate growth areas against the criteria. This included information supplied by the councils, additional technical information supplied by landowners or information available as part of plan change or resource consent processes. Advice from the TAG and other experts (e.g. soils and traffic engineering) also informed the assessment.

Theme	Criteria	Policy Linkages
Cultural	Impact on Cultural Values	FDS O1 & 12; RMA s6(e) & s8; NPS-UD O5, P9.
values	Hapū and iwi development aspirations	FDS O1, 4 & 12; RMA s6(e), NPS-UD O5, P9
Housing*	Housing Capacity / Ease of Development / Housing Choice	FDS O4, 8 & 11; NPS- UD O1 & 2, P1, 2 & 5
Business	Site feasibility (size, ground conditions, topography)	FDS O5, 7 & 8; NPS- UD O1 & P1
Suitability) <sup>^</sup>	Strategic site location with ability to grow	FDS O5, 7 & 8; NPS- UD O1 & P1
Accessibility / Supporting Emissions Reductions	Accessibility to a range of commercial and community services	FDS O2, 7 & 11; NPS- UD O1, P1 & 5
	Impact from Coastal Hazards (e.g. inundation, tsunami)	FDS O3; RMA s6(h); NPS-UD O8, P1
Natural Hazards and	Impact from Flood Hazards	FDS O3; RMA s6(h); NPS-UD O8, P1
Change Resilience	Impact from Cyclone Gabrielle	FDS O3; RMA s6(h); NPS-UD O8, P1
	Impact from Land Hazards	FDS O3; RMA s6(h); NPS-UD O8, P1

Table 2 - Criteria used within the MCA process

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Highly Productive Land	Impact on Highly Productive Land	FDS O6; NPS-HPL	
Natural	Impact on Biodiversity Values (e.g. SNA)	FDS O9; RMA s6(c), NPS-IB	
Environment	Impact on Freshwater Values	FDS O9; RMA s6(a); NPS-FWM	
	Impact on and provision of Water Infrastructure	FDS O10 & 11; NPS-UD O6(a)	
	Impact on and provision of Waste Water Infrastructure	FDS O10 & 11; NPS-UD O6(a)	
	Impact on and provision of Storm Water Infrastructure	FDS O10 & 11; NPS-UD O6(a)	
Infrastructure Capacity and Development	Impact on and provision of Transport Infrastructure	FDS O10 & 11; NPS-UD O6(a)	
	Impact on and provision of Parks and Open Space	FDS O10 & 11; NPS-UD O6(a)	
	Impact on and provision of Schools	FDS O10 & 11; NPS-UD O6(a)	
	Impact on and provision of other infrastructure (e.g. electricity)	FDS O10 & 11; NPS-UD O6(a); NPS-ET	
Miscellaneous	Any other significant development constraints (e.g. ONLs, Airport Noise)	NPS-UD O6(a), RMA s6(b)	

The MCA against the criteria was undertaken by the project team, council officers (including subject matter experts where available), members of the Technical Advisory Group, and representatives of the PSGE's in late-2023, early-2024. The MCA included assessment on a numerical scale of -1 to 4, with 4 being the best and aligned to a traffic light scale for ease of reading (e.g. Green = 4 or 3, Amber = 2 or 1 and Red = 0 or -1). An example of the output is provided in **Figure 8** overleaf.

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			Housing	Accessibility / Supporting Emissions Reductions	Natural hazards / Climate change resiliance			HPL	
- 0					Coastal	Flooding	Cyclone Gabrielle	Geo hazards	LUC 1 - 3
F	IN36*	iona Rd/Middle Rd	4 = Potential capacity for around 420 new owellings. Some fragmentation currently but generally comprises large parcels.	3 = Provimate to schools and Havelock North Genre. Benefiss for molinet access to the purpose frequent bus network providing access to Mastings and Napler City Centres.	4=the area is not subject to any coastal hazands.	3 E part of the area is subject to floading and there is potential for localised floading with the existing fram drains present through the site. Part of the site previously identified as being required for stormwater management to serve the lona development and this would need to be integrated with any future development.	4 = the site was not impacted by floading from Cyclone Gabrielle.	4 = the area is not subject to any high risks from geo haards, Potential for moderate levels of amplification during an earthquake.	B the service size is classifier as UUC2. Between the area as some spiniture immators but the wetness and dwrange. A large pottors of the area was under water for an extende particle as the commandation of 2020, including Captore districtle randral. Universities on the instrument enging from residential tand use and spiner humi Hearter Booots and was 30 hyperneed and use. A large pottor of the true is also spineles as the regressioned both mater management to support. In egitabourge universities.
	BP4*	Bridge Pa	4 = Potential capacity for around 720 new dwellings, with some level of fragmentation as it contains approximately 15 different titles.	2.2 Froutimate to Irongate employment area. Currently rural in nature and with no access to PT. Located further away from the existing urban area (Flawmerg than other greenfield options. No access to existing and/or future bus notes as identified under RUPT) large scale residential development in the area would need to be supported by extension or re-routing of public transport network to support.	4 = the area is not subject to any coastal hazards.	3 = Only a small part of the area is subject to flood risks. This can be mitigated / avoided and will neet to factored into the design of the site should urbanisation occur.	4 = the site was not impacted by flooding from Cyclone Gabrielle.	4 = the area is not subject to any high risks from geo hazards. Potential for moderate levels of amplification during an earthquake.	1 = the majority of the area is classified as LUC 3. The soils in this area become more challenging and boney in comparison with land immediately adjacent to Flaxmere.

#### Figure 8 - Example of MCA scoring and analysis

No criteria in the initial MCA process was given primacy, and the criteria were not ranked in order of importance. For this reason, the number of red/amber/green scores that a particular site received is not necessarily indicative of the overall appropriateness or otherwise of the site for inclusion in the Draft FDS. A weighting exercise (utilising the scoring) was subsequently undertaken as a sensitivity test to the results of the MCA. This was considered necessary as while the criteria set out in the MCA allow for individual site qualities to be broadly *qualified* through the assessment, weighting the criteria helps to add a *quantification* of the reasons for potential selection. This recognises two important points in relation to the appropriateness of urban development on any given site in the context of the constraints present across Napier and Hastings:

- that not all of the criteria are of equal importance; and
- that it is possible to mitigate some site conditions if they are assessed as not meeting

   or even contradicting a criteria.

Under these sensitivity tests, criteria relating to Highly Productive Land, Natural Hazards and Climate Change Resilience and Accessibility were assigned a higher ranking relative to all other criteria.

For each of the three sensitivity tests, the MCA criteria relating to those broader themes was given a weighting factor of 5 to give greater priority to those particular issues which are aligned with key feedback received from the community (highly productive land and natural hazards / climate change resilience) and national policy direction (accessibility). The impact of this weighting was that if a site scored a 4 under a particular criterion, then this would be increased to 20. Alternatively, if a site scored poorly (e.g. a 0 or -1), then no additional score was obtained and, in some cases, resulted in a greater score deduction. A weighting factor of 5 was adopted to ensure a meaningful difference could be observed across sites assessed whilst not undermining or invalidating all other criteria considered.

Examples of how weighting impacted on scores under the MCA are shown in **Table 3** overleaf. It should be noted that the overall score any individual site received was not relevant, rather it was how that site scored relative to all other sites.

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Site Ref	Initial Score	HPL Weighted Score	Natural Hazards Weighted Score	Accessibility Weighted Score
H3	59	79	119	79
NC7a	42	42	72	57
NC6	60	70	130	80

Table 3 - Example of Scoring Changes under the Weighting Exercise

The MCA assessment was revised throughout the early part of 2024 as new information was made available to the project team (e.g. new natural hazard modelling). However, it is noted that these revisions did not fundamentally alter the outcomes of how particular sites performed relative to one another. Following the MCA process, the data for individual sites was collated and used to inform the assessment of the advantages and disadvantages of the spatial scenarios.

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# 5. Consultation and Engagement

From February 2023 to July 2024, the partner councils carried out consultation and engagement as part of the preparation of a draft FDS. This section sets out a high-level summary of that engagement.

# 5.1 Who has been engaged with?

Clause 3.15 of the NPS-UD requires the partner Councils to engage with the following in preparing the draft FDS:

- Other local authorities with whom there are significant connections relating to infrastructure or community;
- Relevant central government agencies;
- Relevant hapū and iwi;
- Providers of additional infrastructure;
- Relevant providers of nationally significant infrastructure; and
- The development sector (to identify significant future development opportunities and infrastructure requirements).

Engagement with these parties occurred throughout 2023 and 2024 and has included discussions, including online meetings, one-on-one meetings and direct correspondence with the following:

- The Hawke's Bay Recovery Agency;
- Central Government agencies including the Ministry of Housing and Urban Development, Ministry of Social Development, New Zealand Transport Agency, Ministry for the Environment, Ministry of Education and Kāinga Ora;
- Hawke's Bay Airport, Port of Napier and Hasting's Aerodrome;
- Other infrastructure providers, including Transpower, Unison, Spark, Hawke's Bay District Health Board, and council teams responsible for transport, three-waters, open spaces and recreation.
- Various landowners and developers operating in the residential, retirement and commercial/ industrial development sector as well as planning / other consultants working in the development sector locally within the Hawke's Bay region.

# **5.2 Technical Advisory Groups**

The development of the Draft FDS was informed by input from two Technical Advisory Groups (**TAG**).

The first was an "internal" TAG which included representatives from each of the partner organisations involved in the development of the Draft FDS – NCC, HDC, HBRC, the PSGEs, and the Hawke's Bay Regional Recovery Agency (**RRA**). This group met regularly from early 2023 to discuss development of the Draft FDS and provide comment or direction of aspects of

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the strategy of relevance to their organisation. Members of the internal TAG also acted as a conduit to engage with subject matter experts from across their respective organisations.

An "external" TAG was also established for the project with representation from the partner organisations (the internal TAG), Ministry for Housing and Urban Development, New Zealand Transport Agency, Kāinga Ora, Ministry of Education, Unison, Transpower, Spark, Hawke's Bay District Health Board and the Ministry for the Environment. The external TAG usually met monthly (or in some instances were provided a monthly written update) and were provided with multiple opportunities to inform analysis and assessment of the spatial scenarios and Draft FDS document itself.

# 5.3 Mana whenua

The approach to engagement with mana whenua on the development of the Draft FDS included early and ongoing kōrero, engagement and hui with the three PSGEs, from across the Napier and Hastings region. Communication methods for engagement included email, phone calls, online meetings and multiple in-person hui.

The three PSGEs' representatives were also members of the internal and external TAG groups and they also have representation on the FDS Joint Committee which provided strategic direction in the development of the Draft FDS.

The PSGEs' representatives within the TAG team have also led the creation and development of the combined and individual iwi and hapū values and aspirations statements and provided review and comment on the Draft FDS throughout its development.

# 5.4 Community Engagement

In preparing the draft FDS, the partner Councils sought preliminary feedback from the public in advance of the SCP through a pop-up shop in Hastings, an FDS workshop and feedback from the "My Voice My Choice" survey in late October 2023. The FDS team held several face-to-face meetings and drop-in workshops with the people who submitted through the "Call for Opportunities", over September 2023 in Napier and Hastings. This provided an opportunity for both the public and landowners / developers to provide feedback on the strategic objectives and the emerging options for future growth to help inform development of the spatial scenarios.

In addition to the above, NCC, HDC and HBRC also conducted consultations on other Council strategies and proposals (e.g. Plan Change 5). Key issues and feedback received through these parallel consultations and process was fed back to the wider team through the internal TAG.

**Appendix 2** sets out the topics covered, key themes arising and the survey results from the community engagement carried out in October 2023.

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# 5.5 Call for Opportunities

For the development sector, the "Call for Opportunities" process was created with the intention of asking key developers and the general public to put forward and submit their areas of interest for the FDS team to consider for future growth. In total, over 70 responses were received through the "Call for Opportunities" from May 2023 to September 2023, all of which were assessed using the framework outlined above. Submissions and supporting information received from this process are provided on the FDS website and are included at **Appendix 7**.

Figure 9 below shows the location of sites nominated through the Call for Opportunities process.



Figure 9 - Sites identified through the Call for Opportunities

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# 6. Development Constraints

# 6.1 Introduction

There is no specific guidance as to what constitutes "constraints on development" for the purposes of clause 3.12(2)(c) of the NPS-UD. However, within the NPS-UD, Policy 1, which sets out what constitutes well-functioning urban environments, and clause 3.32, which sets out 'qualifying matters', provide some indirect guidance as to the types of matters that may be relevant when identifying constraints on development for the purpose of developing an FDS. These are identified below along with their relevant statutory references:

- Current and future effects of climate change (e.g. coastal inundation) (NPS-UD Policy 1(f));
- Coastal environment, wetlands, lakes and rivers (NPS-UD Section 3.32(1)(a); RMA s(6)(a); NPS-UD Section 3.32(1)(b); NZCPS; NPS-FM);
- Outstanding natural features and landscapes (Section 3.32(1)(a);RMA s(6)(b));
- Areas of significant indigenous vegetation and significant habitats of indigenous fauna (NPS-UD Section 3.32(1)(a) – RMA s(6)(c); NPS-UD s3.32(1)(b), NPS-IB)
- Culturally significant lands, water, sites and wāhi tapu (NPS-UD Section 3.32(1)(a); RMA s(6)(e));
- Historic heritage (NPS-UD Section 3.32(1)(a); RMA s(6)(f));
- Significant risks from natural hazards (e.g. flooding, land stability) (NPS-UD Section 3.32(1)(a);RMA s(6)(h));
- Highly productive land (NPS-UD Section 3.32(1)(b); NPS-HPL); and
- Nationally significant infrastructure (e.g. electricity transmission corridors) (NPS-UD Section 3.32(1)(c) and (e); NPS-ET).

# 6.2 Constraints Summary

A wide range of actual or potential development constraints have been identified across the FDS study area. These are summarised in **Figure 10** whilst more detailed constraint mapping<sup>11</sup> is provided in **Appendix 1**. As can be seen in **Figure 10**, the majority of the FDS study area is constrained with large areas subject to various natural hazard risks, highly productive land, as well as ecological, freshwater and landscape features. In many instances, specific areas are subject to several constraints which will likely constraint the extent of urban development that may be possible. Key constraints are summarised further in this section.

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<sup>&</sup>lt;sup>11</sup> All data used for the constraints mapping exercise was already publicly available from the partner Councils or sourced through open data platforms from external organisations (e.g. Transpower).



Figure 10 - Combined Development Constraints within the FDS Study Area

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# 6.3 Natural Hazards

The FDS study area is at risk from a number of natural hazards including flooding, droughts, coastal erosion and inundation, tsunami, landslide and seismic hazards.

The Hawke's Bay Hazard Portal displays spatial information on fault lines, liquefaction, coastal hazards, flood risk areas, tsunami inundation, and landslide risk. **Appendix 1** shows where these natural hazards have been identified within the study area.

Each of those hazards will have varying impacts on different types of urban activities. Low probability events with high impacts need attention and management in a different way to frequently occurring hazards with lesser impacts each time it occurs. Different types of urban activities will present differing degrees of risk (for example, an urban water supply pumping station outage will have different consequences to damage suffered by a retail outlet in the same event; or consequences of flooding impacting a residential block will differ from impacts of flooding of elderly care residences).

### **Flood Hazards**

The study area is subject to two main types of flooding events – fluvial flooding (i.e. rises in river levels following sustained rainfall over a period of time) and pluvial flooding (i.e. isolated events when extreme rainfall can exceed the infiltration capacity of the surrounding area and may or may not be associated with a nearby waterbody).

Floods and storms are the most frequent hazard in Hawke's Bay. With climate change, they will likely increase in frequency and intensity. Historically there have been numerous major storms resulting in severe flooding which has resulted in stop banks, pumping stations and other protection measures being put in place.

Flood modelling for the main river flood risk areas has been undertaken by the Hawke's Bay Regional Council, using a 100-year return and 50-year return period (1% and 2% annual exceedance probability). The flood risk results from this modelling are shown in **Appendix 1** with the main areas of risk are located around the Tūtaekuri, Ngaruroro and Te Awa o Mokotūāraro (Clive) Rivers, Ahuriri Lagoon, low-lying areas of Napier such as Te Awa, Maraenui and Meeanee, and inland areas near Pakipaki.

However, flood risk modelling has not been undertaken for all of the FDS study area (refer to **Figure 11**). Large portions of the study area, including existing urban areas in Hastings, are not included within existing models. As such, a degree of caution is needed when assessing existing flood hazards is required.

While there are often engineering solutions available to address flood risk, other factors need to be considered. This includes the frequency and impact of the hazards and how residual risk will be managed. The relative affordability of maintaining engineered solutions (e.g. stop banks and pumped stormwater systems) for ratepayers in the long term is also a consideration.

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Figure 11 - Areas with no modelled flood data

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## **Cyclone Gabrielle**

**Figure 12** shows the area impacted by Cyclone Gabrielle land, and the land identified as Category 3.



Figure 12 - Cyclone Gabrielle Impacted Land

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Attachment 4

The impact and consequences of Cyclone Gabrielle illustrate how quickly one event can trigger a series of cascading and compounding events that have significant consequences. Cyclone Gabrielle resulted in:

- the tragic loss of eight lives, as well as hundreds more injuries or hospitalisations;
- the displacement of hundreds of families and whānau;
- significant damage to, or loss of, homes and property;
- the failure of bridges between Napier and Hastings and impacts on the transport network;
- power supply issues (including loss of supply to Napier) resulting in the declaration of a grid emergency for Hawke's Bay;
- the failure of telecommunication systems;
- stop bank breaches at Awatoto which led to inundation of the Napier wastewater treatment facility and other industrial operations, resulting in contamination of surrounding land;
- the failure of Napier's wastewater treatment plant; and
- the closure of flooded businesses.

Collectively, this has significantly impacted the economic and social wellbeing of all communities, particularly in terms of property damage or loss, reduced productivity, and increased costs to ratepayers to pay for cyclone-damaged infrastructure and the worst affected properties.

### **Coastal Hazards**

Coastal hazards in Hawke's Bay include storm erosion, tsunami and coastal inundation. The present-day extent and likelihood of these coastal hazard risks are expected to increase as a result of climate change projections with increased storm intensities, sea level rise, and coastal subsidence. Low-lying parts of Napier including Pandora, Ahuriri, and Awatoto are identified as being particularly vulnerable. Coastal hazards in low-lying parts of Napier, in particular, are also exacerbated by land subsidence.

The coastline south of Clive through to Te Awanga is particularly vulnerable to coastal hazards and has been subject to the effects of coastal inundation and coastal erosion, most recently in June 2024. The Clifton to Tangoio Coastal Hazards Strategy 2120 project aims to set an adaptive management pathway to manage these risks over the next 100 years. In 2025, the partner councils will be seeking feedback from the community on proposed coastal adaptation options.

#### Tsunami

Hawke's Bay faces tsunami risk from near and distant earthquake sources. Tsunami hazard mapping has been commissioned by HBRC to help inform future land-use planning along the coastal margin. Within the FDS study area, a number of scenarios have been modelled, based

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on different earthquake sources and strengths, and considering a range of possible sea level rises.

Mapping provided in **Appendix 1** demonstrates potential inundation for an infrequent but significant impact earthquake, using two sea level rise possibilities: a tsunami with a 1 in 1000 Year Annual Return Interval (**ARI**) event, and sea level rise of 1m and 1.99m. The latter has been used to inform an understanding of potential risks associated with new urban development of areas. However, it is acknowledged that tsunami inundation is a low probability, yet high consequence event affecting much of the urban area. Emergency management preparedness will also play an important role in managing some of this risk in the future.

Key areas impacted in a tsunami event include Bay View, Hawke's Bay Airport, Ahuriri, Awatoto, Clive and Haumoana. Large areas within and to the south of Napier are also subject to tsunami inundation under a larger sea level rise scenario (1.99m)

## Land Hazards

#### Liquefaction and Amplification

Liquefaction occurs when waterlogged sediments are agitated by an earthquake. As a result, the soil behaves like a liquid, has an inability to support weight and can flow down very gentle slopes. This condition is usually temporary, but buildings can sink and underground pipes may rise to the surface.

Amplification refers to ground shaking during an earthquake and is influenced by the geological material underlying a site, magnitude of an earthquake and proximity to the source. Ground shaking causes most of the damage an area receives during an earthquake.

The majority of the Heretaunga Plains is subject to a medium to high risk of both liquefaction and amplification with the most vulnerable areas concentrated around central Napier, Ahuriri and areas south of Napier. Risks associated with liquefaction or amplification susceptability is unlikely to make development entirely inappropriate. However, it does impact on building and infrastructure design and can therefore impact on the cost of development and overall project feasibility.

### Land instability and Steep ground

The Hawke's Bay Hazard Portal identifies land subject to landslide risk. This is generally concentrated on steeper land outside of the FDS study area although some land around Roy's Hill, Taradale and Te Awanga is potentially impacted. Some landslide risk can be addressed through engineering solutions and appropriate site design but can increase development costs and potentially constrain developable areas, limiting potential development capacity.

In addition to contributing to land instability, the steepness of land can act as a general constraint on development due to the cost of development (e.g. earthworks and retaining structures), challenges in servicing with infrastructure and an overall reduction in potential

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yields to manage changes in elevation. The steepness of land across the FDS study area has been derived from Land Information New Zealand's NZMS260 DEM 20-metre contour dataset.

#### Fault lines

Hawke's Bay is one of the most seismically active regions in New Zealand and is criss-crossed by sets of active faults that pose a surface rupture hazard to buildings and infrastructure. Mapping undertaken by GNS Science identifies a concentration of active surface faults within the FDS study area near Te Awanga and south of Paki Paki. Developing away from active faults is one of the best ways to avoid, or at least mitigate, the effects of a fault hazard.

# 6.4 Highly Productive Land

The versatile and productive soils of the Heretaunga Plains are a significant productive resource for the Hawke's Bay community. The Hawke's Bay is one of the two largest fruit producing regions in the country, and the rural environment has become increasingly popular for vineyards and wineries. The primary sector (which includes agriculture and horticulture) is the largest employer across Napier and Hastings, supporting approximately one fifth of total employment.

The importance of the productive values associated with the land across the Heretaunga Plains, including its economic benefits for the region, is one of the primary constraints on urban development given its location on the urban fringes. The National Policy Statement on Highly Productive Land (**NPS-HPL**) places greater emphasis on protection of highly productive land and requires regional councils to map this land.

Until HBRC includes maps of highly productive land in the regional policy statement, the Draft FDS has identified LUC 1, 2 and 3 land and the Roy's Hill winegrowing area as highly productive land highly productive land. However, land that is identified for future urban development must not be mapped as highly productive land. This includes the preferred growth areas (but not reserve areas) previously identified under HPUDS because they are identified as appropruate for urban development within 10 years from the commencement of the NPS-HPL.

The LUC Class is an assessment of the land's capability for use, while allowing for its physical limitations, and its versatility for sustained production. There are eight classes with limitations to land use increasing, and versatility for land use decreasing, from LUC Class 1 to LUC Class 8. Of relevance to the FDS and NPS-HPL, classes 1 to 3 can be summarised as:

- LUC 1: Arable. Most versatile multiple-use land, minimal limitations, highly suitable for cropping, viticulture, berry fruit, pastoralism, tree crops and forestry.
- LUC Class 2: Arable. Very good multiple-use land, slight limitations, suitable for cropping, viticulture, berry fruit, pastoralism, tree crops and forestry.

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• LUC Class 3: Arable. Moderate limitations, restricting crop types and intensity of cultivation, suitable for cropping, viticulture, berry fruit, pastoralism, tree crops and forestry.

Maps showing LUC 1-3 land in and around Napier and Hastings, based on the identification by the New Zealand Land Resource Inventory ('**NZLRI**') are included in **Appendix 1**. It is noted that the NZLRI provides high level mapping at a coarse scale of 1:50,000 based on physical limitations and qualities of the land, soil, and environment. There may also be land that is highly productive that is not identified as LUC 1, 2, or 3, and conversely some of the land identified as LUC 1, 2, or 3 may have significant limitations for productive use.

This mapping shows that the land outside of the Hastings urban area is predominantly underlaid by highly productive soils, as is the flat land to the north and south of Napier being LUC 1 and 2.

In addition to LUC1, 2 and 3 land, the Roys Hill Winegrowing area is considered locally important for its productivity/ value to winegrowing. Whilst not currently considered highly productive in terms of the NPS-HPL, it may eventually be mapped as highly productive land in accordance with cl 3.4(3) and it has been included as an important consideration for this FDS.

# 6.5 Mana Whenua

*Wāhi tapu* and other *Sites of Cultural Significance* have not yet been fully identified in the FDS study area although some information is currently contained within both the Hastings District Plan and Napier PDP / Operative Plan. In the past, wāhi tapu and sites of cultural significance have been negatively impacted by development. Where these exist, the potential impact from development needs to be carefully considered early in the design process.

*Marae* have been identified across the FDS study area and these present both a potential constraint and opportunity for development. Marae can be key focal points for the community and are important for supporting the social and cultural wellbeing of whanau. Inappropriate development near marae has the potential to impact upon cultural values associated with these sites (e.g. overlooking or loss of privacy during tangihanga).

*Māori Land* has been identified as a potential development constraint due to challenges associated with financing and tenure which can create practical barriers to urban redevelopment. However, it is also acknowledged that Māori land holdings in close proximity to Napier and Hastings offer significant opportunities to help fulfil iwi and hapū aspirations for urban development. In the FDS study area, Māori Land is generally concentrated around Whakatu, Omahu, Roys Hill, Bridge Pa and Paki Paki.

The Māori Land layer has been sourced from the Māori Land Spatial Dataset and forms part of the public permanent record of the Māori Land Court as described in rule 7.19 of the Māori Land Court Rules 2011. This data does not include any information about lands that may have been returned under (or are subject to) any Treaty of Waitangi Settlement process – unless

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settlement legislation specifically requires the land become Māori Freehold Land or a Māori Reservation.

The New Zealand Archaeological Assoication in partnership with Heritage New Zealand, maintains Archsite, a database providing records of over 75,000 known *archaeological sites* across New Zealand. This database identifies both pre-European and colonial archaeological sites and helps to provide an indication of areas that may have importance to mana whenua. Within the FDS study area, archaeological sites are typically concentrated along the coast rivers, as well as foothills in proximity to these.

# **6.6 Other Constraints**

## **Natural Features and Landscapes**

The study area contains a number of distinctive and highly valued landscapes and natural features. The "protection of outstanding natural features and landscapes from inappropriate subdivision, use, and development" is provided as a matter of national importance under s6(b) of the RMA. The NZCPS also requires preservation of the natural character of the coastal environment and protection of natural features and landscape values.

The Napier PDP spatially identifies the following landscape areas and features:

- Outstanding Natural Features;
- Special Character Landscapes; and
- Special Character Features.

The Hastings District Plan identifies the following landscape areas and features:

- Coastal Landscape Character Area;
- Outstanding Natural Features;
- Outstanding Natural Landscape Area; and
- Significant Amenity Landscape Area.

The above-mentioned landscape areas and features for Napier and Hastings respectively are identified in Appendix 1.

The Outstanding Natural Features in Napier and Hastings, and the Outstanding Natural Landscape areas in Hastings are required to be protected from inappropriate subdivision, use, and development under s6(b) of the RMA. There is therefore no potential to develop in these areas. The Special Character Landscapes, Special Character Features, Significant Amenity Landscape Areas and Coastal Landscape Character Areas may be able to accommodate some development with appropriate mitigation to ensure landscape values are maintained, particularly when considered in the context of the limited range of options Napier and Hastings have for accommodating future growth.

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## **Indigenous Biodiversity**

Indigenous biodiversity refers to native species, their genetic diversity, and the habitats and ecosystems that support them. Hawke's Bay's natural environment has been heavily modified by historic clearance for pastoral farming. Some areas of significant biodiversity remain within the FDS study area, and their scarcity increases the importance of protection.

The "protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna" is provided as a matter of national importance under s6(c) of the RMA. The National Policy Statement for Indigenous Biodiversity came into effect on 4<sup>th</sup> August 2023, but is now being amended by the government. The New Zealand Coastal Policy Statement also requires safeguarding the integrity, form, functioning and resilience of the coastal environment, and sustaining its ecosystems. Policy 11 requires the protection of indigenous biological diversity in the coastal environment.

Draft mapping of Significant Natural Areas (**SNA**) was undertaken as part of the Napier District Plan review. These are mostly in and around the nationally significant Ahuriri Estuary but also include some parts of the hills surrounding Napier, such as stands of Kanuka at Bay View.

Many areas of significant indigenous vegetation within the Hastings District are in the ownership of the Department of Conservation and therefore legally or physically protected by them by way of covenants, reserves or forest parks. However, of the remaining areas of remnant native forest and wetlands outside of the Conservation Estate, the majority do not have any legal or physical protection and there is therefore little certainty of protection for these relatively few remaining significant natural areas. However, it will be important for the FDS to consider how development can avoid potential impacts on these areas.

SNAs, QEII Covenant areas, conservation land, and DOC Recommended Areas for Protection within the study area are identified in Appendix 1.

#### Wetlands

Wetlands provide a habitat for wildlife and support an indigenous ecosystem of plants and animals that have adapted to living in wet conditions. The NPS-FM seeks to avoid the loss of extent and values of natural inland wetlands.

The main wetlands in the study area are:

- Coastal (lagoons & estuaries): Ahuriri Estuary, Waitangi Estuary, Tukituki Estuary, ; and
- Freshwater (swamps, lake margins): Pekapeka/Lake Poukawa, Lake Runanga, Lake Oingo.

There are other smaller natural wetlands on public and private land. Some of these wetlands can be dry at certain times of year which can make identification difficult.

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#### Outstanding water bodies and water conservation order

The NPS-FM also requires the protection of the significant values of outstanding water bodies. This recognises that a number of New Zealand's lakes, rivers and coastal areas are iconic and well known globally for their natural beauty and unique values, and allows for exceptional water bodies to have special protection. Plan Change 7 proposes to change the Hawke's Bay Regional Resource Management Plan by including a list of the region's outstanding water bodies, together with a framework which prescribes a high level of protection for these water bodies.

Proposed outstanding water bodies include:

- Ngaruroro River upstream of the Whanawhana cableway (also subject to a proposed water conservation order)
- Te Whanganui-a-Orotu (Ahuriri Estuary)
- Tukituki River downstream of SH 50 bridge to sea and estuary
- Tutaekuri River upstream of SH50 bridge.

#### Water supply

The Heretaunga Plains aquifer system is the main groundwater resource for people living on and adjacent to Heretaunga Plains and provides these communities with a significant portion of their water requirements. The Heretaunga Plains aquifer system is a complex mix of layers of sub-surface gravels and other materials. There are some parts of the aquifer system that are more vulnerable to activities on the surface of land and land disturbance. These locations are often referred to as the 'unconfined' aquifer system. HBRC's proposed TANK PC9 maps the water source protection areas for both Hastings and Napier, Under the NPS-FM, district plans must include provisions to promote positive effects, and avoid, remedy, or mitigate adverse effects of urban development on the health and well-being of water bodies, and freshwater ecosystems, and receiving environments. Therefore, particular care needs to be taken around developing above the unconfined aquifer.

Freshwater constraints in the study area including Wetlands, the Unconfined Aquifer, Source Protection Zones for community water supplies, and the Tukituki Surface Water Allocation Zones are identified in Appendix 1.

#### **Peat Soil**

Peat forms from the build-up of partially rotted plant material in wet environments. When drained, peat dries irreversibly, releases greenhouse gases, and subsides. It is not well-suited to urban development. Within the FDS study area, peat soils are concentrated around Paki Paki and along State Highway 2 south of Paki Paki. Peat soil data was sourced from Landcare Research's S-map digital soil spatial information system for New Zealand (February 2022).

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### **Regionally Significant Infrastructure**

There are several pieces of locally and regionally significant infrastructure located in and around the FDS study area. This includes:

- Hawke's Bay Airport and Hastings Aerodrome;
- Napier Port and the Ahuriri Bulk Liquid Storage Terminal;
- Wastewater Treatment Plants at Awatoto and Clive;
- Various pieces of energy infrastructure including transmission lines, natural gas lines, Whirinaki Power Station, and the Redclyffe Substation;
- Telecommunications Infrastructure;
- Various existing or closed landfills and transfer stations;
- Hawke's Bay Regional Prison; and
- Hawke's Bay Fallen Soldiers Memorial Hospital.

*Air Noise Contours* can limit the type of development that can occur within these areas as well as impact on development costs (e.g. higher acoustic attenuation). Air Noise contours covering areas subject to airport related noise levels of between 55 and 65 dBA have been identified extending north and south from the runways at Hawke's Bay Airport and Hastings Aerodrome. In addition, runway fans for Hasting's Aerodrome extend eastwards towards State Highway 2. These runway fans are utilised by helicopters on departure / approach to the aerodrome.

*Port Noise Boundaries* and the *Significant Hazardous Facility Risk Management* Area apply to areas around Ahuriri and Napier Hill adjacent to Napier Port. As with the air noise contours these can limit the type of development that can occur in these areas as well as impact on development costs.

*Transmission lines* have been identified from the LINZ dataset 'NZ Powerline Centrelines (Topo, 1:50k)'. A buffer of 12m from centre line of transmission lines was created. This is known as the National Grid Yard (NGY). Transpower seeks to keep the NGY free of buildings and structures and to manage land use and activities that could pose a risk to your safety or to the safe and efficient operation of the National Grid. A similar restriction applies around substations. In any location (urban or rural), Transpower does not support any new or extended sensitive activities within the NGY. Sensitive activities include residential dwellings, educational facilities and healthcare facilities. Some types of development (e.g. industrial) remain appropriate within the NGY, albeit subject to some restrictions around buildings and construction methodologies.

First Gas' primary *natural gas transmission network* has also been identified as a potential development constraint. This is transmission network passes through the Bridge Pa / Paki Paki area before terminating at the high pressure gas compound on Karamu Road in Hastings. Whilst its does not prevent development outright there are certain restrictions and buffer distances that must be adhered to, which can impact on the nature and extent of future development opportunities on land where the natural gas transmission network passes.

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Various *landfills* (operational and closed) and refuse transfer stations have also been identified as development constraints. These are currently located in rural areas near Redclyffe and Omaranui while a closed landfill is sited adjacent to State Highway 50 in the vicinity of the Hastings Aggregate Quarry. New development in close proximity to the landfills has the potential to give rise to reverse sensitivity impacts which could adversely impact on the necessary operations of the landfill to support existing and future growth.

*Hawke's Bay Regional Prison* is located off Mangaroa Road near Hastings. Inappropriate urban development in close proximity to a corrections facility has the potential to impact on its operational requirements.

*Telecommunications* is a critical infrastructure providing digital services that support and enable social interaction, entertainment, education, business activities and engagement with Government, medical and emergency services. The telecommunications network in Napier and Hastings comprises a fibre network and wireless cell sites, located on both purpose-built cell-towers and buildings. Although not strictly a constraint on development, consideration of the provision of adequate telecommunications infrastructure is important to consider and plan for as part of future growth.

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# 6.7 Accessibility Mapping

An accessibility analysis has been undertaken to help inform assessments of each scenario as well as individual sites to ensure the Draft FDS is consistent with the NPS-UD policy framework of establishing well-functioning urban environments.

### **Existing Urban Areas**

For existing urban areas (or greenfield areas immediately adjacent to existing urban areas), this analysis takes into account an area's access to a wide range of destinations via the existing transport network including schools, parks, jobs, retail centres, public transport and other social facilities in line with Policy 5 of the NPS-UD. This accessibility analysis was initially used as the basis for the intensification strategy set out that informed the Napier PDP residential zoning strategy. The same methodology was subsequently applied to urban areas across Hastings. In addition, the proposed refreshed bus network set out within the RPTP was also included within this analysis. An output of this analysis is provided in **Figure 13** below.



Figure 13 - Accessibility Analysis of Urban Environments in Napier and Hastings

**Figure 13** shows that the most accessible areas are concentrated around established centres with Napier, Taradale and Hastings performing the best. Other notable centres or areas that perform well in the accessibility analysis include Maraenui, Greenmeadows, Tamatea, Onekawa, Flaxmere and Mahora. Key transport corridors including Kennedy Road / Gloucester Street, Latham Street, Heretaunga Street, Tomoana Street, and Southland Road also perform strongly. All of these areas stand out as potential candidates to consider for accommodating more intensive residential development as part of the development of Spatial Scenarios (refer to **Section 7**).

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### **Rural / Greenfield Areas**

As existing rural areas, by their nature, typically do not feature commercial or community services or comprehensive transport networks (such as cycle lanes or bus routes), an amended approach was adopted to consider broad scale accessibility for rural areas. Consideration of the degree of accessibility for rural areas took into account general proximity to a range of commercial and community services, specifically:

- Whether the site was located within 3km of existing schools;
- Whether the site was located within 3km of major employment nodes (e.g. Onekawa, Omahu Road);
- Whether the site was located within 5km of a primary centre (e.g. Hastings City Centre), 3km of a secondary centre (e.g. Taradale), or 1km of a rural centre (e.g. Bay View); and
- Whether the site was located within 400m of a proposed frequent bus route.

This analysis highlighted that the more accessible rural locations in the FDS study are those areas south of Napier, east of Flaxmere and north-west of Hastings (refer to **Figure 14** overleaf). Each of these locations benefits from their proximity to a combination of all the matters identified above.

As part of the consideration for advantages and disadvantages of the spatial scenarios, consideration was also given to whether development would be of a scale that it could support the creation of commercial and community services which would improve the accessibility of an area. For example, a large-scale residential development could support the development of small-scale retail convenience or an extension of an existing bus route.

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Figure 14 - Rural Accessibility Analysis

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# 7. Spatial Scenarios

# 7.1 Introduction

Spatial scenarios are broad options for how the urban environments of Napier and Hastings could grow to accommodate projected population increases and the associated demand for new housing and business land. In addition, the spatial scenarios have been developed to assist in identifying and understanding trade-offs at a strategic level and working out how new growth areas and sites will need to be supported by strategic infrastructure.

The spatial scenarios evaluated have focused primarily on the urban environment and expanding into the nearby rural and coastal towns as this is where the most capacity is required to be found to meet growth projections.

# 7.2 Spatial Scenario Development

The starting point for establishing spatial scenarios was to understand the existing baseline provided by HPUDS. Analysis by Market Economics indicated that the HPUDS baseline would not provide sufficient residential development capacity over the next 30-years. Depending on the uptake of intensification opportunities as well as the density of development in greenfield areas already zoned for development, this shortfall could be up to approximately 3,000 dwellings.

Noting that there was a potential shortfall in future residential development capacity, new areas for growth were identified based on the analysis of opportunities and constraints, public engagement (e.g. "call for opportunities") and those identified by TAG and consultant team members. Once potential growth areas were identified, areas were grouped together to create a series of high-level "thematic" scenarios, based on the following:

- 1. Further Intensification (i.e. Intensification only);
- 2. Greenfield growth outside of Highly Productive Land (HPL Avoidance);
- 3. Satellite Towns; and
- 4. Expansive Urban Growth.

Each thematic scenario is explained in more detail in **Section 7.3**. Consistent across each of the four scenarios was that the proposed intensification enabled by the Napier PDP and Hastings' Plan Change 5. In other words, a degree of intensification would be relied upon to meet both Napier and Hastings future housing needs.

Each of these scenarios did not include specific consideration of the accompanying infrastructure that would be required to enable development, rather they provided a high-level understanding of the potential scale of development that could inform a preliminary assessment by infrastructure providers.

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# 7.3 Spatial Scenario Advantages & Disadvantages

### **Scenario 1: Intensification Only Growth**

This scenario adopts the level of residential and commercial intensification within the Napier PDP and also assumed an even more enabling level of intensification across Hastings, Flaxmere and Havelock North than that proposed through Plan Change 5. Greenfield growth would only occur on land that had been zoned for redevelopment by late-2023 (e.g. Mission Hills). Sites identified for future urban development in HPUDS, but which have not yet been rezoned for urban purposes, would no longer be proposed for future urban growth.



Figure 7 - Intensification Only Spatial Scenario

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### Advantages

- Future growth and development is prioritised in areas with the greatest accessibility to a range of commercial services and amenities.
- Increased residential densities over and above those currently proposed could better support the viability of public transport.
- Sufficient greenfield capacity already zoned (but currently undeveloped) to help address housing needs in the short-to-medium term.
- Would deliver an urban form that would support the lowest increase in carbon emissions relative to other scenarios (noting that existing urban form is already a key driver of this).
- Provides better protection for highly productive land as it does not propose any further expansion from the existing zoned or consented urban area and it draws back from such land identified in HPUDS that has yet to be re-zoned for urban purposes.
- Does not require the extension of reticulated water networks and associated long term operational costs. Infrastructure upgrades for many areas within this scenario already form part of the council's Long Term Plans.
- This scenario could better support the increase utilisation/ viability of existing Council services and facilities rather than having to construct new facilities.

#### Disadvantages

- Requires a high uptake of feasible intensification opportunities that is unlikely to be realistic over the short, medium and long terms when compared with rates seen in other NZ cities.
- Over the longer-term, if intensification uptake is lower than anticipated this could contribute to increased urban land values and potentially reduce affordability.
- Could still result in an increase in carbon emissions, without additional investment in public transport and walking, cycling improvements (and other measures to influence mode shift).
- Still generates impacts on the transport capacity of the local road system based on existing travel patterns.
- It will still require localised upgrades to water, wastewater and stormwater networks to support intensification (e.g. Akina and Maraenui) with associated uncertainty around uptake of intensification opportunities.
- Some existing open space capacity issues identified within the existing urban area and it is a challenge to find new areas to address this within the existing urban environment.

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### Scenario 2: Greenfield Growth Outside of HPL

This scenario adopts the level of residential and commercial intensification within the Napier PDP and Plan Change 5. Greenfield growth would only occur on land that had been zoned for redevelopment by late-2023 (e.g. Mission Hills) or on sites that are not subject to restrictions on the use of highly productive land under the NPS-HPL. This includes development areas already identified in HPUDS as well as land not classified as LUC 1 - 3. Additional rural lifestyle development is also provided for under this scenario. A sub-option of this scenario where development on LUC3 land was also considered.



Figure 8 - Greenfield Growth outside of HPL Spatial Scenario

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## Advantages

- Does not proposed any further expansion from the existing urban area and does not impact on any identified Highly Productive Land as defined by the NPS-HPL.
- Sufficient greenfield capacity already zoned (but currently undeveloped) to help address housing needs in the short-to-medium term.
- Provides a good degree of choice in terms of the location and types of housing enabled.
- Whilst this scenario will still require localised upgrades to three waters networks to support intensification (e.g. Akina and Maraenui). Additional capacity from nearby greenfield areas (e.g. Riverbend Road) may better support this investment.
- The majority of greenfield growth will be directed away from areas subject to significant natural hazard risks.
- Could support urban development aspirations of mana whenua in various locations.
- Provides some opportunity to increase park and open space provision around the periphery of urban areas to support the needs of existing residents.

#### Disadvantages

- The dispersed nature of growth makes it a challenge to be efficiently and feasibly served with public transport.
- Provides for greenfield growth in some areas subject to natural hazard constraints.
- Concentrates large areas of new housing away from existing major employment areas.
- Locates some new growth in existing rural areas with limited access to a range of commercial and community services via active or sustainable modes of transport.
- Will require a number of different extensions/ upgrades to water networks to adequately service growth in more remote areas, which could slow down or hinder upgrades required to support intensification.
- Growth around Bridge Pa could give rise to operational issue for the Hastings Aerodrome – especially those related to emergency management.
- Relies on growth in the Taradale Hills which has topographical and feasibility constraints.
- Could enable development on unconfined aquifers and source protection zones.

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### Scenario 3: Satellite Growth

This scenario adopts the level of residential and commercial intensification within the Napier PDP and Plan Change 5. Greenfield growth would be directed towards one or more new "satellite" urban centres in Bay View, Maraekakao, Bridge Pa, Paki Paki or Te Awanga. The location of these satellites have been centred on areas where there are already established rural towns or villages. The potential development capacity of new homes in these satellites could vary between 1,500 in Maraekakaho and 4,000 in Paki Paki.



Figure 9 - Satellite(s) Growth Spatial Scenario

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Advantages
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- Does not proposed any further expansion from the existing urban area and does not impact on any identified Highly Productive Land as defined by the NPS-HPL.
- Sufficient greenfield capacity already zoned (but currently undeveloped) to help address housing needs in the short-to-medium term.
- Provides a good degree of choice in terms of the location and types of housing enabled.
- Concentrates most new greenfield development in areas not subject to significant natural hazard risks.
- Could support urban development aspirations of mana whenua in various locations.

#### Disadvantages

- Locates a significant portion of new growth in existing rural areas with limited access to a range of commercial and community services via active or sustainable modes of transport.
- Depending on the number of satellites urban areas required, the dispersed nature of growth is less efficient and costlier to serve with public transport.
- Will still require localised upgrades to support intensification across the existing urban area.
- Will require extensions/upgrades to threewaters networks, or the development of new networks, to adequately service growth, which could slow down or hinder upgrades required to support intensification.
- Growth in certain areas will have significant impacts on existing (rural) schools and may require significant upgrades or new schools to be developed.
- Would likely result in the greatest increase in carbon emissions relative to other scenarios.
- Would require development on some isolated pockets of LUC3 that are still currently in use for productive uses.
- Growth around Bridge Pa could give rise to operational issues for the Hastings Aerodrome – including those related to emergency management.
- Could enable development in areas which could impact on cultural values (e.g. Maraekakaho and Bridge Pa)
- Could risk contamination of unconfined aquifers and source protection zones by new development, such as by stormwater or wastewater.

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### **Scenario 4: Expansive Growth**

This scenario adopts the level of residential and commercial intensification within the Napier PDP and Plan Change 5. Greenfield growth could occur on sites that are already sigalled are not subject to restrictions on the use of highly productive land under the NPS-HPL. This includes development areas already identified in HPUDS as well as land not classified as LUC 1 - 3. Additional rural lifestyle development is also provided for under this scenario. A suboption of this scenario where development on LUC3 land was also considered.



Figure 10 - Expansive Growth Spatial Scenario

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Advantages
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This scenario provides for the greatest

Provides some opportunity to increase

park and open space provision around the periphery of urban areas to support

in terms of new housing provision.

the needs of existing residents.

choice in terms of typology and location

large-scale land release.

#### Disadvantages

- This scenario provides the greatest potential for housing capacity and a more competitive housing market as a result of use. • Would result in the loss of highly productive land that is still in productive use.
  - Provides for greenfield growth in some areas subject to natural hazard constraints.
    - Enabled housing capacity is dispersed and significantly greater than required, meaning the rate of uptake in particular areas would be uncertain and difficult to plan infrastructure for.
    - The extent of greenfield land enabled is likely to reduce the feasibility/ uptake of intensification opportunities in existing urban areas.
    - Locates a significant portion of new growth in existing rural areas with limited access to a range of commercial and community services via active or sustainable modes of transport. This scenario promotes the least efficient development pattern.
    - The dispersed nature of growth makes it a challenge to be efficiently and feasibly served with reliable public transport.
    - Will require multiple extensions / upgrades to three-waters networks to adequately service growth. This could be difficult to plan for and fund, and could also slow down or hinder upgrades required to support intensification.
    - Will still require localised upgrades to support intensification across the existing urban area.
    - Could enable development on unconfined aquifers and source protection zones.

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### **Summary of Assessment**

A summary of how each of the four thematic scenarios relating to residential growth relative to one another is provided in **Table 4** below where green indicates it performs well against other scenarios and red where it performs worse against other scenarios. As is shown the Intensification Only scenario generally performs better than the other scenarios considered, however falls short of supporting the required development capacity required under the NPS-UD. As such, this indicates that some additional greenfield growth for residential purposes needs to be considered as part of the long-term growth strategy for Napier and Hastings.

Criteria	Intensification Only Scenario	HPL Avoidance Scenario(s)	Satellite Growth Scenario	Expansive Growth Scenario
Accessibility / Urban Form / Emissions				
Housing (e.g. capacity, affordability, choice)				
Natural Hazards (Coastal)				
Natural Hazards (Cyclone & flooding)				
Natural Hazard – geo-hazards				
Highly Productive Land				
Biodiversity & Water Quality				
Infrastructure (water)				
Infrastructure (wastewater)				
Infrastructure (stormwater)				
Infrastructure (transport)				
Infrastructure (others)				

Table 4 - Summary	of Thematic	Spatial Sconario	Accoccmont
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# 7.4 Refinement of Scenarios

Following assessment of the broad thematic spatial scenarios, further refinement to the scenarios was undertaken based on the results of that analysis along with feedback received from key stakeholders and the FDS Joint Committee. This enabled a more granular assessment of the potential advantages and disadvantages of each. These refined scenarios included both residential and business land uses the assessment also included more detailed technical assessment with regards to economic effects as well as transport related effects from different patterns of growth.

#### **Discounted Scenarios**

Both the Highly Productive Land Avoidance and Satellite Growth spatial scenarios were discounted based on a consideration of their identified advantages and disadvantages.

Some of the potential new satellite urban areas had the ability to avoid significant development constraints, particularly those relating to natural hazards and highly productive land. Similarly, the Highly Productive Land Avoidance scenario enables development in areas subject to fewer total constraints, albeit could require a proliferation of more rural residential opportunities due to the hilly nature of land not considered to be highly productive. Both scenarios would require urban development to "leap frog" development constraints leading to a disconnected, less accessible urban form. The location of new greenfield and rural residential development under these scenarios also has the potential to compromise identified rural and character landscape values around the FDS study area.

The intensification focused scenario and potential development areas adjoining existing urban areas performed better in terms of its impact on existing infrastructure as well as likely having the least monetary cost to provide new infrastructure over time. Most of the satellite urban areas considered are not connected to any reticulated network and would either require the extension / upgrades of existing networks or the creation of entirely new community based networks. This would result in a less efficient use of existing infrastructure and new infrastructure.

### **Refined Scenarios**

The thematic scenarios which were refined following the initial analysis included:

- 1. Further Intensification; and
- 2. Expansive Urban Growth.

The refined scenarios incorporated aspects of other scenarios to address issues identified during the first stage of assessment. This resulted in more detailed consideration of four spatial scenarios, which saw the removal of potential growth areas where there was considered to be a significant conflict with the objectives of the FDS. This included any further consideration of new rural residential development areas. In addition, the refined scenarios also included consideration of new land for business uses. This was important to consider potential

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distribution effects related to the transport system with the location of employment relative to housing being a key driver of travel patterns across the sub-region. The refined scenarios included:

- 1. Intensification with HPUDS greenfields (Scenario 1a);
- Edge Growth with additional greenfield focused around Bay View and Ahuriri (Scenario 4a);
- 3. Edge Growth with additional greenfield focused around Waverley (Scenario 4b); and
- 4. (Targeted) Edge Growth with all additional greenfield focused around Flaxmere South / Bridge Pa (Scenario 4c).

The advantages and disadvantages of these refined scenarios is considered further in this section.

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### Scenario 1b: Intensification with existing HPUDS Greenfields

This scenario adopts the level of residential and commercial intensification within the Napier PDP and also assumed an even more enabling level of intensification across Hastings, Flaxmere and Havelock North than that proposed through Plan Change 5 as per Scenario 1. New areas for greenfield development that were previously signalled in HPUDS (excluding reserve areas) but are as yet unzoned were also included. This includes sites in Bay View, Waverley, Kaiapoi Road, Lyndhurst Road, Copeland Road and Brookvale Road. New business sites which were indicatively shown in Tomoana and Awatoto were also included.



Figure 11 - Intensification including unzoned HPUDS Spatial Scenario

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Advantages
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- Sufficient greenfield capacity already zoned (but currently undeveloped) to help address housing needs in the short-to-medium term.
- Provides for more housing choice in terms of location over the long-term.
- New greenfield expansion areas are located in proximity to existing amenities and public transport networks.
- Industrial development on unconfined aquifers and source protection zones is avoided.
- Whilst this scenario will still require localised upgrades to three waters networks to support intensification (e.g. Akina and Maraenui). Additional capacity from nearby greenfield areas (e.g. Riverbend Road) may better support this investment.
- New greenfield expansion is limited in location and extent to broad areas long signalled for growth which should make it easier to plan and fund infrastructure upgrades.
- This scenario could better support the increase utilisation/ viability of existing Council services and facilities rather than having to construct new facilities.

 Development of indicative business areas from HPUDS would result in the loss of highly productive land that is still in productive use (e.g. Tomoana).

Disadvantages

- Does not support the urban development aspirations of mana whenua relating to their land holdings.
- Provides for greenfield growth in some areas subject to natural hazard constraints.
- Still requires a high uptake of feasible intensification opportunities to meet long-term housing capacity requirements.
- Over the longer-term, if intensification uptake is lower than anticipated this could contribute to increased urban land values and potential reduced affordability for some sections of the community.
- Still generates impacts on the transport capacity of the local road system based on existing travel patterns.
- New business development would be located in an area with no trade waste capacity to support wet industries.
- Some existing open space capacity issues identified within the existing urban area and it is a challenge to find new areas to address this within the existing urban environment.
- Does not support the urban development aspirations of the Mana Ahuriri Trust by excluding their land-purchase interests around Ahuriri Station and Bay View or Tamatea Pokai Whenua around Irongate.

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#### Scenario 4a: Edge Growth with Ahuriri / Bay View

This scenario adopts the level of residential and commercial intensification within the Napier PDP and Hastings Plan Change 5. All new greenfield residential growth in Napier (approximately 1,500 homes) would be directed to areas around Ahuriri Station and Bay View. A new business node of approximately 340-400Ha serving the sub-region would also be established at Ahuriri Station adjacent to the Hawke's Bay Airport. Some new residential greenfield development would also be enabled around Hastings, Flaxmere and Havelock North to provide greater choice.



Figure 12 - Edge Growth with Ahuriri / Bay View

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#### Advantages

- Sufficient greenfield capacity already zoned (but currently undeveloped) to help address housing needs in the short-to-medium term.
- Provides for housing choice in terms of location over the long-term.
- Supports urban development aspirations of the Mana Ahuriri Trust by including land around Ahuriri Station and Bay View.
- Industrial development on unconfined aquifers and source protection zones is avoided.
- Development around Ahuriri Station and Bay View could utilise the Bay View shared path to provide alternative access to destinations to the south.
- Development of Ahuriri Station provides opportunities to enhance the cultural and ecological values of the area.
- A proportion of long-term housing growth would be co-located with business growth.
- New business growth would be located in close proximity to Hawke's Bay Airport and Napier Port providing potential agglomeration / efficiency benefits.
- Development would be of a scale that could support improved services and amenities (including public transport) to better serve the existing Bay View community.

• The transport environment north of Napier is heavily constrained and substantial development in this location would require significant upgrades in state highway capacity through to Prebensen Drive.

**Disadvantages** 

- Large-scale residential development would require the development of a new primary school in Bay View.
- Significant capacity upgrades and extensions of three-waters and electricity infrastructure required to support development.
- Provides for greenfield growth in some areas subject to natural hazard constraints around Bay View and Ahuriri Station although many of these can be mitigated. Also higher potential operational costs for maintaining infrastructure if transferred to Council due to natural hazard impacts.
- Culturally sensitive landscapes and features are identified around Bay View and Ahuriri Station which could be impacted by large scale development.
- The high water table around Ahuriri Station may increase the cost or feasibility to develop compared with other options. Longer term, rising sea levels may have a greater impact on groundwater conditions which could further constrain development.
- Fragmented land ownership in Bay View and Flaxmere South will require strong coordination from the Council and may impact on deliverability of land and the overall capacity that can be obtained.
- Would result in the loss of highly productive land (LUC 1 and 3) that is still in productive use to provide a development of sufficient scale to support investment. However, some of the LUC3 land is heavily constrained and of limited value.
- Significant residential growth around Bridge Pa could give rise to reverse sensitivity effects and operational issues for the Hastings Aerodrome – especially those related to emergency management.
- Does not support the urban development aspirations of Tamatea Pokai Whenua around Irongate.

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#### Scenario 4b: Edge Growth with the area south of Napier

This scenario adopts the level of residential and commercial intensification within the Napier PDP and Hastings Plan Change 5. All new greenfield residential (approximately 1,400 homes) and business growth in Napier would be directed to areas around to the south of Napier and Awatoto. Some new greenfield development would also be enabled around Hastings, Flaxmere and Havelock North. This includes additional business land around Irongate and Tomoana which has relatively good accessibility with the additional residential growth provided for in the area south of Napier.



Figure 13 - Edge Growth with the area south of Napier

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#### Advantages

- Sufficient greenfield capacity already zoned (but currently undeveloped) to help address housing needs in the short-to-medium term.
- Provides for more housing choice in terms of location over the long-term.
- New greenfield expansion areas are located in proximity to existing amenities and public transport networks.
- Industrial development on unconfined aquifers and source protection zones is avoided.
- New housing growth would be colocated with business growth.
- New industrial growth is concentrated in an emerging industrial node along the State Highway 2 corridor and could leverage off investment in the Hawke's Bay Expressway RoNS project.
- Supports urban development aspirations of Tamatea Pokai Whenua by including their landholdings around Irongate.
- Whilst this scenario will still require localised upgrades to three waters networks to support intensification (e.g. Akina and Maraenui). Additional capacity from nearby greenfield areas (e.g. Riverbend Road) may better support this investment.
- New greenfield expansion is limited in location and extent to broad areas long signalled for growth which should make it easier to plan and fund infrastructure upgrades.
- Expansion of industrial uses around Awatoto helps support investment in flood defences post Cyclone Gabrielle.

#### Disadvantages

- Does not support the urban development aspirations of the Mana Ahuriri Trust by excluding their land purchase interests around Ahuriri Station and Bay View.
- Could result in the loss of highly productive land that is still in productive use including a large area of LUC1 around Tomoana and small areas of LUC1 and 2 around Irongate. However, some of the highly productive land (LUC3) south of Napier is already heavily constrained and of limited value.
- Significant residential growth around Bridge Pa could give rise to reverse sensitivity effects and operational issues for the Hastings Aerodrome – especially those related to emergency management.
- Development of areas south of Napier including Awatoto are subject to natural hazard risks although many of these can be mitigated. Also higher potential operational costs for maintaining infrastructure if transferred to Council due to natural hazard impacts.
- Development in areas south of Napier may need to be supported by the development of stormwater management facilities on neighbouring land.
- Fragmented land ownership in Flaxmere South will require strong coordination from the Council and may impact on deliverability of land and the overall capacity that can be obtained.

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#### Scenario 4c: Flaxmere South / Bridge Pa Growth Focus

This scenario adopts the level of residential and commercial intensification within the Napier PDP and Hastings Plan Change 5. All new greenfield residential (approximately 2,500 new homes) and business growth would be directed to areas around Flaxmere South, Bridge Pa and north-west of Hastings. The area around Irongate would become a strategic industrial node serving the wider sub-region. These areas have been identified as being the least constrained by natural hazard risks. No new greenfield development outside of Mission Hills, Parklands, Te Awa, Howard Street and Brookvale Road would be enabled under this scenario.



Figure 14 - Flaxmere South / Bridge Pa Spatial Scenario

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#### Advantages

#### Sufficient greenfield capacity already zoned (but currently undeveloped) to help address housing needs in the shortto-medium term.

- Concentrates all new greenfield development in areas not subject to significant natural hazard risks.
- Industrial development on unconfined aquifers and source protection zones is avoided.
- New residential and industrial growth is concentrated along the State Highway 2 corridor and could leverage off investment in the Hawke's Bay Expressway RoNS project.
- New housing growth would be colocated with business growth.
- Supports urban development aspirations of Tamatea Pokai Whenua by including their landholdings around Irongate.
- Development would be of a scale that could support improved services and amenities (including public transport) to better serve the existing Flaxmere and Bridge Pa communities.

#### Disadvantages

- This scenario represents the most restrictive in terms of future housing choice (by location).
- Could result in the loss of highly productive land that is still in productive use south of Flaxmere.
- New business development would be located in an area with no trade waste capacity to support wet industries.
- Potential for limited access from new development onto State Highway 2 could result in increased traffic movements through residential areas of Flaxmere.
- Does not support the urban development aspirations of the Mana Ahuriri Trust by excluding their land purchase interests around Ahuriri Station and Bay View.
- Long-term housing growth would be concentrated away from established employment nodes including Onekawa and Napier City Centre.
- Significant residential growth around Bridge Pa could give rise to reverse sensitivity effects and operational issues for the Hastings Aerodrome – especially those related to emergency management.

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#### 7.5 Refined Scenario Assessment

All refined scenarios were considered to perform better than the initial thematic scenarios. A summary of how they performed is provided in **Table 5**.

Unsurprisingly, the scenarios with more compact urban forms performed better in terms of impacts on existing infrastructure and cost of new infrastructure. The Ahuriri / Bay View and Flaxmere South / Bridge Pa scenarios were considered to perform worse with regards to urban form and transport impacts with high-levels of growth being concentrated at the northern and southern ends of existing urban areas respectively.

Based on an assessment of the advantages and disadvantages of the refined scenarios, compatible elements from both the "Intensification plus HPUDS" and the "South of Napier" scenarios are recommended to be taken forward into the preferred scenario for the Draft FDS.

#### **Transport and Emissions Impacts**

Potential transport impacts of the refined scenarios was modelled by Stantec at a high-level to understand the distributional impacts of different areas of residential and business growth (refer to **Appendix 6**). This modelling identified that the performance of several key road corridors and intersections would worsen as a result of intensification by 2048 (assuming no significant changes in mode share). Scenarios where growth was concentrated in Flaxmere South or Ahuriri / Bay View showed a general deterioration of the transport network in these locations that would require intervention. Growth in areas south of Napier was identified as having the least impact of the three edge growth scenarios.

Potential Greenhouse gas emissions associated with transport for each of the refined scenarios was also estimated using the Vehicle Emissions Prediction Model (**VEPM**) in a forecast year 2048 (refer to **Appendix 6**). The results show that compared to the Intensification scenario, transport emissions increase only marginally, between 0.8% and 2.3% depending on the type of emissions, periods and scenarios. Emissions associated with Light Commercial Vehicles (LCVs) and Heavy Commercial Vehicles (HCVs) changes between -5.3% and 1.6% compared with the Intensification scenario. This modelling does not assume any increase in the use of public transport, walking or cycling. This indicates that the scale and pattern of existing development means that additional growth will have limited influence on greenhouse gas emissions. Supporting reductions in emissions under any spatial scenario needs to place a significant focus on current travel patterns and behaviours, rather than rely on changing growth and development.

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Criteria	Intensification plus HPUDS Scenario	Ahuriri / Bay View Scenario	South of Napier Scenario	Flaxmere South / Bridge Pa Scenario
Accessibility / Urban Form / Emissions				
Housing (e.g. capacity, affordability, choice)				
Natural Hazards (Coastal)				
Natural Hazards (Cyclone & flooding)				
Natural Hazard – geo-hazards				
Highly Productive Land				
Biodiversity & Water Quality				
Infrastructure (water)				
Infrastructure (wastewater)				
Infrastructure (stormwater)				
Infrastructure (transport)				
Infrastructure (others)				

#### Table 5 - Summary of Refined Spatial Scenario Assessment

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#### 7.6 Growth Area Assessment

#### Long-list Site Assessment

Areas that were considered as part of an initial long-list assessment to inform an analysis of the thematic spatial scenarios is shown in **Figure 15** below.



Figure 15 - Location of Growth Areas considered as part of a Long-list Assessment

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Based on an assessment of the advantages and disadvantages of the thematic scenarios as well as high level assessment of sites nominated through the "Call for Opportunities" process, a number of sites were discounted from further consideration under the refined spatial scenarios. A summary of the key issues relating to urban development in areas through consultation is set out below.

#### Maraekakaho

Areas near the existing Maraekakaho rural township were identified through several "Call for Opportunities" submissions for future greenfield residential development and the area was previously identified in HPUDS for potential growth. Based on the high-level assumptions around typical greenfield development, these areas had the potential to deliver up to 1,500 new homes. In particular, one of the identified sites (M1) was supported by a preliminary masterplan which provided for 500 general residential and large lot residential sections.

Due to the existing rural nature of Maraekakaho area, future growth and expansion of the area will require either a significant extension of reticulated services or the development of its own community schemes for water, wastewater and stormwater. Water supply for urban development would be particularly challenging in this location. In addition, electricity infrastructure would require a significant upgrade. In addition to the significant challenges of serving the area with suitable infrastructure, all PSGEs expressed significant concerns about potential impacts on the Ngaruroro River as a result of the urbanisation of the area. Rural residential development on a limited scale may remain a more appropriate option for future development in this location.

#### Clive, Te Awanga and Haumoana

Areas between Clive and Te Awanga were identified through several "Call for Opportunities" submissions for future greenfield residential and rural residential development. Haumoana and Te Awanga were also included as two of the three indicative coastal growth areas under HPUDS.

A number of sites that were identified were subject to significant natural hazard constraints relating to flooding, coastal inundation and tsunami. In addition, a number of sites were also identified as containing highly productive land that was still in productive use. Given these constraints, consideration around any future development in this area as part of the Draft FDS was not considered appropriate in advance of the Clifton to Tangoio Coastal Hazards Strategy 2120 which is currently being further developed by the partner councils.

#### Paki Paki

Areas near the existing Paki Paki rural township were identified through several "Call for Opportunities" submissions for future greenfield residential development. Based on the highlevel assumptions around typical greenfield development, these areas could deliver over 1,500 new homes over the long-term.

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Much of the land around Paki Paki that was considered as part of the Draft FDS is largely free from natural hazard constraints. The land is identified as LUC3 with good soils that are heavily utilised for cropping and where the biggest limitation on its use is drainage. However, like Maraekakaho the area would be challenging to serve with infrastructure and is relatively isolated for commercial and community services and key employment nodes.

#### Omahu

Areas near the existing Omahu rural township have previously been identified as one of the marae-based indicative growth areas under HPUDS. Te Piringa Hapū has expressed strong aspirations to develop their whenua close to Omahu Marae for a mix of papakāinga, urban development and recreational facilities.

There are strong cultural values associated with the land around Omahu with a concentration of Maori owned land along with a number of sites of cultural significance and marae located in the area. Omahu was heavily impacted by flooding associated with Cyclone Gabrielle and flood protection works are being advanced by the RRA. Development is likely to be of limited scale due to development constraints is not required to meet the demand for urban growth across the FDS study area. However, HDC and HBRC will continue to work with Te Piringa Hapū to support them to realise their aspirations for development in this area.

#### Western Hills

Structure planning work undertaken by NCC determined that the growth options in the hills west of Napier are expensive and produce relatively little housing yield. This is largely driven by topographical challenges for conventional urban development in these areas. The cost of delivering individual lots was considered to be prohibitive and would likely be unfeasible for market-led development in the short-to-medium term. Other greenfield growth options, particularly those in Hastings, would provide more feasible alternatives to the western hills.

#### Havelock Hills

Several sites in the Havelock Hills were identified within submission as part of the "Call for Opportunities" for future development. The Havelock Hills are not subject to natural hazard constraints or those relating to highly productive land. However, due to the topography of the Havelock Hills, development is unlikely to yield a substantial new number of homes.

#### Wilson and Henderson Roads (Flaxmere)

This area comprises the existing rural land that sits between Flaxmere and the industrial development along Omahu Road. Due to its location, it potentially provided a logical extension of existing urban areas to support further residential or business growth. The majority of the land within this area is classified as LUC1. The area is characterised by well-developed orchards. Soils and conditions support good productive capacity of the land so are considered to be of high value. There are some constraints on the western edge due to the hard residential boundary. However, as other alternatives for growth in proximity to this area with less

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productive soil exist, development in this area is not considered appropriate or required to meet the NPS-UD requirements.

#### **Evenden and Beatson Roads (Hastings)**

This area comprises rural land which extends southwards from the existing urban area of Hastings. The entirety of this land is classified as LUC1. This area is also characterised by well-developed orchards. Soils and conditions support good productive capacity of the land so are considered to be of high value. There are some constraints on land where immediately adjacent to residential uses. However, as other alternatives for growth in proximity to this area with less productive soil exist, development in this area is not considered appropriate or required to meet the NPS-UD requirements.

#### Whirinaki

A small portion of land was considered in Whirinaki in line with a preliminary proposal attempting to obtain approval under COVID19 Fast-track consent legislation. The proposal did not proceed but application documents available did inform assessments for FDS purposes. There are a range of development constraints in this area including highly productive land and natural hazard risks.Combined with the relative remoteness of the location, urban development was not considered appropriate or necessary to meet the NPS-UD requirements.

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#### **Refined Spatial Scenarios - Residential Growth Area Assessment**

To inform the development and assessment of the refined spatial scenarios, a more detailed analysis of potential residential growth areas was undertaken. **Table 6** below provides a summary of the outcomes of this analysis. More detailed commentary on how each site performed relative to the criteria used for the MCA is provided in **Appendix 3**.

Rank	Site Ref	Site Name / Location	Score
1	HN10	Oderings Site	63
2	H2a	Lyndhurst Road Extension	62
3	NC6	Mission Estate	60
4=	FM2	Portsmouth Road	59
4=	FM9	Portsmouth Road	59
4=	H3	Kaiapoi Road	59
4=	H4	Murdoch Road	59
8	HN6	Brookvale Road Extension	58
9=	FM11	Flaxmere South	56
9=	HN2a	Te Mata Mushroom Farm	56
9=	HN2b	Arataki Road Extension	56
12	H8	Copeland Road	55
13	NC4a	Riverbend Road / Willowbank Avenue (The Loop)	54
14=	H7	Riverslea Road	53
14=	HN3b	Middle Road Extension	53
16=	HN3a	Middle Road	52
16=	BP4	Bridge Pa / Stock Road	52
18	NC4b	Riverbend Road	48
19	AS1	Ahuriri Station (north of Onehunga Road)	46
20=	NC4c	Waverley Road	45
20=	NC4d	South Pirimai	45
22=	BV3	Bay View (existing HPUDS site)	42
22=	BV5	Bay View North	42
22=	NC7a	Willowbank Avenue North	42
25	NC7b	Willowbank Avenue South	41
26	AS2	Ahuriri Station (south of Onehunga Road)	39
27	BV2	Bay View East	38
28	BV4	Bay View East	37

able 6 ·	- Summary	of Residential	Growth	Area	Assessment	(Unweighted)
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#### **Residential Sensitivity Testing**

**Table 7** below provides a summary of the weighting exercises undertaken as a sensitivity test on the MCA of the residential growth areas.

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Site Ref	Initial Rank	HPL Weighted Rank	Natural Hazards Weighted Rank	Accessibility Weighted Rank	Average Rank
HN10	1	1	5	4	3
H2a	2	2	1	1	2
NC6	3	9	10	2	6
FM2	4	13	2	5	6
FM9	4	13	2	5	6
H3	4	3	15	3	6
H4	4	10	2	5	5
HN6	8	4	5	9	7
FM11	9	8	7	14	10
HN2a	9	18	7	14	12
HN2b	9	12	7	10	10
H8	12	5	10	16	11
NC4a	13	6	17	5	10
H7	14	7	12	18	13
HN3b	14	23	12	11	15
HN3a	16	15	16	13	15
BP4	16	20	14	19	17
NC4b	18	11	27	11	17
AS1	19	21	18	22	20
NC4c	20	24	24	20	22
NC4d	20	22	26	16	21
BV3	22	15	19	24	20
BV5	22	15	20	24	20
NC7a	22	27	22	21	23
NC7b	25	26	28	22	25
AS2	26	25	25	27	26
BV2	27	19	21	28	24
BV4	28	28	22	26	26

#### Table 7 - Residential Growth Area Sensitivity Testing

As is evidenced in **Table 7** above, sites across the Hastings District generally perform better than those across Napier across all rankings. There is a combination of factors which have influenced this outcome. Most notably the low-lying nature of greenfield development options considered within Napier. These areas are subject to a range of different types natural hazards (e.g. coastal hazards, land hazards, flood hazards) each of which was assessed under its own criteria. In other words, sites in Napier generally performed poorly across multiple criteria relating to natural hazards. In contrast, sites considered across Hastings were largely free from

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significant impacts of natural hazards with the exception of some specific areas relating to flooding but are more constrained by the presence of highly productive land.

Whilst the majority of Napier sites performed poorly against natural hazard criteria, extensive additional analysis for many of the sites south of Napier (NC4a-d) and Ahuriri Station (AS1 and AS2) has been undertaken (see for example **Figure 16** below). For both broad areas, engineering solutions have been identified that could assist in mitigating natural hazard risks associated with flooding, ground conditions and tsunami. Across both locations it is expected that ground levels will need to be raised with suitable engineered fill in addition to the provision of onsite storage solutions to accommodate the projected volumes of site flooding. As such, while the majority of Napier sites performed poorly relative to other sites in relation to natural hazards, there is confidence that these risks can be appropriately managed (albeit at significant cost and investment for developers) such that development is not considered inappropriate in the strategic context of this FDS (noting that there may be specific localised limitations arising, depending on the scale, character and form of development).



Figure 16 - Flooding Extent in areas south of Napier of the HBRC 2050 Upgrades Model (GHD, 2023)

In addition to raising ground levels, it would be expected that development of any of these areas would incorporate a wider suite of stormwater management measures as part of more detailed design to help address natural hazard risks. This could include restrictions on impervious areas, the use of rain gardens or swales, permeable paving, and rainwater harvesting.

Areas south of Napier performed noticeably better under the accessibility sensitivity testing. Generally speaking, these areas have the greatest level of accessibility relative to other

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greenfield sites considered in this assessment. They benefit from proximity to existing commercial and community services including schools (primary through to secondary), open spaces, supermarkets, as well as public transport and off-road cycle facilities that link these areas with centres.

#### **Business Growth Area Assessment**

Same as the process for residential growth areas, a more detailed analysis of potential industrial growth areas was undertaken to help inform the analysis of the refined spatial scenarios. **Table 8** below provides a summary of the outcomes of this analysis. More detailed commentary on how each site performed relative to the criteria used for the MCA is provided in **Appendix 3**.

Rank	Site Ref	Site Name / Location	Score
1	SP	Severn Precinct	59
2	IR3a	Irongate West	56
3=	FM3	Omahu Road	53
3=	IR1	Irongate North (York Road)	53
5=	IR2	Irongate South	52
5=	FM4	Omahu Road / SH50	52
7	IR3b	Irongate West	51
8=	AS3	Ahuriri Station	49
8=	H6	Tomoana	49
10	WH1	Whakatu	48
11=	AS4	Ahuriri Station	47
11=	IR4	Bridge Pa	47
13	AW1	Awatoto	42

Table 8 - Summary of Business Growth Area Assessment (Unweighted)

#### **Business Sensitivity Testing**

**Table 9** below provides a summary of the weighting exercises undertaken as a sensitivity test on the MCA of the business growth areas.

Site Ref	Initial Rank	HPL Weighted Rank	Natural Hazards Weighted Rank	Site Suitability Weighted Rank	Average Rank
SP	1	1	9	1	3
IR3a	2	4	2	2	3
FM3	3	2	3	6	4
IR1	4	8	3	5	4
IR2	5	9	5	7	6
FM4	6	3	1	10	5

Table 9 - Business Growth Area Sensitivity Testing

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IR3b	6	8	6	8	7
AS3	8	5	11	3	7
H6	8	10	10	9	9
WH1	9	12	8	11	10
AS4	11	6	12	4	8
IR4	11	7	7	13	10
AW1	13	11	13	12	12

As evidenced by **Table 9** above, sites around Flaxmere and Irongate generally performed better than other business areas considered. This result has been driven by the fact that these areas are relatively free from natural hazard constraints, proximity to existing industrial uses, and their location along a strategic transport corridor (SH2) which is a key freight route for the region.

As with the residential areas, potential business growth areas in Napier would also be located on low-lying land subject to a range of natural hazard risks. Further analysis undertaken indicates that these natural hazard risks can be suitably mitigated through design including a significant raise in ground levels for the Ahuriri Station sites and additional flood protection measures for Awatoto. It is also noted that the Ahuriri Station sites' overall performance improves under both the "highly productive land" and "site suitability" weighted tests. The later in large part due to its proximity to both Hawke's Bay Airport and Napier Port. However, despite its proximity to these locations it is also noted that State Highway 2 north of Napier is likely to come under significant pressure as a result of large-scale development industrial and residential development around Ahuriri Station and Bay View.

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### 8. Preferred Spatial Scenario

Based on the assessment of advantages and disadvantages of different spatial scenarios as well as the MCA process undertaken for individual growth areas, a preferred spatial scenario has been developed. This preferred scenario is shown in **Figure 17**.



Figure 17 - Draft Future Development Strategy

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The Draft FDS strategy set out in Figure 16 provides for:

- increased density and diversity of housing, including apartments and terraced housing, within and close to Napier and Hastings' primary, secondary and locally important centres and high frequency bus corridors;
- general residential development in other neighbourhoods within existing urban areas, including small scale infill and suburban scale duplexes and terraced housing;
- targeted expansion to enable new compact neighbourhoods with a mix of housing types to the south of Napier's urban area, Mission Estate, and on the fringes of Havelock North, Hastings and Flaxmere, in locations that can integrate efficiently with existing transport networks and services, while avoiding the best productive land;
- increased density and diversity of retail and commercial activities in Napier and Hastings' primary, secondary and locally important centres, the Severn Precinct, and in new centres that support new compact neighbourhoods;
- a new strategic industrial node at Irongate and Irongate West that is efficiently located close to the state highway network and existing industrial areas; and
- **supporting infrastructure**, including transport, three waters, open space and social infrastructure network improvements.

#### **Recommended Residential Growth Areas**

**Table 10** below sets out the greenfield locations where future residential development is recommended to occur along with an estimate on housing capacity in these locations. The recommendation to include these sites has been influenced by the MCA process as well as an a rational and integrated strategic approach to growth and development. In this regard, just because a site performs well under the MCA does not mean it was selected or conversely a poorer performing site was not necessarily discounted.

Site Ref	Site Name / Location	Approx. Capacity		
NC4a	Riverbend Road / Willowbank Avenue, Napier (The Loop)	290 dwellings		
NC4b	Riverbend Road, Napier 660 dwellings			
NC4d	South Pirimai, Ulyatt Road, Napier	370 dwellings		
NC6	Mission Estate, Church Road, Napier 100 dwellings			
H2a	Lyndhurst Road Extension, Hastings 280 dwellings			
H3	Kaiapoi Road, Hastings 430 dwellings			
H4	Murdoch Road, Hastings	120 dwellings		

#### Table 10 - Proposed Residential Greenfield Development Areas for the Draft FDS

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H8	Copeland Road, Hastings	130 dwellings
FM2	Portsmouth Road, Flaxmere	330 dwellings
HN2b	Arataki Road Extension, Havelock North	110 dwellings
HN3a	Middle Road, Havelock North	220 dwellings
HN3b	Middle Road Extension, Havelock North	420 dwellings
HN6	Brookvale Road Extension, Havelock North	125 dwellings
HN10	Oderings Site, Havelock North	35 dwellings
Total		3,620 dwellings

As set out in **Section 4** of the report, there is currently capacity for approximately 4,210 dwellings in existing greenfield areas. Combined with the intensification and infill capacity enabled through the Napier PDP and Hastings Plan Change 5 this is sufficient capacity to meet demand for at least the short-to-medium term, while the areas identified above will provide sufficient capacity to meet demand over the long-term.

In addition to the residential greenfield development areas identified above, it is also proposed to identify two additional business development sites in Irongate (IR2 – Irongate South and IR3a – Irongate West) that could be developed in the long-term if required. Combined, these areas provide for approximately 100Ha of land for business uses. These two sites are strategically located along State Highway 2 providing good access to Napier and Napier Port, are adjacent to the emerging industrial node at Irongate and located in close proximity to a large and growing employment base across Flaxmere and Hastings.

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#### Well Functioning Urban Environments

A key requirement of the FDS is to set out how Napier and Hastings will achieve wellfunctioning urban environments (**WFUE**). The manner in which the preferred scenario supports a WFUE is set out in **Table 11** below.

Table 11 -	How the	Preferred	Spatial	Scenario	supports a	WFUE
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Matter	Comment
Have or enable a variety of homes that meet the needs, in terms of type, price and location, of different households	A variety of housing types are enabled through a combination of varying levels of intensification in existing urban areas and in new greenfield areas. Housing affordability remains a key concern across both Napier and Hastings. Community Housing Providers and Kāinga Ora will have an important role in providing housing that meets the needs for those sectors of the community who cannot access housing on the private market. Enabling greater levels of intensification will better support these housing providers.
Have or enable a variety of homes that enable Māori to express their cultural traditions and norms	Mana whenua have expressed a clear desire to develop papakāinga including in small rural communities in close proximity to the main urban areas. The partner councils will continue to work with mana whenua to realise their aspirations to develop papakāinga. This will include reviewing rules in the district plans to ensure they provide an enabling framework for development, and potentially expanding the definition of land where papakāinga can be developed.
Have or enable a variety of sites that are suitable for different business sectors in terms of location and site size	The Business Capacity Assessment indicates that there is already sufficient vacant zoned capacity across Napier and Hastings to meet the long-term needs of business. This vacant capacity is predominantly located at Hawke's Bay Airport, Pandora, Omahu Road, Tomoana, Whakatu, and Irongate. Additional capacity is proposed through the Draft FDS at Irongate. Intensification of existing centres will be required to support long-term retail and commercial growth.
Have good accessibility for all people between housing, jobs, community services, natural spaces and open spaces, including by way of public or active transport;	The majority of new housing over the 30-year timeframe of the Draft FDS will be provided for in existing urban areas. New areas of housing growth have been identified that are in close proximity to existing urban areas and amenities including schools, open spaces, frequent public transport and employment opportunities. New residential areas will require structure planning to ensure appropriate supporting amenities such as open spaces are integrated into new neighbourhoods.
	Additional business land has been identified along State Highway 2 and can leverage of improved accessibility to both employees and strategic infrastructure as a result of upgrades to the Hawke's Bay Expressway.

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Support, and limit as much as possible adverse impacts on, the competitive operation of land and development markets	The preferred scenario supports the competitive operation of land and development markets by ensuring that sufficient capacity is enabled over the 30-year timeframe of the Draft FDS. A range of housing typologies in different locations (within both existing urban areas and new greenfield areas) is provided for. More capacity enabled means more development opportunities and competition among developers is created.
Support reductions in greenhouse gas emissions	The scale and pattern of existing development means that additional growth will have limited influence over travel patterns and behaviour (and associated greenhouse gas emissions). Reducing vehicle emissions needs to focus on current travel patterns and behaviours from the existing urban environment. The FDS supports this by providing for the majority of future growth within the existing urban area. This can better support more frequent and viable public transport services. New growth areas are generally located in areas adjoining the existing urban area and proposed to be served by frequent public transport and / or have access to off-road cycling infrastructure to provide for alternative modes of travel for future residents.
Are resilient to the likely current and future effects of climate change	The majority of new growth is signalled to be located in areas that are less susceptible to the current and future impacts of climate change, particularly sea level rise. The exception to this are low-lying areas in Napier itself and greenfield areas south of Napier which are subject to flooding that could be exacerbated by more intensive rainfall events. Development south of Napier will need to involve raising of the land and construction of stormwater basins to help avoid and mitigate likely effects. The approach to stormwater more generally across Napier and Hastings will also need to adapt to the future impacts of climate change

# Main growth areas considered where development is not proposed within the Draft FDS

A discussion on the two major development areas excluded from further consideration as part of the preferred spatial scenario is set out below.

#### **Bay View / Ahuriri Station**

Ahuriri Station encompasses the existing Pāmu land adjacent to Hawke's Bay Airport, and south of Onehunga Road. Mana Ahuriri Trust has aspirations for redevelopment of the site into an ecologically sensitive freight, logistics and industrial hub. In addition, a number of potential residential growth areas in an around Bay View have been identified and considered through this process. This includes Site BV3 which is an existing development area signalled within HPUDS.

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Figure 18 - Indicative Development Areas considered around Bay View / Ahuriri

There are a number of constraints to potential redevelopment of both Ahuriri Station and Bay View, including those relating to natural hazards, ground conditions, culturally sensitive areas, highly productive land and wetlands / significant ecological areas. Redevelopment of the area has the potential to support ecological enhancements to the Ahuriri Lagoon and identified wetlands. Further, investigations undertaken in the area indicate that there are engineering solutions available to address natural hazard risks. This would include a substantial raising of the land and creation of new stormwater detention areas.

In addition, there are constraints related to three-waters (particularl water supply and wastewater capacity) and electricity infrastructure capacity and the state highway network associated with large-scale development in this area. Infrastructure capacity issues would be compounded if both business and residential development occurs.

High-level transport modelling indicates a number of upgrades to existing or new intersections would be required to facilitate development. This would be in addition to a proposed new access which has been proposed as part the Hawke's Bay Airport Masterplan to facilitate business development north of the existing terminal area. Ultimately, any urbanisation of land in this area would need to be closely considered with future use and development of the Hawke's Bay Airport.

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Attachment 4

Any residential development of scale in this area would also likely need to be serviced with a new primary school with the nearest existing alternatives of Westshore and Eskdale being located approximately 5km north and south of the area.

#### Flaxmere South / Bridge Pa

The Flaxmere South / Bridge Pa area was identified as a potential urban growth opportunity for both business and residential uses. This is area is largely free from natural hazard constraints and the productive capability of existing rural land is lower than most of the areas immediately adjacent to Hastings.

Consultation and engagement with the Hastings Aerodrome identified a number of operational requirements of the aerodrome for both its day-to-day operations as well as during emergencies (e.g. as was required during Cyclong Gabrielle). Urbanisation of the land around the aerodrome has the potential to conflict with these requirements and could also require a change in operations which has a greater impact on existing residents of Bridge Pa.



Figure 19 - Indicative Development Areas considered around Flaxmere South / Bridge Pa

#### Awatoto, Tomoana and Whakatu

Awatoto, Tomoana and Whakatu were also considered as locations for expansion of business land. All three sites were indicatively identified within HPUDS as potential areas for business expansion.

Tomoana and Whakatu are both located along the existing trade waste sewer network while Whakatu is the proposed site of an inland port being advanced by Napier Port. Some

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development of Tomoana was enabled and has been undertaken post adopted of HPUDS. However, both areas are principally constrained by the presence of highly productive land. These areas are predominantly classed as LUC1 and feature a number of well-established orchards. As there is already sufficient business land zoned across Napier and Hastings, further expansion into the highly productive land in these locations is considered inappropriate.

The Awatoto industrial area and Waste Water Treatment Plant (**WWTP**) was heavily impacted by Cyclone Gabrielle. As part of the recovery process, flood mitigation and protection works are required to support the long-term operation of established industrial sites and the WWTP. Current investigations include the potential for flood protection along the alignment of McLeods Road. This could support the development of an additional 37 hectares of land for industrial development, contiguous with the existing industrially zoned land and with good access to strategic freight links. However, there are a number of constraints to redevelopment of the site related to natural hazards and ground conditions.



Figure 20 - Indicative Development Areas considered around Tomoana, Whakatu and Awatoto

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## 9. Appendicies

Appendix 1 – Thematic Constraints Mapping Appendix 2 – Summary of feedback from Community Engagement Appendix 3 – Refind Growth Areas Multi-Criteria Analysis Appendix 4 – Refined Spatial Scenarios Site Summaries Appendix 5 – Housing & Business Capacity Assessments Appendix 6 – Transport Assessment Appendix 7 – Call for Opportunities Submissions

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# Appendix 1 – Thematic Constraints Mapping



Map 1 - Flooding and Coastal Hazards



Map 2 - 1000 yr ARI Tsunami Flood Depths with 1m Sea Level Rise



Map 3 - 1000 yr ARI Tsunami Flood Depths with 1.99m Sea Level Rise



Map 4 - Land Hazards



Map 5 - Highly Productive Land



Map 6 - Landscape and Ecological Features



Map 7 - Freshwater Features



Map 8 - Cultural Features


Map 9 - Strategic Infrastructure Constraints

! 19 ?MNapier Hastings Future Development Strategy 2024-2054 | Appendicies

# Appendix 2 – Summary of feedback from community engagement

! 19 ?MNapier Hastings Future Development Strategy 2024-2054 | Appendicies



This report provides an overview of the feedback provided through the community engagement on the Napier Hastings FDS:

- Hastings Workshop held on 31 October.
- The Hastings Pop-up shop comments
- Feedback from the My Voice My Choice survey

# Hastings Workshop 31 October 2023 and Pop-Up Feedback

The Napier Hastings FDS workshop was held in the Hastings District Council pop-up shop in Heretaunga Street. There were around 50 invited members of the public at the workshop. The pop-up shop was open for two weeks and comments from that engagement are also included in the following points,

The purpose of the workshop was to:

• Enable people to provide feedback on the strategic objectives and the emerging options for future growth to inform the next iteration of the draft Napier Hastings FDS

The following material was provided to support the workshop participants.

- A set of draft strategic objectives that will guide our planning.
- Initial technical assessments of issues and growth options.
- A series of emerging options to provide for future growth.



#### Ngā Whāinga Strategic Objectives

The first exercise involved identifying the draft strategic objectives that people most aligned with. They were given three markers and asked to identify their no.1 to no.3. The results were as follows:

Ngā Whāinga Strategic Objectives	No. 1	No. 2	No. 3
Mana whenua and councils work in a genuine T <b>e Tiriti partnership</b> to achieve shared goals for urban development.	0	1	4
We have a compact urban form, focused around consolidated and intensified urban centres in Napier and Hastings.	4	2	1
Our communities and infrastructure are <b>resilient to the effects of climate change</b> and risks from natural hazards.	4	4	3
We have a <b>diverse range of housing choices</b> that meet people's needs in neighbourhoods that are <b>safe</b> and <b>healthy</b> .	7	5	2
We have a strong economy and businesses can grow in appropriate locations.	3	5	3
The highly productive land of the Heretaunga Plains is protected for productive uses.	4	2	1
Our communities and business areas are <b>well connected</b> and <b>accessible</b> , particularly by public and active transport.	0	2	2
We have sufficient land for housing and business to meet demand.	3	6	1
Te Taiao/our <b>natural environment is protected and enhanced</b> , including our water bodies, indigenous biodiversity and outstanding landscapes.	5	0	2
Our infrastructure is planned and designed to efficiently support development.	6	4	6
Urban growth and infrastructure investment supports equitable and social outcomes.	1	1	3

#### Overall, the most mentioned strategic objectives were:

- We have a diverse range of housing choices that meet people's needs in neighbourhoods that are safe and healthy
- Our infrastructure is planned and designed to efficiently support development.
- We have **sufficient land** for housing and business to meet demand

Napier Hastings FDS Community Engagement

- Our communities and infrastructure are resilient to the effects of climate change and risks from natural hazards.
- We have a strong economy and businesses can grow in appropriate locations

#### Maps

The second exercise was to provide feedback on the emerging growth options.

#### The first option discussed was Potential Growth on Higher Ground

Every comment is noted, if a comment is repeated it was provided twice or more.

#### Te Awanga/ Parkhill

Overall, the inclusion of this area was supported. The comments related to Te Awanga / Parkhill were:

- Like it
- Yes!
- Like it Tuki Tuki Te Awanga
- High ground, good commuting distance, close to schools, provides for growing community, has existing services.
- High growth area, 16-minute village concept, has existing services.
- Support the Parkhill/Te Awanga should be a satellite.
- Southern extension of Tuki Tuki special character
- Growth on higher ground is essential to protect productive land.

#### Te Mata/Arataki

Overall, support for this area was mixed. The comments related to Te Mata/Arataki were:

- Te Mata Peak don't like it.
- Yes! Te Mata Road, Endsleigh Road, Mutiny Hill
- Te Mata Road Arataki
- More intensification Te Mata Road and Brookvale North

- Haumoana/TA foothills no more housing developments on high class soils
- Like it!
- Parkhill Road and surrounding hill country
- Te Awanga area above Parkhill Road and bounding Tukituki Rd
- Parkhill Road for Te Awanga
- How are you accounting for coastal erosion when building in Haumoana and Te Awanga? Counter-productive.
- Arataki okay but must provide local shops.
- We would like high ground growth Endsleigh Rd and Te Mata Rd. Makes sense: more resilient, close to town, obvious place to grow, protects good land.

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### Havelock North

Overall, the inclusion of this area was supported. The comments related to Havelock North were:

- Havelock North Hills push as far as possible, east and west.
- Like it! Havelock South, Longlands Hills
- Havelock North hills
- Endsleigh Road, Havelock hills /slopes

#### Poraiti/Puketapu

Overall, support for this area was mixed. The comments related to Poraiti/Puketapu were:

- Like it! Puketapu and Puketitiri Road
- Poraiti like it!
- Yes Puketapu proximity to Taradale township, potential to retain rural aspect.
- Puketapu Hills existing community
- More development in Poraiti and Puketitiri Road areas, and Springfield Road
- **Bay View**

Overall, support for this area was mixed. There were only two responses that directly relate to this area. The comments related to Bayview were:

- Bay View Hills no storm or flood damage historically
- Seafield yes

#### Omahu

The inclusion of this area was supported by the one response related to it. The comment related to Omahu was:

• Omahu Hill development

### **General comments**

Other general comments included:

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- Havelock North hills lower to protect upper hills.Yes River Road protect cropping flats.
- Havelock North along Karamu Stream (development area)
- Springfield Road hill development
- No! Duh!
- No! Grape country?
- Puketapu/Poraiti I like it, continue with opening up future stages.
- Mission Estate residential opportunity outside vineyard areas

- Will this bypass the "safe" land for more wealthy residents?
- Cost to supply utilities.
- Need to consider the isolation of communities during natural disasters.
- Sections suitable for smaller home developments
- Intergenerational family living
- Quality environment with good ecological balance
- Allow more rural residential subdivision on hills near productive plains.

- Support new rural settlement e.g., growth of Maraekakaho, Ōtāne, Haumoana on the hill.
- Allow more houses to be built on hills. Safer places for horticulturists to live near orchards. The yards etc. which are on the plains can be protected.
- Hastings District Council needs to release land in the HDC regional area to the NCC for further expansion in the hills.

The second option discussed was Potential "Satellite town" development area.

#### Maraekakaho

Overall, the inclusion of this area was supported. The comments related to Maraekakaho were:

- I like it.
- Growth into Maraekakaho area
- Maraekakaho, yes
- Maraekakaho, for (depending on size)
- Maraekakaho, like it
- Generally, yes, but skyline kept intact and not compromised.
- Satellite Maraekakaho Hills

#### Pakipaki

Overall, the inclusion of this area was supported. The comments related to Pakipaki were:

- Yes Pakipaki Mutiny Hills
- Yes Pakipaki Mutiny Hills

- Maraekakaho, 1.5-hectare blocks. Being able to subdivide to smaller blocks therefore more intensification.
- Maraekakaho Road. Businesses can grow in appropriate locations. Fringe rural land properly assessed and zoned accurately.
- Like it!
- Maraekakaho, on the hills

- Consider the economic viability of building "satellite towns" in low socio-economic areas such as Pakipaki.
- Enfield

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#### Te Awanga

Overall, the inclusion of this area was supported. The comments related to Te Awanga were:

- Is Te Awanga a subdivision or a satellite town? How aspirational is it?
- New satellite town in the Te Awanga area
- Te Awanga like location perfect, no hazards, supports a great community and lets it grow, existing schools there and embraces three communities.
- Haumoana/Te Awanga and Puketapuu but don't spread further on to productive land.

#### **Bay View**

• Move it - build Bay View on the hills.

#### **General comments**

- Urban edge expansion particularly on compromised soil e.g., Former packhouse site Napier Road, Te Mata Mushrooms, Brookvale
- Commercial and industrial development to Ellwood Road

#### The third option discussed was Potential Intensification areas.

#### Hastings

Overall, the inclusion of this area was supported. The comments related to Hastings were:

- Intensification around Hastings CBD and existing amenity
- Expand Irongate industrial area.
- Reduce the commercial precincts and intensify. Replace core with residential.
- Hastings for walkable city, existing infrastructure
- Can't have one size fits all solution for Hastings.

- Te Awanga local urban/rural community hubs I like.
- Clive, Te Awanga, Haumoana Like it
- Satellite towns no.
- Te Awanga, I like urban rural developments that cater for lifestyle options.
- Subdivisions that have a good mix of sizes in them to cater for all.

- Pakowhai Road Triangle
- Satellite towns need good connectivity to CBDs, private and public transport.
- Don't build over good growing areas.

- Whakatu strong obvious industrial growth
- For it but with quality designed multi dwellings and not three houses squeezed on one section
- Inner city apartments in Hastings to replace (and get rid of) empty shops, some of which need knocking down.
- Hastings is full.

• Support intensification Hastings.

#### Flaxmere

Overall, the inclusion of this area was supported. The comments related to Flaxmere were:

- New intensification supported if improves community outcomes.
- Good design needed in Flaxmere.
- Flaxmere

### Havelock North

Overall, the inclusion of this area was supported. The comments related to Havelock North were:

- Intensify areas within 1km of village centre.
- Allow residential development on rural productive land on Havelock Road between Havelock and Hastings
- More intensification Te Mata Road and Havelock North
- Brookvale Road, Te Mata Mushrooms

- Growth area Havelock foothills, Middle Road upper side. No further Brookvale sides.
- Intensification of Havelock Village Centre
- For Iona. Residential and commercial (local shopping) and better connectivity both public and cycleways
- Havelock North Village and outer areas

#### Napier

Overall, the inclusion of this area was supported with caveats around risk. The comments related to Napier were:

- Intensification on under used rail line route
- I agree to some extent with Taradale. I highly disagree with Napier Central in particular as it is not a climate stable area. Likewise, Riverbend Rd is a flood risk. Better to intensify in more sensible areas.

#### **General comments**

Other general comments included:

• Limit industrial development on highly productive soils.

- We have to stop intensifying in low lying areas, especially near the coast. That includes Haumoana & Te Awanga as well as Central.
- Napier & Riverbend Rd.
- Intensify inner city limit urban edge expansion.

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- Quality intensification with good services, shops, cafes, parks
- Quality urban development does not infill.
- In intensified areas, will there be enough room for small gardens or for outside activities?
- Inner city living
- Are houses going to be jammed into subdivisions? Will people still have privacy and space?
- Be mindful of the residents. These new buildings may cause negative impacts on the residents.
- How will you account for quality of life if everyone is packed into upwards residential?
- Intensification of existing urban areas using strong design & regulatory practice in place.
- Growth of industry on fringe land on plains. Test carefully for the ground & zone correctly.
- In general intensification yes, with strongly enforced design principles.

The final exercise was an open floor to make general comments and share any ideas.

For residential development the feedback included:

- Improve infrastructure.
- Bring more people into the area.
- Further expansion at Irongate will be needed really soon!
- Need to move the racecourse somewhere else so that can be developed.
- Long term future growth at Whakatu 20+ years
- In light of the potential destruction caused by earthquake legislation, designed urban precincts should be retained along with new builds.
- Small eco developments, small own your own small houses as opposed to obscene retirement villages that are not owned.
- Residential/commercial development between Havelock North
   Road and Crosses/Ada from Hastings to Havelock North

- No urban ghettos
- Intensify city centres to advance goals of climate resilience. Investigate the city centres and improve quality of life for HB residents.
- Support higher rise housing lifts.
- Get rid of the minimum size of Rural Residential Zoned land.
- 250m<sup>2</sup> is 250m<sup>2</sup>, not <150m<sup>2</sup>.
- Consider different approaches to site layout (more European approach), Designs included on post it notes\
- Smaller 'urban' development. Eco villages, small house footprint, more land footprint, natural drainage options, wildlife areas, multi age living
- Remember Intensification opportunities around fringe on commercial centres.
- Intensification and different housing density options needed.
- Life of compromised land Te Mata Mushrooms
- Napier lacks resilience. Retreat and turn it into a waterways style settlement e.g., Pauanui.
- Get an opinion from the public (only in affected areas) and include all socio-economic groups.
- Communicate more with other Councils in region such as CHB.
- Should this Regional Plan not be linked with the other Regions in Hawkes Bay? By populating places like Waipawa more it creates more jobs
- Make sure existing settlement infrastructure is well maintained.
- Expand airport?
- Need a mall urgent.
- We should build a mall.

• Make schools bigger or add more to compensate for the predicted increase of people.

#### Industrial

For industrial development the feedback included:

- Do we drive industry into areas based on type? What are the consequences of that for the two councils and their populations?
- Industrial zones based on similar industries. Tension between Napier and Hastings
- Continue separation of industry/commerce from housing. Put industry on rail line.

#### **Public Transport**

Public transport feedback included:

- More rail links in and out of Hawke's Bay Airport, Napier, Hastings and length of New Zealand
- Huge improvement on public transport
- Make sure to consider sustainability, people far from education or work need better ways of transport than just cars.
- Make better connections between Napier/Hastings not just relying on cars.

#### **Environment/Sustainability**

Environment feedback included:

• What will happen in the middle of the 30-year strategy if we have another disaster like Gabrielle?

- Be more considerate towards lower socioeconomic groups.
- Support the community, what about the people themselves?
- Avoid ribbon industrial development like Omahu Road. Find areas of low value soil for industrial development
- Industrial land focus on where trade waste line runs.
- Industrial moving around to SH50 from Omahu Rd towards Mere Road
- Where are we best placed to promote industrial growth in Napier? Awatoto, Ahuriri?
- Invest in more sustainable transport and ensure that development allows for bikers and pedestrians.
- It'd be great to see public transport at the heart of the plans. Bus routes (times that are fast, convenient, cheaper than the car) Why are we not using rail from Napier to Hastings?
- Rail for public transport links in lieu of just freight. Railway stations redeveloped along route.
- Passenger Rail CHB, HDC, NCC KiwiRail
- How is the environment going to be affected by all this change and/or building production?
- Are ecological significant areas safe?

• Think sustainable when building new developments - subdivisions are an unsustainable use of land.

#### Flood zones/Cyclone Gabrielle/Resilience

Flood zones and resilience feedback included:

- Don't build in or near high-risk areas.
- Don't put cemeteries in flood areas.
- Don't put dumps in flood zones.
- Never waste a crisis (think Gabrielle)
- What are you doing with the red zoned houses after the floods?
- Are you going to demolish abandoned houses, or charge a tax on them?

- Areas for low impact off grid development no infrastructure requirement
- Environmental conservation as part of this growth
- Please ensure dumps are not placed in flood areas.
- Take areas vulnerable to floods into consideration. We do not want new housing torn down.
- Haumoana dump flooded, what's stopping others?
- There has been no mention of tsunami as a natural hazard. Coastal areas are very vulnerable to 'when' this happens. More planning for existing communities needs to be done to evacuate.

# Napier Hastings FDS Community Engagement - Survey Results October - November 2023

The Napier Hastings FDS survey ran for a month from October to November 2023. The following is a summary of the feedback received.

#### Who we heard from:

Fifty-seven people completed the My Voice My Choice survey online.

- Of those
  - o Twenty live in Havelock North
  - o Fifteen in Hastings
  - o Twelve in Napier
  - o Three in Haumoana
  - o One in Te Awanaga
  - o One in Maraekakaho
  - o One in Clive
  - o And three from other areas
- Twenty-eight are aged between 35 54, seventeen are aged between 55-75, nine between 25 35, three were over 75.
- Forty-four are New Zealand European, five other European, five are Māori, two Chinese, one Indian, one Southeast Asian.
- Twenty-nine male and twenty-six female.

#### Areas people raised for consideration.

- In response to a participants' suggestions
  - The School Road in Clive is now included for analysis.
  - o the Hastings racecourse and stock yards was raised by two participants, this is being considered by the FDS team.

#### Other general comments included:

- We have to stop intensifying low lying areas near the coast.
- Intensification without better roading infrastructure is a bad idea.
- We should be transitioning to medium-density urban areas. While maintaining an agreed level of public green space and preventing

urban sprawl and encroachment into highly productive and native areas.

• Not enough weight is given to natural hazard risk for intensification in Napier.

- We can't keep building over our most fertile soils.
- HBRC needs to be held accountable for providing infrastructure for safe and resilient housing areas.

#### **Emerging scenarios - greenfield expansion**

When asked about potential greenfield expansion opportunities the most frequently mentioned issues were:

- Protecting highly productive land (7)
- Considering and managing flood risk (5)
- A preference for intensification to make the most of existing infrastructure and protect soils (2)

#### Emerging scenarios - growth on higher ground

When asked about potential growth on higher ground the most frequently mentioned issues were:

- Comments about the need for good roading, transport and connectivity (4)
- Looking after the natural environment, rural feel, and cultural values (2)
- Investing in good waters infrastructure (2)
- Intensify first (2)
- The safety from flooding that higher ground provides (1)
- Getting community agreement (1)
- Making sure that community housing and affordability are part of the solution (2)

#### Emerging scenarios - growth of potential satellite town development

When asked about potential satellite town development areas the most frequently mentioned issues were:

- Concern around staying away from flood prone areas (3)
- Concern that this approach represented sprawl and would be costly and intensifying existing urban areas a better idea (3)
- Concern that this would effect productive land (4)
- Some stated that this would be ok, using a phased approach, intensify first and then phase in satellite areas (2)
- Four respondents clearly stated they did not support Meeanee Road as an option (4)

#### Potential other areas

The survey asked for any ideas on new areas that were not considered in the current options. Of those mentioned

- The plan looks good.
- There is not enough community housing other than Flaxmere.

- Clive School Road is now part of assessment.
- Other areas suggested, like Meeanee, have already been assessed and discarded for technical reasons, or the city centre, which is already part of the intensification approach.
- No new areas that have not been considered and either form part of current response or discarded for technical reasons were raised.

#### **Achieving FDS Objectives**

People were then asked to comment on whether the emerging options would achieve the project objectives. These are some of the most frequently mentioned issues were:

- A need to provide transport options for people, including public transport, that keeps communities connected (4)
- Make sure that the planning is completed in context of climate change (3)
- Cyclone Gabrielle and ensuring any changes are resilient to future events (4)
- Creating communities that have good access to community amenities (5)

People also noted that the following things need to be considered, many of which are covered by the outcomes:

- Delivering housing diversity
- Achieving social outcomes
- Avoiding urban heating

# Next Steps

- 1. April 2024 Further discussions with the FDS Joint Committee on the draft growth options, to settle on a preferred scenario from the range of indicative scenarios mentioned above
- 2. April June 2024 Preparing the Draft Future Development Strategy for consultation.
- 3. June 2024 Approval of the Draft Future Development Strategy for public consultation.
- 4. July 2024 Public consultation on the Draft Future Development Strategy.
- 5. August October 2024 Hearings, deliberations and adoption of the final Future Development Strategy.

# Appendix 3 – Refined Growth Areas Multi-Criteria Analysis

! K9 ?MNapier Hastings Future Development Strategy 2024-2054 | Appendicies

Scores			Cultural Values	Hapu and Iwi development aspirations	Housing	Accessibility / Supporting Emissions Reductions		Natural hazards / Cli	mate change resiliance		HPL	Biodiversity	Water quality	
							Coestal	Flooding	Cyclone Gabrielle	Land hazards				1
3 or 4	Few constraints/good suitability		Green = The growth area does no adversely affect sites of cultur significance	Green = The growth area will support iw ot and hapu to realise their development al aspirations.	Green: the growth area can deliver significant number of houses. Provides strategic opportunity for large scal development with ability to be delivered efficiently.	a Green = the growth area has goo a accessibility to jobs, services, ar a amenities by public and active modes of transport	d d Green = the growth area is not subject to d frik from coastal hazards, or the risk i low.	9 Green = the growth area is not subject to 9 any flooding overlays, or the risk is low	Green = the growth area has not been affected by the event	Green = the growth area is not subject to any geo hazards, or the risk is low	Green = the growth area does n contain LUC 1-3	Green = the growth area will not result in any loss of an SNA, impacts on other biodiversity can be managed, and the growth area may support increased vegetation cover.	Green = the growth area has nor to low impacts on freshwater an the impact can be managed.	e d
1 or 2	Maderate constraints/moderate suitability	Assessment considerations	Crange = The growth area may impa sites of cultural significance but h support from iwi and hapu	a n	Granges the growth area can deliver moderate number of houses. Provide the opportunity for moderate scall development with ability to be delivered reasonably efficiently.	Orange = the growth area has modera accessibility jobs, services, and amenik by public and active modes of transpo- and/or only moderate upgrades requir service the growth area (e.g. extensis of existing bus route/ capacity increase)	Conner = the growth area is subject to approximate the mitigated, or only part of the fisic can be mitigated, or only part of the growth area is affected by the coasts hazards	o Crange = part of the growth area i pubject to some floading	s Orange = part of the growth area has been affected by the event	Orange = the growth area is subject to 5 some geo hazards but the risk can be mitigated, or only part of the growth area is affected by the geo hazards	Orange = the growth area features so areas of fragmented HPL and/ or subject to LUC 3 only	Orange = the growth area will result in me some loss of an SMA, or inspacts on other is biodiversity can be managed, and the growth area may support increased vegetation cover.	Orange = the growth area has h a moderate impact on freswhwater and the impact can be managed	25 n
	Highly constrained/poor suitability		Red = The growth area adversely affect a site of cultural significance (e.g. wä rapy/whith royana/lother cultur sandscape) and is not supported its not andscape) and is not supported its and hapu (no go constraint in this case)	1. 1. 1.	Reds the growth area can deliver a sma number of houses and/or fragmente landholdings / limited opportunity fo development at scale.	Red = the growth area has po- laccessibility to pisk, services, ad- ameniles by public and active modes. It paragost and/ or would requi- significant capital investment in ne transport infrastructure to support.	or d Red = the growth area is subject to d growtcart nick from coastal hazards tha e cannot be mitigated (no go constraint i a this case).	Pad = the majority or entirely of th growth area is subject to flooding (no g in this case)	lied = the majority or entirely of the growth area has been affected by the event and/or it is subject to confirmed Land Cat 3	Red = the growth area is subject to significant risk from geo hazards that cannot be mitigated (no go in this case).	Red = the growth area features larg contiguous areas of LUC 1-2	Red = the growth area will result in e, significant loss of an SNA, impacts on other biodiversity are unlikely to be avoided or mitigated.	Red = the growth area has potentially significant negative impacts on freshwater that cannot be mitigated	
	Supporting evidence/data to inform assessment		GS: Site of aignificance; Maori Land Information (Maragement Plans Management Plans	NOC: Call for Opportunities; Advice from init and hapu	Key Info: Plan-enable(f feasible capacity data; project team estimates or site-specific materplan information analysis by the project team; Lind fragmentation (landowners / parcel boundaries etc)	Key Info: Accessibility values for greenfield sites use centres (Sim buffer for Nayier and Haxings; Xim cotten), employmer areas (Xim buffer) and schools (Xim buffer) for consideration; 400m for fireguent bus routes; Conderation of other bus routes; Conderation of other bus routes and key transport corridors.	Ky Info: High-risk coastal erosion; Coastal inundation; HB Coastal Environment; Tsunami risk (Em and 1.98m SLR assumptions)	Key Info: Identified flood risk areas; GHO Napier Serving Structure Plan (28 March 2023); Other modelling in ofip povided by submitters or Council; Local authorities trowledge of Innown historical events	<b>Kry Info:</b> Cyclone Cabrielle total flood extern; Confirmed and Caregory, Feedback from RBA.	<b>Key Info:</b> Fault avoidance; High landide nik; Liquefaction server) in 100 years return Earthquake amplification; Stepe Jan analysis; Any other submitter provided material.	<b>Key Info:</b> NZ/RI LUC mapping: Roys HIL Wingness Area (HDC: ONP) Discussion with horitcultural consultant	<b>Exp Info</b> Draft SNAs (or equivalent), GBI Covenants; Conservation Land; Es. Coastal Environment; Manaaki Whenua Land cover database.	Key Info: Mapped wetlands; Water bodies; Unconfined aquifer and TANK source protection zones.	
	Comments/Scoring Assumptions		Traffic light colour coding is based whether the area is subject to understand the second subject to Matrix and Cathral Synthesizer, and Matrix Land. Noting scoring will b subject to future advice from iwi an hapu.	m to This is a "bonus criteria" and will only b to This is a "bonus criteria" and will only b docusitered as part of sites put forwar e by iwi and hapu.	Cipacity over 100+ generally scores high orange, with spacino over 200- generally scoring geners; angle ownership or macter-planning already undertaken could increase the score.	2	Score Orange if the area or a larg portion of the area is subject to stuame risk. Jower scoring appropriate i significant flood depths are modellee Comments should include flood depth i possible.	<ul> <li>Scoring is based on the extent of the identified flood layer, and local knowledge of the area. Whereas it is t relevant, commentary about community if vulnerability and locition can be included as well as potential mitigation.</li> </ul>	Scoring is based on the extent of areas being affected by cyclone.	Scoring based on the type and extent being affected the identified and hazards, and the number of hazard subject to the area.		Scoring is based on the extent being affected the identified layers, and the number of layers within the area or immediately adjacent to it.	Scoring is based on the extent being affected the identified layers, and the number of layer subject to the area.	5
Scores				Infrastructure (three waters)		Infrastructure (transport)	Infrastruc	ture (social)	Infrastructure (other)	Other significant constraints		Accessibility	Feasibility an	nd :
			Water	Wastewater	Stormwater		Parks and Open Spaces	Schools					Site	Ŧ
3 or 4	Few constraints/good suitability	_	Green = the growth area can be service by existing three-waters infrastructure and/or only minor upgrades are require (e.g. developer funded).	d Green = the growth area can be services by existing three-waters infrastructure and/or only minor upgrades are required (e.g. developer funded).	Green = the growth area can be serviced by existing three-waters infrastructure and/or only minor upgrades are required (e.g. developer funded).	Green = the growth area can be efficiently serviced by existing waiking cycling and public transport infrastructure and/or only minor upgrades are required.	Green = the growth area can be serviced by existing parks and/or only minor upgrades are required	Green = the growth area can be serviced by existing schools and/or only minor upgrades are required	Green = the growth area can be serviced by other infrastructure and/or only minor upgrades are required.	Green = the growth area has no other constraints.		Green = the growth area has goor accessibility by public and active modes of transport.	Green = the growth area is relatively flat and is suitabl for business use.	e
1 or 2	Moderate constraints/moderate suitability	Assessment consideration:	Orange = the growth area can be serviced by existing three-waters infrastructure with some moderate upgrade/ elevenions required to servic the growth area.	Orange = the growth area can be serviced by existing three waters infrastructure with some moderate is upgrades/ electricians required to service the growth area.	Orange = the growth area can be serviced by existing three-waters infrastructure with some moderate upgrade/, denoisons required to service the growth area.	Orange = the growth area can be serviced by existing walling, cycling an public transport infrastructure with moderate upgrades required to service the growth area (e.g. extension of bus route/ capacity increase).	Grange = the growth area can be serviced by existing parks with some moderate upgrades and/or expansion	Orange = the growth area can be serviced by existing schools with moderate upgrades and/or expansion	Orange - the growth area can be serviced by other infrastructure with moderate required to service the growth area	Orange = the growth area is moderately constrained	i i i i i i i i i i i i i i i i i i i	Orange = the growth area has moderate accessibility by public and active modes of transport.	Orange = the growth area i moderately sloping or otherwise can be engineered at reasonable cost to be suitable for business use.	s (
0 or -1	Highly constrained/poor suitability		Red = no infrastructure is available and significant investment (e.g. new WWIP will be required to service the growth area.	Red = no infrastructure is available and significant investment (e.g. new WWIP) will be required to service the growth area.	Red = no infrastructure is available and significant investment (e.g. new WWIP) will be required to service the growth area.	Red = Limited transport infrastructure i available and significant investment wi be required to service/ unlock the growth area (e.g. state highway capacit upgrade).	Red + significant investment will be required to service the growth area v	Red = significant investment will be required to service the growth area (e.g a new school will be required)	Red = no other infrastructure is available and significant investment will be required to service the growth area (e.g. new sub-station).	Red = the growth area is significantly constrained	al iod to hucinoce	Red = the growth area has poor accessibility by public and active modes of transport.	Red = the growth area has steeper terrain or has othe site characteristics that make it unsuitable for business use.	r
	Supporting evidence/data to inform assessment		Key Index Information provided by the project term and Council Infrastructure team, GHD Naper's Servicing Structure Pan (2 Service Panet (2012)) Council Panet (2012) Council Panet (2012) CC (17P Amendment P2013) HC (17P Amendment For Growth Infrastructure (adopted July 2023).	Key Irds: Information provided by the project term and Council Informative teams; 6 (40) Nuper Servicing Structure Pan (21 Addings January 10, 2023); Marting January 10, 2023; Marting January 10, 2023 (Council Panetonetter 2023); Hoc L17 Panetonetter 2023; Hoc L17 Panetoneter 202	Ley Inde: Information provided by the project teem and Council Infrastructure teams; Gri4D Napier Servicing Structure Plan (28 Manipul Service) (2003); Harris Martine (2003); Harris M	<b>Exy Info:</b> Comments are provided by the Counc infrastructure teams, Waka Kotah, Oracle States Modeling Report (May 2024).	Exploits Information provide by the project Hasting Statistic Council Infrastructure Constraints Report December 2023), Napier City Council Play Strategy (2023),	<b>Key Info:</b> School locations; MDE's advice on constraints increasing schools are support growth.	Key Info: Transmission and substations locations; Comments from Union / transpower.	OLF, ONF, SCF SICL, SICA, Pent / Airport Noise boundaires or other controls.	Linto to Criteria an	Key Info: New Zealand 2022 Estimated Resident Population Grid 500 metry 2023; Proximity to State Highways, PT routes, cycleways and railways. cycleways and railways. Using a 3km catchment for new businese/industrial areas, then capture the existing population, plus the proposed density resulting from the estimated capacity figures. Score accordingly as assumptions below.	Key Info: contour data; parcel data; Desktop evaluation and sector feedback	1
	Comments / Scoring Assumptions		Note: A sub-regional issue around over water taker supply remains a critical consideration for any Matter growth across Napier and Hassings.	a								Green = Est. population > 25000 and new dwellings > 5000; and/or good provimity to transport infrastructure. Orange = Est. population > 15000; and/or moderately proximity to transport infrastructure. Red = Est. population < 10000; and/or poor provimity to transport infrastructure.		

# MCA Assessment Framework & Scoring Assumptions

# se sensitivity

e growth area is ite to residential il or public open and the potentia rse sensitivity he future is very low.

Drange = the growth area may have reverse sensitivi effects in the future but ca be managed e.g. through appropriate controls in th District Plan.

> growth area will adverse reverse ffects that would iness could not e efficiently.

o: Desktop evaluation tor feedback analysis v project team

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		Cultural Values	development aspirations	Housing	Accessibility / Supporting Emissions Reductions	Natural hazards / Climate change resiliance				HPL	Biodiversity
	-		-		·	Coastal	Flooding	Cyclone Gabrielle	Land hazards	l	
<u>s com</u> BV2'	e Address	2 = The area is not subject to any identified areas of cultural significance or areas of significance to Maon. However, the Mana Ahurin' Trust has potential concerns due to the proximity to Helpipi Pa, and wider signs of occupation and significance. A Whale burial ground is located in BV2.	N/A	2 = Capacity for around 60 dwellings. A current 59 lot subdivision application has been lodged with NCC. The site is under single ownership.	1 = Remote to schools and employment but has some proximity to the existing (infrequent) PT network and Bay View local shops (although SH2 creates a barrier to movement). Proximate access to Bay View Shared Path Innieg with Westhone & Ahurit. Devolgement of Ahurit Station could provide more proximate employment opportunities. Good access to local roading networks which will emake integration with the existing Bay View urban area.	0 – Eastern part of the area is subject to Isunami risks under a 500, 1000 and 2500 yr Afl with filocod depths of up to 2m across a large portion of the site is arts (under 1.39m SUA assumptions); the site is also subject to other coasta hazards including high risk coastal erosion and coastal hundation.	2 = The entire site subject to low flood risk but can be mitigated. Modeling does not account for rainfall ponding.	4 = the area was not impacted by flooding from Cyclone Gabrielle.	3 = A small part of the area is subject to high landslide risk. A medium risk for liquefication for 500 years return in HB Hazards Portal.	4 = the area is free from highly productive land.	1 = the entire site fails within the Coastal Environment. The site has no other identified features.
BV3	Bay View	2 = The area is not subject to any identified areas of cultural significance or areas of significance to Maon. However, the Mana Ahuriri Trust has potential concerns due to the proximity to Heipipi Pa, and wider signs of occupation and significance.	N/A	2 = Potential capacity for around 150 new dwellings. Some existing land fragmentation may constrain bringing all land forward for development or create inefficiencies in site development.	2 = Remote to schools and employment but has some proximity to the existing (infrequent) PT network and Bay View local shops. The area is rural in nature hence limited waiking and cycling facilities available to access services. Development of Ahuriri Station could provide more proximate employment opportunities. Good access to local roading networks which will enable integration with the existing Bay View urban area.	2 = The entire site is subject to tsunami risks unde a 100, 500, 1000 and 2500 yr AR (assuming 199m SLR). Flood depths are modelled to generally sit lower than 1.5m. The site is not subject to other coastal hazards.	2 = Flood risk along a small portion of southern boundary, Rest of site has low flood risk. Does not account for rainfall ponding.	1 = Significant portions of th site were heavilly impacted by flooding from Cyclone Gabrielle.	e 3 = The area is subject to high risi for liquefaction under 500 years return event.	4 = the area is not subject to NPS-HPL restrictions as it is in an existing rural residential zoned area and an HPUDS development area.	4 = the area is not subject to any identified features. Part of the area is utilised for cropping with limited biodiversity value.
BV4	Franklin Rd	2 = The area is not subject to any identified areas of cultural significance or areas of significance to Maori. However, the Mana Ahurin' Trust has potential concerns due to the proximity to Heipipi Pa, and wider signs of occupation and significance. Heipipi Pa would extend some way into BV5 and BV4.	N/A	3 = Potential capacity for around 470 new dwellings. The southwest part of the area has a high degree of fragmentation although the rest of the area mostly contains large, consolidated parcels.	2 = Remote to schools and employment but has some proximity to the existing (infrequent) PT network and Bay View local shops (although SH2 creates a barrier to novement). Froximat access to Bay View Shared Path linking with Westshore & Ahuriri. Development of Ahuriri Station could provide more proximate employment opportunities. Good access to local roading networks which will enable integration with the existing Bay View urban area.	1 = Some portion of the site is subject to tsunami risks under a 100, 500, 1000 and 2500 yr ARI (assuming 1.99m SLR). The lower part of the site also subject to tsuami risks under the 2500yr ARI with im SLR assumption. Food depths are modelled to generally sit lower than I.m. Gose proximity to high ground to facilitate evacuation. The site is not subject to other coastal hazards.	2 = All site subject to low flood risk but can be mitigated. Does not account for rainfall ponding.	1 = Significant portions of th site were heavilly impacted by flooding from Cyclone Gabrielle.	<sup>e</sup> 3 = The area is subject to high risi for liquefaction under 500 years return event.	0 = the majority of the area is classified as LUC1 - the most productive land classification. The soil is generally considered good, some variability in soil type and limitations from drainage at Frankin Road and due to being recent fluxial soils. There are existing well- performing orchards.	4 = the area is not subject to any identified features. Large area of the area is utilised for cropping with limited biodiversity value.
BV5'	Racecourse Rd	2 = The area is not subject to any identified areas of cultural significance or areas of significance to Maori. However, the Mana Ahurin' Trust has potential concerns due to the proximity to Heipipi Pa, and wider signs of occupation and significance. Heipipi Pa would extend some way into BV5 and BV4.	N/A	2 = Potential capacity for around 100 new dwellings. Some existing land is fragmented into large rural residential lots.	2 = Remote to schools and employment but has some proximity to the existing (infrequent) PT network and Bay View local shops. The area is rural in nature hence limited walking and cycling facilities available to access services. Development of Ahurin Station could provide more proximate employment opportunities. Good access to local roading networks which will enable integration with the existing Bay View urban area.	2 = The majority of the site is subject to tsunami risks under a 100, 500, 1000 and 2500 yr ARI (asuming 1998) RJN: Flood depths are modeled to generally sit lower than 1.5m. Close proximity to high ground to facilitate evacuation. The site is not subject to other coastal hazards.	2 = All site subject to low flood risk but can be mitigated. Does not account for rainfall ponding.	1 = Significant portions of th site were heavilly impacted by flooding from Cyclone Gabrielle.	3 = The area is subject to high risi for liquefaction under 500 years return event.	4 = the area is not subject to NPS-HPL restrictions as it is in an existing rural residential zoned area.	4 = the area is not subject to any identified features. Part of the area is utilised for cropping with limited biodiversity value.
AS1	uriri Station (north of Onehunga Ro	3 = The area is part of the identified areas of significance to Maori. Comments from Mana Ahuriri Trust acknowledge that some further investigation would be required however it is assumed that the Trust would be best placed to address any issues as developer of the land.	t 4 = This has been put forward by Mana Ahuriri Trust with aspirations of a comprehensive development with	4 = Potential capacity for around 750 new dwellings. Under single land ownership.	2 = Remote to schools and employment but parts of the area are proximate to the existing Bay View local shops via Kaiangaroa Face. The area is currently rural in nature hence limited waiking, cycling and PT facilities available to access amellies. Good access to local radiult networks which will enable integration with the existing Bay View urban area. Percential development of business uses at Anurit / Station could provide some local employment opportunities and support development of some supporting amenities.	2 = The entire site is subject to tsunami risks unde a 100, 500, 1000 and 2500 yr ARI (assuming 1.95m 51R): Flood depths are modelled to generally as lower than 1.5m. Close proximity to high ground to facilitate execution. The site is not subject to other coastal hazards.	3 = Known flood area within the southern portion of the site. Rest of site has low flood risk. Does not account for rainfall ponding.	1 = Significant portions of th site were heavilly impacted by flooding from Cyclone Gabrielle.	<sup>0</sup> 3 = The area is subject to high risi for liquefaction under 500 years return event.	2 - the entire site is classified as LUC3. However, it suffers from limitations due to drainage and is prone to waterlogging. The area is very poorly drained and as such perennial crops strugge with aeration thus its seasonal use for pasture and crops.	4 = the area is not subject to any identified features but aits adajcent to the coastal environment and some conservation land. Part of the area is utilised for corophing with limited biodiversity value.
AS2	uriri Station (south of Onehunga Ro	3 = The area is part of the identified areas of significance to Maori. Comments from Mana Ahuriri Trust acknowledge that some further investigation would be required however it is assumed that the Trust would be best placed to address any issues as developer of the land.	residential and industrial uses to support long- term wellbeing of the iw and enhancement of the site.	4 = Potential capacity for around 225 new dwellings. Land is under single ownership.	1 = Remote to schools and employment but parts of the area are proximate to the existing Bay View local shops via Kalangaroa Place. The area is currently rura in nature hence limited waiking, cycling and PT facilities available to access amenities. Potential development of business uses a Ahurit Station could provide some local employment opportunities and support development of some supporting amenities	0 = The entire site is subject to transmi risks unde a 100, 500, 1000 and 2500 yr AR with float depths of greater than 27m across a large portion of the site (under both 1m and 1960 SL) assumption). Coloe proximity to high ground to facilitate execution. The site is not subject to other coastal hazards.	2 – Site partially subject to low flood risk but can be mitigated through good design practice and potential raising of nearby stophanks. Western part of the site, nearest the estuary, not within the exitisting flood model but further analysis by T&T indicates risk is likely to be low subject to raising ground levels.	1 = Significant portions of th site were heavilly impacted by flooding from Cyclone Gabrielle.	2 = The area is subject to high risi for liquefaction under 500 years return event.	2 = the entire site is classified as LUC3. Consistent with AS1 above, suffering from drainage and water logging limitations. The lack of aeration and waterlogging means generally unsuitable for intensive horizolture but potentially very important for carbon sequestration.	4 = the area is not subject to any identified features but aits adajcent to the coastal environment and conservation land. Part of the area is utilized for cropping with imited biodiversity value.
NC4a	• The Loop	2 = A small part of the area is subject to the area of cultural significance. It is also located adjacent to Pukemokimoki Marae. The area was Mara Ahurin Pre-settlement and now It is kahunganu Nu. Comments from Mana Ahurin Trust indicated further investigation would be required to inform future development.	N/A	3 = Potential capacity for around 175 new dwellings. The land is under single ownership	4 = Proximate to multiple schools (primary, intermediate and secondar schools). Awato employment area, Rapier and Taradale entres and other commercial services. Located adjacent to proposed frequent bus routes and existing off-road cycling infrastructure providing a viable alternative to private vehicle travel prior to development occuring.	2 = The entire site is subject to tsunami risks unde a 100,500, 1000 and 2500 yr ARI with the flood depths of greater than 1m across parts of the site under the 1.99m SLR assumption. The site is not subject to other coastal hazards.	3 = A small part of the area is subject to the identified flooding layer. The GHD report indicated the area is less constrained by flooding than other sites in the Waverely area.	2 = A small part of the site was affected by flooding during Cyclone Gabrielle.	1 = the area is subject to high risi liquefaction. It is also subject to a moderate-to-high level for amplification.	4 = the area is not subject to NPS-HPL restrictions as it is in an existing HPUDS development area.	4 = the area is not subject to any identified features. Part of the area is utilised for cropping with limited biodiversity value.
NC4E	• Riverbend	3 = The area is not subject to any identified area of cultural significance or area of significance to Maori. The area was Mana Ahurif Pre-settlement and now it is kahunganu ivi. Comments from Mana Ahurif Trust indicated further investigation would be required to inform future development.	N/A	4 = Potential capacity for around 663 new dwellings as indicated by the developer. The land is under single ownership.	4 = Proximate to multiple schools (primary, intermediate and secondar schools). Awato employment area, Napier and Taradale centres and other commercial services (e.g. Maraenui centre). Located adjacent to proposed frequent bus routes and existing off-road cycling infrastructure providing a viable alternative to private vehicle travel prior to development occurring.	1 = The entire site is subject to tsunami risks unde y a 100, 500, 1000 and 2500 yr ARI (under both tan and 1.9m SIR assumptions). Flood depths of greater than 2.9m SIR assumption. Isolated / distant from high ground in terms of potential evacuation. The site is not subject to other coasta hazards.	1 = The area is constrained by flooding in part; site-specific modelling has been undertaken and potential for a wider integrated solution exists. Rasing of ground levels will be required to facilitate development and this will need to factor in / mitigate displacement of stormwater.	0 = the majority of the site was impacted by flooding from Cyclone Gabrielle.	2 = part of the area is subject to high risk liquefaction. It is also subject to a moderate-to-high level for amplification.	4 = the area is not subject to NPS-HPL restrictions as it is in an existing HPUDS development area.	4 = the area is not subject to any identified features. Part of the area is utilised for cropping with limited biodiversity value.
NC4	· Waverley Rd	3 = The area is not subject to any identified area of cultural significance or area of significance to Maori. The area was Mana Ahurif Pre-settlement and now it is kalmuganu iwi. Comments from Mana Ahurif Trust indicated further investigation would be required to inform future development	N/A	2 = Potential capacity for 335 new dwellings. Some existing land fragmentation and a large portion of the site would likely be required for stormwater detention / flood protection.	3 = Proximate to multiple schools (primary, intermediate and secondar schools). Awate omportant area, Napier and Taradale centres and other commercial services. Located close to proposed frequent bus routes and existing of 1-road cycling infrastructure but some new connections or upgrades to existing road corridors would be required to help access these.	1 = The entire site is subject to tsunami risks under a 100, 500, 1000 and 2500 yr ARI (under both 1m and 1.99m SLR assumptions). Flood depths of greater than 2 macross a large portion of the site under the 1.99m SLR assumption. Isolated / distant from high ground in terms of potential evacuation. The site is not subject to other coasta hazards.	1 = The area is constrained by flooding in part; site-specific modelling has been undertaken and potential for a wider integrated solution. The GHD report shows a potential stormwater management facility in this area to mitigate the effects of wider unhanisation around Waverley. Development would need to raise ground levels.	1 = Part of the site was impacted by flooding from Cyclone Gabrielle.	2 = part of the area is subject to high risk liquefaction. It is also subject to a moderate-to-high level for amplification.	0 - Part of the site is classified as LUC2 while the balance is LUC3. Soils and climate are of good productive capacity but suffer limitations regarding drainage and waterloging as wel as fragmentation via Mestyle developments.	4 = the area is not subject to any identified features. Part of the area is utilised for cropping with limited biodiversity value.
NC4d	• South Pirimai	3 = The area is not subject to any identified area of cultural significance or area of significance to Maori. The area was Mana Ahurrii Pre-settlement and now it is kahungaunu ivi. Comments from Mana Ahurii Trust indicated further investigation would be required to inform development.	N/A	2 = Potential capacity for 370 new dwellings. Some existing land fragmentation and a portion of the site may be required for stormwate detention / flood protection.	4 = Proximate to multiple schools (primary, intermediate and secondar schools). Avato employment area, Napier and Taradale entres and other commercial services. Located adjacent to proposed frequent bus routes and existing off-road cycling infrastructure providing a viable alternative to private vehicle travel prior to development occuring.	1 = The entire site is subject to tsunami risks unde a 100, 500, 1000 and 2500 yr ARI (under both 1m and 1.99m SLR assumptions). Flood depths of greater than 2 macross a large portion of the site under the 1.99m SLR assumption. Isolated / distant from high ground in terms of potential evacuation. The site is not subject to other coasta hazards.	1 = The area is constrained by flooding in part, site-specific modelling has been undertaken and potential for a wider integrated solution. GHD report shows part of the area is subject to more severe flooding and that this may need to be set aside for stormwater management / flood detention purposes.	1 = Part of the site was impacted by flooding from Cyclone Gabrielle.	1 = the area is subject to high risi liquefaction. It is also subject to moderate-to-high level for amplification.	2 = The site is classified as LUC 3. Soils and climate are of good productive capacity but suffer limitations regarding drainage and waterlogging as well as fragmentation via lifestyle developments. It is an existing HPUDS reserve site and has already been partially developed for use as a retirement village placing further limitations on productive use of the land.	4 – the area is not subject to any identified features. Part of the area is utilised for cropping with limited biodiversity value.

		Water quality		Infrastructure (three waters)		Infrastructure (transport)	structure (transport) Infrastructure (social)		Infrastructure (other)	Other signific
_			Water	Wastewater	Stormwater		Parks and Open Spaces	Schools		
s com BV2*	e Address 68 Franklin Road	4 = the area is not subject to any identified features. Growth may provide opportunities to improve known water quality, if reticulated infrastructure provided.	2 = The level of growth across Bay View provided in remains under 1000 homes may be able to be accommodated as part of the proposed water network. Water pressure remain as an issue for Bay View area as a whole while water take across the region remains a major issue.	2 = The level of growth (less than 200 homes) may be able to be accommodated as per GHD report. Development of neighbouring sites in addition to this would trigger wastewater capacity issues.	2 = Stormwater will require a new pump station probably at the Petane domain to service the wider Bay View area.	1 = Limited access to active mode facilities and a good level of investment will be required if the area is urbanised light-level modeling indicates investment in State Highway capacity/ upgrades will be required if Bay View and surrounds accommodates significant growth.	4 = Serviced by existing parks or open spaces in the Bay View area if required. The level of growth indicated is unlikely to require or trigger new parks or playgrounds.	0 - significant investment would be required, potentially a new primary school or relocation of existing school.	1 = Limited supply and security, would require development of substation and lines for electricity infrastructure.	4 = the area is not identified
BV3	Bay View	4 = the area is not subject to any identified features. Growth may provide opportunities to improve known water quality, if reticulated infrastructure provided.	2 = The level of growth across Bay View provided in remains under 1000 homes may be able to be accommodated as part of the proposed water network. Water pressure remain as an issue for Bay View area as a whole while water take across the region remains a major issue.	2 = The level of growth (less than 200 homes) may be able to be accommodated as per GHD report. Development of neighbouring sites in addition to this would trigger wastewater capacity issues.	2 = Stormwater will require a new pump station probably at the Petane domain to service the wider Bay View area. It is likely that a large area of the site will still need to be set aside for a stormwater detention basin to manage the stormwater volume generated by the proposed development area.	1 = Limited access to active mode facilities and a good level of investment will be required if the area is urbanised High-level modelling indicates investment in State Highway capacity / upgrades will be required if Bay View and surrounds accommodates significant growth.	4 = Serviced by existing parks or open spaces in the Bay View area if required. The level of growth indicated is unlikely to require or trigger new parks or playgrounds. Small pocket parks may be available through a comprehensive masterplan design.	0 - significant investment would be required, potentially a new primary school or relocation of existing school.	1 = Limited supply and security, would require development of substation and lines for electricity infrastructure.	4 = the area is not identified
BV4*	Franklin Rd	4 = the area is not subject to any identified features. Growth may provide opportunities to improve known water quality, if reticulated infrastructure provided.	2 = The level of growth across Bay View provided in remains under 1000 homes may be able to be accommodated as part of the proposed water network. Water pressure remain as an issue for Bay View area as a whole while water take across the region remains a major issue.	1 = The level of growth (more than 200 homes) means watewater will be a big childinge. This will require a pump states and ring main to enable with likely high capital costs.	3 = Stormwater will require a new pump station probably at the Petane domain to service the wider Bay View area. It is likely that a large area of the site will still need to be set aside for a stormwater detention basin to manage the stormwater volume generated by the proposed development area.	1 = Limited access to active mode facilities and a good level of investment will be required if the area is urbanised High-level modelling indicates investment in State Highway capacity / upgrades will be required if Bay View and surrounds accommodates significant growth.	4 = Serviced by existing parks or open spaces in the Bay View area if required. The level of growth indicated is unlikely to require or trigger new parks or playgrounds. Small pocket parks may be available through comprehensive masterplan design.	0 - significant investment would be required, potentially a new school or relocation of existing school.	1 = Limited supply and security, would require development of substation and lines for electricity infrastructure.	4 = the area is not identified
BV5*	Racecourse Rd	4 = the area is not subject to any identified features. Growth may provide opportunities to improve known water quality, if reticulated infrastructure provided.	2 = The level of growth across Bay View provided in remains under 1000 homes may be able to be accommodated as part of the proposed water network. Water pressure remain as an issue for Bay View area as a whole while water take across the region remains a major issue.	2 = The level of growth (less than 200 homes) may be able to be accommodated as per GHD report. Development of neighbouring sites in addition to this would trigger wastewater capacity issues.	4 = Stormwater will require a new pump station probably at the Petane domain to service the wider Bay View area. It is likely that a large area of the site will still need to be set aside for a stormwater detention basin to manage the stormwater volume generated by the proposed development area.	1 = Limited access to active mode facilities and a good level of investment will be required if the area is urbanised High-level modelling indicates investment in State Highway capacity / uggrades will be required if Bay View surrounds accommodates significant growth.	4 = Serviced by existing parks or open spaces in the Bay View area if required. The level of growth indicated is unlikely to require or trigger new parks or playounds. Small pocket parks may be available through a comprehensive masterplan design.	0 - significant investment would be required, potentially a new primary school or relocation of existing school.	<ol> <li>Limited supply and security, would require development of substation and lines for electricity infrastructure.</li> </ol>	4 = the area is not identified
AS1	riri Station (north of Onehunga Rc	4 = the area is not subject to any identified features but includes an existing stream in the southern portion. Growth may provide opportunities to improve known water quality, if reiculated infrastructure provided.	2 = The level of growth across Bay View provided in remains under 1000 homes may be able to be accommodated as part of the proposed water network. Water pressure remain as an issue for Bay View area as a whole while water take across the region remains a major issue.	<ol> <li>The level of growth (more than 200 homes) means watewater will be a big challenge. This will require a pump station and roing main to enable with likely high capital costs.</li> </ol>	2 = Stormwater will require a new pump station probably at the Petane domain to service the wider Bay View area. It is likely that a large area of the site will still need to be set aside for a stormwater detention basin to manage the stormwater volume generated by the proposed development area.	<ol> <li>Limited access to active mode facilities and a good level of investment will be required if the area is urbanised High-level modelling indicates investment in State Highway capacity / upgrades will be required if Bay (vera surrounds accommodates significant growth.</li> </ol>	3 = Serviced by existing parks or open spaces in the Bay View area af required. The level of growth indicated (with AS2 together) may require or trigger new parks or playgrounds. Small pocket parks may be available through a comprehensive master plan design.	0 - significant investment would be required, potentially a new primary school or relocation of existing school.	3 = Limited supply and security would require development of substation and lines for electricity infrastructure.	4 = the area is not identified
AS2	iriri Station (south of Onehunga Ro	4 = the area is not subject to any identified features. Growth may provide opportunities to improve known water quality, if reitulated infrastructure provided.	2 = The level of growth across Bay View provided in remains under 1000 homes may be able to be accommodated as part of the proposed water network. Water pressure remain as an issue for Bay New area as a whole while water take across the region remains a major issue.	1 - The level of growth (more than 200 homes) means wastewater will be a tig challenge. This will require a pump station and rising main to enable with likely high capital costs.	2 = Stormwater will require a new pump station probably at the Petane domain to service the wider Bay View area. It is likely that large area of the site will still need to be set aside for a stormwater detention basin to manage the stormwater volume generated by the proposed development area.	<ol> <li>Limited access to active mode facilities and a good level of investment will be required if the area is urbanised High-level modelling indicates investment in State Highway capacity (upgrades will be required if Bay level surrounds accommodates significant growth.</li> </ol>	3 = Serviced by existing parks or open spaces in the Bay View area if required. The level of growth indicated (with AS1 together) may require or trigger new parks or playgrounds. Small pocket parks may be available through a comprehensive master plan design.	0 - significant investment would be required, potentially a new primary school or relocation of existing school.	1 – Limited supply and security, would require development of substation and lines for electricity infrastructure.	1 = The site falls w Whanganui-3-Oro Landscape which pot of future buildings feasible developm ground needs to be r
NC4a	• The Loop	4 = the area is not subject to any identified features although borders the Cross Country Drain.	3 = Expansion of existing network will be required but capacity or cost is not foreseen as a major issue, given the proximity to existing urban area. Water take across the region remains a major issue.	3 = Expansion from the existing network with the upgrade will be required to accommodate growth. But does not foreset to be an issue. GHD report indicates upgrades may include a new pump station and network upgrades in the Waverley area.	2 = GHD report indicates The Loop is the only greenfield development area the modelling has predicted negligible flooding. From a stormwater perspective, The Loop, rank highest for development potential. It should be noted that a sizable area of the site will still need to be set aside for a stormwater detention basin to manage the stormwater volume generated by the proposed development area.	4 = The site will be served by a frequent bus service which is already planned as part of the bus network refresh. Active mode may require some improvement and investment, providing connections to other amenites/destinations although the site already sits adjacent to a number of existing off-road cycle routes to a range of destinations.	3 = Serviced by existing parks or open spaces in the Napier area if required. The level of growth indicated (with other NC4 areas together) may require or trigger new parks or playgrounds. Small pocket parks may be available through a comprehensive master plan design.	4 = Proximate to primary, intermediate and secondary schooling options which have capacity.	2 = Existing growth zone, future growth would provide opportunities to prompt the creation of a new substation.	4 = the area is not identified
NC4b	Riverbend	4 = the area is not subject to any identified features although borders the Cross Country Drain.	3 = Expansion of existing network will be required but capacity or cost is not foreseen as a major issue, given the proximity to existing urban area. Water take across the region remains a major issue.	3 = Expansion from the existing network with the upgrade will be required to accommodate growth. But does not foreset to be an issue. GHD report indicates upgrades may include a new pump station and network upgrades in the Waverley area.	0 - Stornwater will require significant and coordinated investment with potential uncertainties of ongoing maintenance. Urbanisation could exacetate local flooding risks, including the displacement of stornwater that is detailed here. It will require a comprehensive approach to stornwater management.	4 = The site will be served by a frequent bus service which is already planned as part of the bus network refresh. Active mode may require some improvement and investment, providing connections to other amenites/destinations although the site already sits adjacent to a number of existing off-road cycle routes to a range of destinations.	3 = Serviced by existing parks or open spaces in the Napier area if required. The level of growth indicated (with other NC4 areas together) may require or trigger new parks or playgrounds. Small pocket parks may be available through a comprehensive master plan design.	4 = Proximate to primary, intermediate and secondary schooling options which have capacity.	2 = Existing growth zone, future growth would provide opportunities to prompt the creation of a new substation.	4 = the area is not identified
NC4	Waverley Rd	4 = the area is not subject to any identified features although borders the Cross Country Drain and Tannery Stream.	3 = Expansion of existing network will be required but capacity or cost is not foreseen as a major issue, given the proximity to existing urban area. Water take across the region remains a major issue.	3 = Expansion from the existing network with the upgrade will be required to accommodate growth. But does not foreset to be an issue. GHD report indicates upgrades may include a new pump station and network upgrades in the Waverley area.	0 = Stormwater will require significant and coordinated investment with potential uncertainties of ongoing maintenance. Urbanisation could exacerbate local flooding risk, including the signlacement of stormwater that is detained here. It will require a comprehensive approach to stormwater management.	3 = Currently no bus service: A bus service may need to be re-routed or extended southwards to Waverley to serve this area. Active modes may require some good level of improvement and investment, providing connections to other amenities/destinations although the site already site close to a number of existing of road cycle routes to a range of destinations. Urbanisation of existing rural roads would need to be undertaken.	3 = Serviced by existing parks or open spaces in the Napier area if required. The level of growth indicated (with other NG4 areas together) may require or trigger new parks or playgrounds. Small pocket parks may be available through a comprehensive master plan design.	4 = Proximate to primary, intermediate and secondary schooling options which have capacity.	2 - Existing growth zone, future growth would provide opportunities to prompt the creation of a new substation.	4 = the area is not identified
NC4d	South Pirimai	4 – the area is not subject to any identified features although borders the Cross Country Drain and Tannery Stream.	3 = Expansion of existing network will be required but capacity or cost is not foreseen as a major issue, given the proximity to existing urban area. Water take across the region remains a major issue.	3 = Expansion from the existing network with the upgrade will be required to accommodate growth. But does not foreset to be an issue. GHD report indicates upgrades may include a new pump station and network upgrades in the Waverley area.	0 = Stormwater will require significant and coordinated investment with potential uncertainties of ongoing maintenance. Urbanisation could exacertate local flooding risk, including the lisplacement of atornwater that is detained here. It will require a comprehensive approach to stormwater management.	3 = The site will be served by a frequent bus service which is already planned as part of the bus network refresh. Active mode may require some improvement and investment, providing connections to other amenties/destinations although the site already sits adjacent to a number of existing of road cycle routes to a range of destinations. Urbanisation of existing rural roads would need to be undertaken.	3 = Serviced by existing parks or open spaces in the Napier area if required. The level of growth indicated (with other NC4 areas together) may require or trigger new parks or playgrounds. Small pocket parks may be available through a comprehensive master plan design.	4 = Proximate to primary, intermediate and secondary schooling options which have capacity.	2 - Existing growth zone, future growth would provide opportunities to prompt the creation of a new substation.	4 = the area is not identified

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subject to any other constraints.

subject to any other

constraints.

subject to any other

constraints.

		Cultural Values	Hapu and Iwi development	Housing	Accessibility / Supporting Emissions Reductions	Natural hazards / Climate change resillance			HPL	
NC7	a* South of Willowbank Ave	3 = The area is not subject to any identified area of cultural significance or area of significance to Maori. The area was Mana Ahuriri Pre-settlement and now it is kahungaunu iwi. Comments from Mana Ahuriri Trust indicated further investigation would be required to inform development.	N/A	1 = Potential capacity for 60 new dwellings. Some fragmentation into larger parcels.	3 = Proximate to multiple schools (primary, intermediate and secondary schools), Awato employment area, Napier and Te Awa centres and other commercial services. Located close to proposed frequent bus routes and existing off-road cycling infrastructure but some new connections or upgrades to existing road corridors would be required to help access these.	2 = The entire site is subject to tsunami risks under a 100, 500, 1000 and 2500 yr ARI with the flood depths of greater than 1.5m across a large portion of the site under the 1.99m SLR assumption. Isolated / distant from high ground in terms of potential evacuation. The site is not subject to other coastal hazards.	2– The area is generally free from the identified flood risk. Localised flooding is possible.	1 = Part of the site was impacted by flooding from Cyclone Gabrielle.	1 = the area is subject to high risk liquefaction. It is also subject to a moderate-to-high level for amplification.	0 = Part of the site is classified as LUC2 LUC3. The soils are of good productive c climate & aspect. Well-producing areased limitations in terms of structural vulners recent fluxial deposit
NC7	>* North of Willowbank Ave	3 = The area is not subject to any identified area of cultural significance or area of significance to Maori. The area was Mana Ahurii Pre-settlement and now it is kahungsunu iwi. Comments from Mana Ahuri Trus Indicated further investigation would be required to inform development.	N/A	2 – Potential capacity for 95 new dwellings. Some fragmentation into larger parcels.	3 = Proximate to multiple schools (primary, intermediate and secondary schools). Awate employment area, Napier and Te Awa centres and other commercial services. Located close to proposed frequent bus routes and existing off-road cycling infrastructure but some new connections or upgrades to existing road corridors would be required to help access these.	1 = The entire site is subject to tsunami risks unde a 100, 500, 1000 and 2500 yr ARI with the flood depths of greater than 2m across a large portion of the site under the 139m SLR assumption. Isolated / distant from high ground in terms of potential evacuation. The site is not subject to other coastal hazards.	1 - The area is constrained by known or modelled flooding in part. Localised flooding is possible.	0 = the majority of the site was impacted by flooding from Cyclone Gabnelle.	1 = the area is subject to high risk liquefaction. It is also subject to a moderate-to-high level for amplification.	1 = The entire site is classified as LUC3. productive capacity and suitable clima producing areas in both, have some lin structural vulnerability due to being rec
NCE	* Mission Estate	4 = The area is not subject to any identified areas of cultural significance or areas of significance to Maori. No particular concern has been raised by Iwi and hapu to date.	N/A	2 = Potential capacity for around 100 new dwellings. The land is under two separate owners.	4 = Proximate to several schools and Taradale centre, and has accesses to public transport and off-road cycling routes.	4 = the area is not subject to any coastal hazards.	2 = Some identified flooding risks along the Taipo Stream corridor. This can be mitigated / avoided and will need to be factored into the design of the site should urbanisation occur.	4 = the site was not impacted by flooding from Cyclone Gabrielle.	4= the area is not subject to any high risk of geo hazards.	2 = Parts of the site feature soil classif portion of the site is somed rural reside site with the UUC1 classification has capacity although is not in productive us are known to be subject to numerou productive use. A large portion already uses and the proximity of residences ac limiting factor. Hastings soils are typical limited ability to augment drainage i
FM2	* Portsmouth Rd	4 = The area is not subject to any identified areas of cultural significance or areas of significance to Maori. No particular concern has been raised by iwi and hapu to date.	N/A	4 = Potential capacity for around 155 new dwellings and under single ownership.	3 = Proximate to primary, intermediate and secondary schools (with safe crossing required). Omahu Rd industrial employment area and Flaxmere centre. Located in close proximity to proposed frequent bus route linking with Flaxmere and Hastings' centres. The nautre of existing urban development adjacent to the site enables relatively simple connections with nearby services and amenities.	4 = the area is not subject to any coastal hazards	3 = No flooding info is available and there is no known historic flooding. The area is generally flat and comprises free draining soils.	4 = the site was not impacted by flooding from Cyclone Gabrielle.	4 = the area is not subject to any high risks from geo barards. Potential for moderate levels of amplification during an earthquake.	1 = The site is classified as LUC3. Som typologies through this area and on the Gravels. Previously under viticulture, bu poor performance. Warrants ground-sy determine the accuracy of the desk
FMS	* Ramsey Cres	4 = The area is not subject to any identified areas of cultural significance or areas of significance to Maori. No particular concern has been raised by Iwi and hapu to date.	N/A	4 = Potential capacity for around 500 new dwellings. Minimum fragmentation as land currently in productive uses.	3 = Proximate to primary, intermediate and secondary schools (with safe crossing required), Omahu Rd industrial employment area and Flaxmere centre. Potential to connect into existing neighbourhoods to access local amenities.	4 = the area is not subject to any coastal hazards	3 = No flooding info is available and there is no known historic flooding. The area is generally flat and comprises free draining soils.	4 = the site was not impacted by flooding from Cyclone Gabrielle.	4 = the area is not subject to any high risks from geo hazards. Potential for moderate levels of amplification during an earthquake.	1 = The site is classified as LUC 3 and it Wingrowing Area. Some variability in su- this area and on the edge of Gimbiet under viticulture, but anecotati notes for Warrants ground-specific assessment accuracy of the desktop ass
FM1	1* Portsmouth Rd South	4 = The area is not subject to any identified areas of cultural significance or areas of significance to Maori. No particular concern has been raised by iwi and hapu to date.	N/A	4 = Potential capacity for around 515 new dwellings. Minimum fragmentation of land as currently in productive uses.	2 = Proximate to irongate employment area and Fixmere centre. Currently rural in nature and with no access to PT. Large scale residential development in the area would need to be supported by extension or re-routing of public transport network to support better accessibility.	4 = the area is not subject to any coastal hazards	3 - Only a small part of the area is subject to flood risks and can be managed through appropriate subdivision design.	4 = the site was not impacted by flooding from Cyclone Gabrielle.	4 = the area is not subject to any high risks from geo hazards. Potential for moderate levels of amplification during an earthquake.	3 = Some fragmented parts of the sit containing LUCI land. Generally good easily managed, evidenced by the full area from the top of the equestrian parts orchards. From the equestrian parts so become more challenging ar
HB	Kaiapo Road	4 = The area is not subject to any identified areas of cultural significance or areas of significance to Maori. No particular concern has been raised by iwi and hapu to date.	N/A	3 = Potential capacity for around 430 new dwellings. Approx. 20 different land titles. The majority of these titles are under different ownership which could create inefficiencies for development.	4 = Proximate to schools, Irongate / Omahu Road industrial employment areas, Hospital and Hastings centres. Lower portion of the site directly served by proposed frequent bus route providing access to Flaxmere and Hastings Centres. Potential to connect into existing neighbourhoods to access local amenities.	4 = the area is not subject to any coastal hazards	1 = A large contiguous part of the site is subject to flooding. There is an existing detention pond adjacent to the site. This facility may need to be expanded / upgraded to support urbanisation of the site.	3 = A small portion of the site was impacted by flooding from Cyclone Gabrielle.	4 = the area is not subject to any high risks from geo hazards. Potential for moderate levels of amplification during an earthquake.	4 = the area is not subject to NPS-HPL re existing HPUDS developme Despite the above, limitations exist or boundary due to the hard edge with footprints. A large number of rural resis present on the NE side of Kaiapo Rc development potential. Similarly, soils a have some structural vulne
H4	Murdoch Road West	4 = The area is not subject to any identified areas of cultural significance or areas of significance to Maori. No particular concern has been raised by Iwi and hapu to date.	N/A	3 = Potential capacity for around 120 new dwellings. The land is unfragmented.	3 - Proximate to schools, irongate employment areas and Hastings centre. Gose to less frequent bus services. Potential to connect into existing neighbourhoods to access local amenities.	4 = the area is not subject to any coastal hazards	3= No flooding info is available for the majority of the Site. Risk is likely to be low given location and can be addressed at the time of design.	4 = the site was not impacted by flooding from Cyclone Gabrielle.	4 = the area is not subject to any high risks from geo hazards. Potential for moderate levels of amplification during an earthquake.	2 = The site is classified as LUC 2 but also reserve site and adjeent to residential u under orchard cover and generally con high performance. Some variability in so to be poorly drained and require aug surface drainage. Southwestern exte commercial/industrial configuration alm will no longer be produce will no longer be produce.
Н7	• Riverslea Road	4 = The area is not subject to any identified areas of cultural significance or areas of significance to Maori. No particular concern has been raised by iwi and hapu to date.	N/A	0 - Potential capacity for around 40 new develops. The site is fragmented with over 15 different land titles.	2 = Proximate to Hastings centre and intermediate / secondary schools.	4 = the area is not subject to any coastal hazards	3= No flooding info is available for the majority of the Site. Risk is likely to be low given location and can be addressed at the time of design.	4 = the site was not impacted by flooding from Cyclone Gabrielle.	4 = the area is not subject to any high risks from geo hazards. Potential for moderate levels of amplification during an earthquake.	4 = the area is not subject to NPS-HPL re existing HPUDS developme Southland drain currently forms a dividin productive capacity to limit constraints, generally good, and high producing, regarding waterlogging of gley soils, aug and some variability in dra
Н8	Copeland Road West	4 = The area is not subject to any identified areas of cultural significance or areas of significance to Maori. No particular concern has been raised by Iwi and hapu to date.	N/A	2 = Potential capacity for around 130 new dwellings. Approximately 9 different land titles potentially creating solution infitincies in future development.	2 = Proximate to Hastings centre, intermediate / secondary schools and propsoed frequent bus service.	4 = the area is not subject to any coastal hazards	3= No flooding info is available for the majority of the Site. Risk is likely to be low given location and can be addressed at the time of design.	4 = the site was not impacted by flooding from Cyclone Gabrielle.	4 = the area is not subject to any high risks from geo hazards. Potential for moderate levels of amplification during an earthquake.	4 = the area is not subject to NPS-HPL re existing HPUDS developme Southland drain currently forms a dividin productive capacity to limit constraints. generally good, and high producing, regarding waterlogging of gley soils, aug and some variability in dra

	Biodiversity
ile the balance is acity and suitable both, have some ility due to being	4 = the area is not subject to any identified features. Part of the area is utilised for cropping with limited biodiversity value.
e soils are of good & aspect. Well- tions in terms of t fluvial deposits.	4 = the area is not subject to any identified features. Part of the area is utilised for cropping with limited biodiversity value.
as LUC1, while a al. the part of the hly productive surrently. The soils constraints for veloped into urban s Church Road is a oorly drained and his area exists.	3 = A small part of the area is subject to an identified SNA which requires avoidance and careful design for future development. The area is not subject to any other identified features. It is adjacent to a continued large area of cropland with limited biodiversity value.
ariability in soil edge of Gimblett necdotal notes for ific assessment to o assessment.	4 = the area is not subject to any identified features. Most of the area is utilised for cropping and its adjacent to large area of continous cropland with limited biodiversity value.
ithin the Roy Hill ypologies through avels. Previously yoor performance. determine the ment.	4 = the area is not subject to any identified features. the area is utilised for cropping and it is adjacent to large area of continous cropland with limited biodiversity value.
re identified as I conditions and elopment of the to Flaxmere into h and west, soils sooney.	4 = the area is not subject to any identified features. Most of the area is utilised for cropping and it is adjacent to large area of continous cropian with limited biodiversity value.
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ictions as it is in an area. Idge from urban to ils in this area are me limitations ented via drainage age.	4 = the area is not subject to any identified features. the area is utilised for cropping and it is adjacent to large area of continous cropland with limited biodiversity value.

		Water quality		Infrastructure (three waters)		Infrastructure (transport)	Infrastructure (social)		Infrastructure (other)	Other significa
NC7a*	• South of Willowbank Ave	4 = the area is not subject to any identified features although borders the Cross Country Drain.	3 = Expansion of existing network will be required but capacity or cost is not foreseen as a major issue, given the proximity to existing urban area. Water take across the region remains a major issue.	3 = Expansion from the existing network with the upgrade will be required to accommodate growth. But does not foresee to be an issue- GHO report inducates upgrades may include a new pump station and network upgrades in the Waverley area.	0 = Stormwater will require significant and coordinated investment with potential uncertainties of ongoing maintenance. Urbanisation could exacerbate local flooding risk, including the displacement of stormwater that is detained here. It will require a comprehensive approach to stormwater management.	2 = Currently no bus service. A bus service may need to be re-outed or extended southwards to Waverley to serve this area. Located a bit further away from the urban area compared to NG4 sites. Active mode may require some good level of improvement and investment, providing connections to other amenties/destinations, and across Willowbank Ave. Urbanisation of existing rural roads would need to be undertaken.	3 = Serviced by existing parks or open spaces in the Napier area if required. The level of growth indicated (with NC7b areas together) may require or trigger new parks or playgrounds. Small pocket parks may be available through a comprehensive master plan design.	4 = Proximate to primary, intermediate and secondary schooling options which have capacity.	2 = Existing growth zone, future growth would provide opportunities to prompt the creation of a new substation.	4 = the area is not s identified c
NC7b*	• North of Willowbank Ave	4 = the area is not subject to any identified features. Growth may provide opportunities to improve known water quality, if reticulated infrastructure provided.	3 = Expansion of existing network will be required but capacity or cost is not foreseen as a major issue, given the proximity to existing urban area. Water take across the region remains a major issue.	3 = Expansion from the existing network with the upgrade will be required to accommodate growth. But does not foresse to be an issue. GHD report indicates upgrades may include a new pump station and network upgrades in the Waverley area.	0 - Stornwater will require significant and coordinated investment with potential uncertainties of origoing maintenance. Urbanisation could exacerbate local flooding risks, including the displacement of stornwater that is detailed here. It will require a comprehensive approach to stornwater management.	2 = Currently no bus service. A bus service may need to be re-routed or extended southwards to Waverley to serve this area. Located a bit further away from the urban area compared to KX sites. Acthe mode may require some good level of improvement and investment, providing connections to other amentic/actinations, and across Willowbank Ave. Urbanisation of existing rural roads would need to be undertaken.	3 = Serviced by existing parks or open spaces in the Napier area if required. The level of growth indicated (with NCP areas together) may require or trigger new parks or playgrounds. Small pocket parks may be available through a comprehensive master plan design.	4 = Proximate to primary, intermediate and secondary schooling options which have capacity.	2 = Existing growth zone, future growth would provide opportunities to prompt the creation of a new substation.	4 = the area is not s identified c
NC6*	Mission Estate	4 = the area is not subject to any identified features although borders the Taipo Stream.	3 = Expansion of existing network will be required but capacity or cost is not foreseen as a major issue, given the proximity to existing urban area. Water take across the region remains a major issue.	3 = Expansion from the existing network with potentential for a minor network upgrade will be required to accommodate growth. But does not forese to be an issue, given the site is flatter than others and the scale of growth is relatively limited.	3 = Minor expansion of the existing network required Small scale of growth unlikely to trigger major network upgrades.	4 = Existing and planned bus service already serves the site. Depending on access arrangements and overall level of growth, potential uggrade to fromu Drive intersection required to support growth.	4 = The level of growth proposed is unlikely to trigger new parks infrastructure. The location and relatively flatter toopgraphy of the site also offer opportunities to utilise the existing facilities.	4 = Proximate to several primary schools with capacity Intermediate and secondary provision has capacity.	2 = Some loading has already been allocated to some development in this area.Additional growth will require reinforcement.	4 = the area is not s identified c
FM2*	Portsmouth Rd	3 = the entire site is subject to TANK Source Protection Zone and unconfined aquifer, the area is not subject to any other identified features. Future growth will require careful design and stormwater treatment for water quality.	3 = Expansion of existing network will be required but is not foreseen as a major issue, given the proximity to existing urban area. Overall, water take remains an issue.	3 = The area shows little constraints for wattewater post-UAF work, some street-level upgrades may be required.	3 = The Infrastructure Constraint Report indicates some level of upgrades will be required to accommodate a reasonable level of growth in Flaxmere and irongate catchment.	4 = Served by existing and planned frequent bus services. New / upgraded connections into existing local road network would need to be funded by the developer. No strategic upgrades required.	4 = Serviced by existing parks or playgrounds in Flaxmere, as indicated in the Infrastructure Constraint Report Small pocket parks may be available through a comprehensive masterplan design.	4 = Local school has recently had a major rebuild with new teaching and administration blocks, complete redevelopment of the school grounds, and community playground that can service development.	2 = Need to confirm a total scenario that is likely to require substation and sub-transmission upgrades to accommodate the wider south of Flammere area. But also with options to share with McCain's zone subdivision.	2 = the area is not s identified constraints proximate to the Hasi outside noise conto future expansion or Aerod
FM9*	Ramsey Cres	3 = the entire site is subject to TANK Source Protection Zone and unconfined aquifer, the area is not subject to any other identified features. Future growth will require cardid design and stormwater treatment for water quality.	3 = Expansion of existing network will be required but is not foreseen as a major issue, given the proximity to existing urban area. Overall, water take remains an issue.	3 = The area shows little constraints for wastewater post-IAF work, some street-level upgrades may be required.	4 = The Infrastructure Constraint Report indicates some level of upgrades will be required to accommodate a reasonable level of growth in Flaxmere and Irongate catchment.	4 = Served by existing and planned frequent bus services. New / upgraded connections into existing local road network would need to be funded by the developer. No strategic upgrades required.	4 = Serviced by existing parks or playgrounds in Flawmere, as indicated in the Infrastructure Constraint Report Small pocket parks may be available through a comprehensive masterplan design.	4 = Local school has recently had a major rebuild with new teaching and administration blocks, complete redevelopment of the school grounds, and community playground that can service development.	2 – Need to confirm a total scenario that is likely to require substation and sub-transmission upgrades to accommodate the wider south of flaxmere area. But also with options to share with McCain's zone subdivision.	2 = the area is not s identified constraints proximate to the Hasi outside noise contoi future expansion or Aerod
FM114	Portsmouth Rd South	4 = the area is not subject to any identified features.	2 = Will require further expansion / upgrades of the existing network as it is located slightly further away from the existing urban area. There are opportunities to be developed with the adjacent industrial start better support expansion of existing infrastructure.	4 = Further expansion of the current network is not foreseen as an issue, especially since there is a current programme underway for areas in the south of flammer and irongate to allow for a significant amount of additional housing.	3 = The Infrastructure Constraint Report indicates some level of upgrades will be required to accommodate a reasonable level of growth in Flaxmere and irongate catchment.	3 = Urbanisation of existing rural roads and extension of local roads would be required and need to funded by developers. Potential to consider extension of bus services south of Flaxmere to serve development. Growth around Flaxmere South is likely to generate need for intersection and capacity upgrades along Maraekakaho Road and SH2.	2 - Not near or close to any existing parks or open spaces. The urbanisation of the area, or alongside another adjacent growth area (BP4) will likely trigger provision of new parks.	2 = Some options for primary and secondary schooling at Bridge Pa School and Flaxmer College. Large scale development may place some development may place some development may place some development and the required due to distance.	2 – Need to confirm a total scenario that is likely to require substation and sub-transmission upgrades to accommodate the wider south of Flaurner area. But also with options to share with McCain's zone subdivision.	2 = the area is not s identified constraints proximate to the Hasi outside noise contoi future expansion or Aerod
H3	Kalapo Road	3 = the entire site is subject to TANK Source Protection Zone. The area is not subject to any other identified features. Future growth will require careful design and stormwater treatment for water quality.	3 = Expansion of existing network will be required but is not foreseen as a major issue, given the proximity to existing urban area. Overall, water take remains an issue.	2 = The Kalapo area remains in a constrained state post-IAF work for wastewater. However, the proposal put forward would logically align with core wastewater infrastructure which is about to commence between Flaxmere and Hastings.	2 = The Infrastructure Constraint Report indicates more reasonable or significant upgrades will be required to accommodate a reasonable level of growth in the Kalapo catchment.	A = Already served by existing and planned PT, as well as the active mode networks are set up good for an extension if required. Access to SH2 is unlikely to be supported. High costs associated with a new intersection onto SH2. Access will rely on small-scale improvements to the local road network, which would need to be funded by developers.	4 = Serviced by existing parks or playgrounds in Hastings, as indicated in the Infrastructure Constraint Report Additional parks should be provided through a comprehensive masterplan design of the area.	3 = Capacity in the local primary, intermediate and secondary network.	3 = Existing assets currently being rebuilt in the area depending on timing this may be accommodated by the time development starts.	4 = the area is not s identified c
H4	Murdoch Road West	3 = the entire site is subject to TANK Source Protection Zone. The area is not subject to any other identified features, future growth will require careful design and stormwater treatment for water quality.	3 = Expansion of existing network will be required but is not foreseen as a major issue, given the proximity to existing urban area. Overall, water take remains an issue.	2 - The area remains in a constrained state post-IAF work for wastewater, as identified in the infrastructure constraint Report. Further capacity upgrades required.	3 = The Infrastructure Constraint Report indicates some level of upgrades will be required to accommodate a reasonable level of growth in the lower southland catchment.	4 = Served by existing and planned bus services. No significant upgrades to transport network anticipated from enabling development.	3 = May be able to be serviced by existing parks or playgrounds in Hastings, as indicated in the Infrastructure Constraint Report. Noting the level of service for Hastings is sitting below target. Additional parks should be provided through a comprehensive masterplan design of the area.	3 = Capacity in the local primary, intermediate and secondary network.	3 = Existing assets currently being rebuilt in the area depending on timing this may be accommodated by the time development starts.	4 = the area is not s identified c
Н7*	Riversiea Road	3 = the entire site is subject to TANK Source Protection Zone. The area is not subject to any other identified features. Future growth will require careful design and stormwater treatment for water quality.	3 = Expansion of existing network will be required but is not foreseen as a major issue, given the proximity to existing urban area. Overall, water take remains an issue.	2 = The area remains in a constrained state posi-IAF work for wastewater, as identified in the Infrastructure Constraint Report. Further capacity upgrades required.	3 = Stormwater will need to have to be comprehensively managed. Based on the level of growth indicated, onsite management may be managed at a individual property basis. The Infrastructure Constraint Report indicates some level of upgrades will be required to accommodate a reasonable level of growth in the lower southland catchment.	3 = No significant upgrades to transport network anticipated from enabling development. Access will rely on small-scale improvements to the local road network, which would need to be funded by developers.	2 = Generally further away from existing parks or playgrounds in Hastings, as indicated in the Infrastructure Constraint Report. Hastings is also currently sitting below the level of services target. Further growth in the area may require the provision of new or alternate open spaces and/or playgrounds.	1 = There could be lot of demand on central schools from new development particularly with intensification also creating demand. Prima school capacity would need to be closely monitored. Intermediate and secondary have capacity.	3 = Existing assets currently being rebuilt in the area depending on timing this may be accommodated by the time development starts.	4 = the area is not s identified c
Н8*	Copeland Road West	3 = the entire site is subject to TANK Source Protection Zone. The area is not subject to any other identified features. Future growth will require careful design and stormwater treatment for water quality.	3 = Expansion of existing network will be required but is not foreseen as a major issue, given the proximity to existing urban area. Overall, water take remains an issue.	2 = The area remains in a constrained state post-IAF work for wastewater, as identified in the Infrastructure Constraint Report. Further capacity upgrades required.	3 = Stormwater will need to be comprehensively managed, based on the level of growth indicated. The Infrastructure Constraint Report indicates some level of upgrades will be required to accommodate a reasonable level of growth in the lower southland catchment.	3 = No significant upgrades to transport network anticipated from enabling development. Access will rely on small-scale improvements to the local road network, which would need to be funded by developers.	2 = Generally further away from existing parks or playgrounds in Hastings, as indicated in the Infrastructure Constraint Report. Hastings is also currently sitting below the level of services target. Further growth in the area may require the provision of new or alternate open spaces and/or playgrounds.	1 = There could be lot of demand on central schools from new development particularly with intensification also creating demand. Primary school capacity would need to be closely monitored. Intermediate and secondary have capacity.	3 = Existing assets currently being rebuilt in the area depending on timing this may be accommodated by the time development starts.	4 = the area is not s identified c

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		Cultural Values	development	Housing	Accessibility / Supporting Emissions Reductions	ns Natural hazards / Climate change resiliance			HPL	Biodiversity	
H2a	Lyndhurst Extension - HPUDS	4 = The area is not subject to any identified areas of cultural significance or areas of significance to Maori. No particular concern has been raised by iwi and hapu to date.	N/A	2 = Potential capacity for around 280 new dwellings. The land is reasonably fragmented with approx. 20 different land titles which could create inefficencies for development.	4 – Proximate to schools, Hastings east industrial area and Hastings centres. Currently has access to existing and proposed frequent bus network providing direct access to Napier City Centre. Good potential to connect into existing neighbourhoods to access local amenities.	4 = the area is not subject to any coastal hazards	3 = The area is not subject to known flood risks. However, it is located adjacent to an identified flood risk area. Risk is likely to be low given location and can be addressed at the time of design.	4 = the site was not impacted by flooding from Cyclone Gabrielle.	4 = the area is not subject to any high risks from geo hazards. Potential for moderate levels of amplification during an earthquake.	4 = the area is not subject to NPS-HPL restrictions as it is in an existing HPUDS development area.	4 = the area is not subject to any identified features, the area is utilised for cropping and it is adjacent to large area of continous cropland with limited biodiversity value.
HN2;	* Te Mata Mushroom Farm	4 = The area is not subject to any identified areas of cultural significance or areas of significance to Maori. No particular concern has been raised by Iwi and hapu to date.	N/A	4 = Potential capacity for around 250 new dwellings, with limited fragmentation. Existing owners not considering residential redevelopment.	2 = Proximate to schools and Havelock North centre. Limited existing public transport and cycling infrastructure to serve the area.	4 = the area is not subject to any coastal hazards	3= No flooding info is available for the majority of the area. Risk is likely to be low given location and can be addressed at the time of design.	4 = the site was not impacted by flooding from Cyclone Gabrielle.	4 = the area is not subject to any high risks from geo hazards. Potential for moderate levels of amplification during an earthquake.	1 = the entire site is classified as LUC3. The lower terrace landform is accupied by a Mushroom Factory. Given the extent of buildings and surfaces, much of its productive Capacity will already be compromised. The remaining area has highly variable soils with some drainage limitations.	4 = the area is not subject to any identified features. Some part of the area is utilised for cropping, with limited biodiversity value.
HN2	ə* ıtaki Road Extension (Existing HPU	4 = The area is not subject to any identified areas of cultural significance or areas of significance to Maori. No particular concern has been raised by lwi and hapu to date.	N/A	2 = Potential capacity for around 110 new dwellings with minimum fragmentation.	3 = Proximate to schools and Havelock North centre. Potential to connect into existing neighbourhoods to access local amenities.	4 = the area is not subject to any coastal hazards	3= No flooding info is available for the majority of the area. Risk is likely to be low given location and can be addressed at the time of design.	4 = the site was not impacted by flooding from Cyclone Gabrielle.	4 = the area is not subject to any high risks from geo hazards. Potential for moderate levels of amplification during an earthquake.	2 = The site is classified as LUC2. However, the Site has some constraints given the proximity of the existing residential edge and solis present on site. While appearing to be of good quality, the area has never been intensively used and may be a result of limitations in recent fluvial solis.	4 = the area is not subject to any identified features. Some part of the area is utilised for cropping with limited biodiversity value.
HN6	* Thompson Road	4 = The area is not subject to any identified areas of cultural significance or areas of significance to Maori. No particular concern has been raised by iwi and hapu to date.	N/A	2 = Potential capacity for around 80 new dwellings with minimum fragmentation.	3 = Proximate to schools and Havelock North centre. Potential to connect into existing neighbourhoods to access local amenities.	4 = the area is not subject to any coastal hazards	3= A small part of the site is subject to identified flood hazards along the northern boundary in the vicinity of the existing candifeream. This can be managed through appropriate subdivision design.	4 = the site was not impacted by flooding from Cyclone Gabrielle.	4 = the area is not subject to any high risks from geo hazards. Potential for moderate levels of amplification during an earthquake.	4 = the area is not subject to NPS-HPL restrictions as it is in an existing HPUDS development area.	4 = the area is not subject to any identified features. Most part of the area is utilised for cropping and it is adjacent to large area of continous cropland with limited biodiversity value.
HN1	0 uring Site (check against RC applica	4 = The area is not subject to any identified areas of cultural significance or areas of significance to Maori. No particular concern has been raised by iwi and hapu to date.	N/A	2 = Potential capacity for 35 new dwellings as per consent application. Single land ownership.	3 = Proximate to schools and Havelock North Centre. Already sits within an urbanised environment and can utilise existing transport networks.	4 = the area is not subject to any coastal hazards	2 = Some parts of the Site are subject to flood risks associated with adjacent stream / canal network. Can be managed / mitigated through detailed design.	4 = the site was not impacted by flooding from Cyclone Gabrielle.	4 = the area is not subject to any high risks from geo hazards. Potential for moderate levels of amplification during an earthquake.	4 = the area is entirely classified as LUC 3. However, the site is already developed under Oderings Nursery so productive capacity has already been lost/compromised.	4 = the area is not subject to any identified features and is largely urbanised.
HN3	a* Iona Rd/Middle Rd	4 = The area is not subject to any identified areas of cultural significance or areas of significance to Maori. No particular concern has been raised by iwi and hapu to date.	N/A	4 = Potential capacity for around 220 new dwellings. Minimum fragmentation as it comprises 4 land titles with 2 different owners.	3 = Proximate to schools and Havelock North Centre. Benefits from direct access to the proposed frequent bus network providing access to Hastings and Napier City Centres.	4 = the area is not subject to any coastal hazards	2 = Part of the area is subject to flood risks and has a known history of ponding. A large portion of the area was under water for an extended period at the commencement of 2023.	2 = A small portion of the site was impacted by flooding from Cyclone Gabrielle.	4 = the area is not subject to any high risks from geo hazards. Potential for moderate levels of amplification during an earthquake.	2 = The site is classified as LUC 2 but also is an existing HPUDS reserve site. The area has some significant limitations due to wetness and drainage. A large portion of the area was under water for an extended period at the commencement of 2023, including Cyclone Gabrielle rainfall. Limitations on the northeastern edge from residential land use and some rural lifestyle blocks have also fragmented land use.	4 = the area is not subject to any identified features. Some part of the area is utilised for corophing and it is adjacent to large area of continous cropland with limited biodiversity value.
HN3	o* Iona Rd/Middle Rd	4 = The area is not subject to any identified areas of cultural significance or areas of significance to Maori. No particular concern has been raised by iwi and hapu to date.	N/A	4 = Potential capacity for around 420 new dwellings. Some fragmentation currently but generally comprises large parcels.	3 = Proximate to schools and Havelock North Centre. Benefits from direct access to the proposed frequent bus network providing access to Hastings and Napier City Centres.	4 = the area is not subject to any coastal hazards	3 = part of the area is subject to flooding and there is potential for localised flooding with the existing farm drains present through the site. Part of the site previously identified as being required for stormwater management to serve the lona development and this would need to be integrated with any future development.	4 = the site was not impacted by flooding from Cyclone Gabrielle.	4 = the area is not subject to any high risks from geo hazards. Potentiali for moderate levels of amplitude and any any earthquake.	D + the entire site is classified as LUC 2. However, the area has some significant limitations due to wetness and drainage. A large portion of the area was under water of an extended period at the commencement of 2023, including Cyclone Gabrielle rainfall. Unitations on the northeastern edge from residential land use and some rural lifestyle blocks have also fragmented land use. A large portion of the site is also signaled as being required for stormwater management to support neighbouring urbanisation.	4 = the area is not subject to any identified features. Some part of the area is utilised for cropping and it is adjacent to large area of continous cropiand with limited biodiversity value.
BP4	• Bridge Pa	3 = The area is not subject to any identified areas of cultural significance or areas of significance to Maori. The urbanisation of the wider Bridge Pa area will likely raise concerns for local iwi and hapu.	N/A	4 = Potential capacity for around 220 new dwellings, with some level of fragmentation as it contains approximately 15 different titles.	2 = Proximate to trongate employment area. Currently rural in nature and with no access to FT. Located further away from the existing urban area (Flawmer) blan other greenfield options. No access to existing and/or future bus routes as identified under RLTP. Large scale residential development in the area would need to be supported by extension or re-routing of public transport network to support better accessibility.	4 = the area is not subject to any coastal hazards	3 – Only a small part of the area is subject to flood risks. This can be mitigated / avoided and will need to see factored in the design of the site should urbanisation occur.	4 = the site was not impacted by flooding from Cyclone Gabrielle.	4 = the area is not subject to any high risks from geo hazards. Potential for moderate levels of amplification during an earthquake.	1 = the majority of the area is classified as LUC 3. The soils in this area become more challenging and boney in comparison with land immediately adjacent to Flaxmere.	4 = the area is not subject to any identified features. Most of the area is utilised for cropping and it is adjacent to large area of continous cropland with limited biodiversity value.

		Water quality		Infrastructure (three waters)		infrastructure (transport)	Infrastructure (social)		Infrastructure (other)	Other signific	
HZa	Lyndhurst Extension - HPUDS	3 = Part of the area is subject to TANK Source Protection Zone; but not subject to any other identified features. Future growth will require careful design and stormwater treatment for water quality.	3 = Expansion of existing network will be required but is not foreseen as a major issue, given the proximity to existing urban area. Overall, water take remains an issue.	4 = Expansion of the current network is not foreseen as an issue, especially since there is some network capacity available post-IAF wastewater work, as indicated in the Infrastructure Constraint Report.	3 = Stornwater will need to be comprehensively managed, based on the level of growth indicated. The infrastructure Constraint Report indicates some level of upgrades will be required to accommodate a reasonable level of growth.	4 = Served by existing and planned frequent bus services. New / upgraded connections into existing local road network would need to be funded by the developer. No strategic upgrades required.	4 = Serviced by existing parks or playgrounds in Hastings, as indicated in the Infrastructure Constraint Report, in particular given its proximity to Hawke's Bay Regional Sports Park and Frimley Park.	3 = Additional primary capacit can be provided to support development in the area. Intermediate and secondary schools have capacity.	1 = Constrained area with plans to increase capacity. Timing and size are key to unlocking and accommodating the growth.	4 = the area is not s identified c	
HN2:	* Te Mata Mushroom Farm	3 = the majority of the area is subject to TANK Source Protection Zone. The area is not subject to any other identified features but features a small aream along its easternt boundary. Future growth will require careful design and sommater treatment for water quality.	3 = Expansion of existing network will be required but is not foreseen as a major issue, given the proximity to existing urban area. Overall, water take remains an issue.	4 = The Infrastructure Constraint Report did not signal wastewater to be an issue to accommodate growth, although localised improvements to optimise prvision of growth capacity in the Brookvale will be needed.	2 = Stormwater is the most challenging for both north and south of Havelock North compared to Flavmere and Hastings, due to the watercourses that run through the area. The infrastructure Report also indicates 40% of the reticulated network in the area has downstream restrictions. A potential solution would be consolidated stormwater detention areas (wetland treatment/amenity areas. This area is also subject to the TANK source protection zone and hence will require careful design and treatment for water quality.	2 – No significant upgrades to transport network anticipated from enabling development. Potential to extend bus services. Access will rely on small-scale improvements to the local root network, which would need to be funded by developers. General growth in Havelock North may contribute to Unther local congestion and put pressure on wider network upgrades.	4 = Serviced by existing parks or playgrounds in Havelock North, as indicated in the Infrastructure Constraint Report.	2 = Potential need to require some additional Primary, intermediate and secondary school capacity to support growth in Havelock North.	2 = Known growth zone easy initially but requires investment in capital assets as lots develop.	4 = the area is not s identified o	
HN2	s <sup>a</sup> ktaki Road Extension (Existing HPU	3 = the majority of the area is subject to TANK Source Protection Zone. The area is not subject to any other identified features. Future growth will require careful design and stormwater treatment for water quality.	3 = Expansion of existing network will be required but is not foreseen as a major issue, given the proximity to existing urban area. Overall, water take remains an issue.	4 = The Infrastructure Constraint Report did not signal wastewater to be an issue to accommodate growth, although localised improvements to optimise privato of growth capacity in the Brookvale will be needed.	2 = Stormwater is the most challenging for both noth and south of Naeleck Noth compared to Flammere and Hastings, due to the watercourses that run through the area. The Infrastructure Report also indicates 40% of the reticulated network in the area has downstream restrictions. A potential solution would be consolidated stormwater detention areas /wetland treatment/amenity areas. This area is also subject to the TANK source protection zone and hence will require careful design and treatment for water qualry.	2 – No significant upgrades to transport network anticipated from enabling development. Potential to extend bus services. Access will rely on small-scale improvements to the local road network, which would need to be kunded by developmens. General growth in Hawleck North may contribute to further local congestion and put pressure on wider network upgrades.	4 = Serviced by existing parks or playgrounds in Havelock North, as indicated in the Infrastructure Constraint Report.	2 = Potential need to require some additional Primary, intermediate and secondary school capacity to support growth in Havelock North.	2 = Known growth zone easy initially but requires investment in capital assets as lots develop.	4 = the area is not s identified c	
HNG	• Thompson Road	3 = the entire site is subject to TANK Source Protection Zone. The area is not subject to any other identified features. Future growth will require careful design and stormwater treatment for water quality.	3 = Expansion of existing network will be required but is not foreseen as a major issue, given the proximity to existing urban area. Overall, water take remains an issue.	4 = The Infrastructure Constraint Report did not signal wastewater to be an issue to accommodate growth, although localiedd improvements to optimise prvision of growth capacity in the Brookvale will be needed.	2 = Stormwater is the most challenging for both north and south of Havelock North compared to Flawmer and Hastings due to the watercourses that run through the area. The Infrastructure Report also indicates 40% of the reticulated network in the area has downstream restrictions. A potential solution would be consolidated stormwater detention areas /wetland treatment/amenity areas. This area is also subject to the TANK source protection zone and hence will require careful design and treatment for water quality.	2 = No significant upgrades to transport network anticipated from enabling development. Potential to extend bus services. Access will rely on small-scale improvements to the local root network, which would need to be funded by developers. General growth in Havelock North may contribute to turber local congestion and put pressure on wider network upgrades.	4 = Serviced by existing parks or playgrounds in Havelock North, as indicated in the Infrastructure Constraint Report.	2 = Potential need to require some additional Primary, intermediate and secondary school capacity to support growth in Havelock North.	2 = Known growth zone easy initially but requires investment in capital assets as lots develop.	4 = the area is not s identified c	
HN1	0 uring Site (check against RC applica	4 = the area is not subject to any identified features.	4 = Water, wastewater and stormwater infrastructure servicing solutions are addressed as part of the existing consent application.	4 = Water, wastewater and stormwater infrastructure servicing solutions are addressed as part of the existing consent application.	4 = Water, wastewater and stormwater infrastructure servicing solutions are addressed as part of the existing consent application.	4 = Good access to the existing roading network and the level of growth indicated is unlikely to generate the need for investment in transport upgrades.	4 = Serviced by existing parks or playgrounds in Havelock North, as indicated in the Infrastructure Constraint Report. The level of growth indicated is unlikely to trigger high investment for transportation.	2 = Potential need to require some additional Primary, intermediate and secondary school capacity to support growth in Havelock North.	2 = Known growth zone easy initally but requires investment in capital assets as lots develop.	4 = the area is not s identified c	
HN3	•* Iona Rd/Middle Rd	4 = the area is not subject to any identified features.	3 = Expansion of existing network will be required but is not foreseen as a major issue, given the proximity to existing urban area. Overall, water take remains an issue.	2 = This area has not been considered in the Infrastructure Constraints Report but it is understood there is limited network capacity to provide wastewater serve this area. Capacity upgrades likely required.	2 = Stormwater is the most challenging for both north and south of Havelock North compared to Flawmer and Hasting, due to the watercourses that run through the area. The Infrastructure Report also indicates that 40% of the reticulated network in the area has downstream restrictions. A potential solution would be consolidated stormwater detention areas /wetland treatment/amenity areas.	2 – No significant upgrades to transport network anticipated from enabling development. Served by proposed frequent bus service. Access will rely on small- scale improvements to the local road network, which would need to be funded by developers. General growth in Havelock North may contribute to further local congestion and put pressure on wider network upgrades.	2 = Unlikely to be serviced by existing parks or playgrounds in havelock North, as indicated in the Infrastructure Constraint Report. Small pocket parks may be available through a comprehensive masterplan design, in particular given the level of growth indicated.	1 = Local primary school site is bordered by residential, difficuit to expand. May need increased capacity at intermediate/secondary provision and may need to loo at integrated school rolls.	3 = No major issues for electricity infrastructure, subject to refined areas for more accurate density and staging.	4 = the area is not s identified c	
низі	o* Iona Rd/Middle Rd	4 = the area is not subject to any identified features.	3 = Expansion of existing network will be required but is not foreseen as a major issue, given the proximity to existing urban area. Overall, water take remains an issue.	2 = This area has not been considered in the infrastructure Constraints Report but it is understood three is limited network capacity to provide wastewater serve this area. Capacity upgrades likely required.	2 = Stormwater is the most challenging for both north and south of Havelock North compared to Flaxmer and Hasting, due to the watercourses that run through the area. The Infrastructure Report also indicates that 40% of the reliculated network in the area has downstream restrictions. A potential solution would be consolidated stormwater detention areas /wetland treatment/amenity areas.	2 – No significant upgrades to transport network anticipated from enabling development. Served by proposed frequent bus service. Access will rely on small- scale improvements to the local road network, which would need to be funded by developers. General growth in Avaelock North may contribute to truther local congestion and put pressure on wider network upgrades.	2 = Unlikely to be serviced by oxisting parks or playgrounds in Havelock North, as indicated in the infrastructure Constraint Report. Small pocket parks and a larger neighbourhood park may be available through a comprehensive masterplan design, in particular given the level of growth indicated.	1 = Local primary school site is bordered by residential, difficult to expand. May need increased capacity at intermediate/secondary provision and may need to loo at integrated school rolls.	3 = No major issues for electricity infrastructure, subject to refined areas for more accurate density and staging.	4 = the area is not s identified c	
BP4	• Bridge Pa	4 = the area is not subject to any identified features.	2 - Will require further expansion / upgrades of the existing network as it is located slightly further away from the existing urban area. There are opportunities to be developed with the adjacent industrial sites and better support expansion of existing infrastructure.	4 = Further expansion of the current network is not foreseen as an issue, especially since there is a current programme underway for areas in the south of faxmere and irongate to allow for a significant amount of additional housing.	3 = The Infrastructure Constraint Report indicates some level of upgrades will be required to accommodate a reasonable level of growth in Flaxmere and irongate catchment.	3 = Urbanisation of existing rural roads and extension of local roads would be required and need to funded by developers. Petertal to consider extension of bus services to serve the site and Bridge Pa area. Growth around Bridge Pa is likely to generate need for intersection and capacity upgrades along Maraekakaho Road and SH2.	2 = Not near or close to any existing parks or open spaces. The urbanisation of the area, or alongside another adjacent growth area (FM11) will likely trigger the provision of new parks.	2 = Some options for primary and secondary schooling at Bridge Pa School and Flaxmer College. Large scale development may place some pressure on schools. Ministry Transport would be required due to distance.	2 = Need to confirm a total scenario that is likely to require substation and sub-transmission upgrades to accommodate the wider south of Flaxmere area. But also with options to share with McCain's zone subdivision.	1 = Close to the Hastin outside existing noise of alignment of the eas helicopter approach expansion or dev Aerodrome. Careful de account these constria which may include pre open space on run	

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nway approaches.

		Cultural values	Mana Whenua development aspirations	Accessibility	Feasibility and	d site suitability	Reverse sensitivity				
Location	Address										
AW1	Awatoto Growth Area (Industrial)	3 = The area is not subject to any identified areas of cultural significance or areas of significance to Maori (draft). Mans Ahurii Trust expressed comments about its proximity to the river and indicated further investigation might be required.	n/a	2 = The site is within 3km of an estimated residential population of 15,000 people. The site is also located on or adjacent to a state highway, ruhaw, bus routes and cycleway providing a range of transport options to and from the site. The site would also be close to approximately 1400 additional new dwellings within the generalized growth area of Waverly.	3 = The site is largely flat and suitable for larger-scale business / industrial development. Ground conditions / high wate table may increase costs to develop compared with other options.	2 = The site is approx. 37ha in size and is moderately sized for industrial development. It presents an opportunity to expand and leverage of an established industrial node.	4 = Not located in close proximity to sensitive land uses and it is unlikely to give rise to any reverse sensitivity effects.	1= The majority of the site is likely to be affected by the 1000-year ARI + 1.99m SLR Sunami risk. The HB Portal shows Tsunami Near Source inundation affects the entire site and Distant Source inundation affects part of the site.	1 = A large contiguous part of the site is subject to flooding.	0 = The entire site was heavily impacted by flooding from Cyclone Gabriele.	1 = The entire site is affected by 100 year return period liquefaction severity. It is also affected by high-risk liquefaction vulnerbility, Part of the site is subject to highest risk for amplification and the rest of the site is 1 level down from highest risk (4 risk levels).
AS3	Ahuriri Station (north of Onehunga Road)	4 - The majority of the area subject to area of cultural significance. However, as an iwi led development it is saured that appropriate design and development will address cultural issues and contribute to cultural wellbeing.	4 = This has been put forward by Mana Ahurin Trust with aptrations of a comprehensive development of routinit park on ecologically assimable business / industria park to support home term welbeing of the win and	1 = The site is within 3km of an estimated residential population of 8,000 people. The site could have direct access to the State Highway network and nearby Bay Were shared path. Development, If of a significant scale, could support the creation of supporting commercial or community services (e.g. food retail, public open space).	3 - The title is largely flat suitable for larger-scale development. Ground conditions / high water table may increase cost to develop compared with other options.	4 = The site is approx. Siths in size and is moderately sized for industrial development. It presents opportunities to consolidate industrial uses around the arport and is in close proximity to the Port and Pandor industrial area.	4 - Not located in close proximity to sensitive land uses and it is unlikely to give rise to any reverse sensitivity effects.	1= The majority of the site is likely to be affected by the 1000-year AR + 1.99m SLR tunami risk.	3 = No flood modeling info is available for the site. T&T study indicates that while it is low lying it is protected by a combination of stop banks and drains. Located adjacent to some known flood areas and rasing of land for development may cause issues for adjacent Airport that would need to be addressed.	1 = Significant portions of the site were heavily impacted by floading from Cyclone Gabrielle.	3 – The area is subject to a medium risk for liquefication for 500 years return in HB Hazards Portal. 1 level down from highest risk (4 risk level) for Amplification. Any development Of the site would need to include extensive engineered III and appropriate structural design to address risks.
AS4	Ahuriri Station (south of Onehunga Road)	4 = The majority of the area subject to area of cultural significance. However, as an invited development it is assumed that appropriate design and development will address cultural issues and contribute to cultural wellbeing.	enhancement of the site.	1 = The site is within 3km of an estimated residential population of 8,000 people. The site could have direct access to the State Highway network and nearby Bay View shared path. Development, if of a significant scale, could support the creation of supporting commercial or community services (e.g. food retail, public open space).	3 = The site is largely flat suitable for larger scale development. Ground conditions / high water table may increase cost to develop compared with other options.	4 = The site is approx. 340ha in size and is well sized for significant industrial development. It presents opportunities to consolidate industrial uses around the airport and is in close proximity to the Port and Pandore industrial area.	4 = Not located in close proximity to sensitive land uses and it is unlikely to give rise to any reverse sensitivity effects.	1= The majority of the site is likely to be affected by the 1000-year ARI + 1.99m SLR tsunami risk.	3 = No flood modelling info is available for the site. T&T study indicates that while it is low lying it is protected by a combination of stop banks and drains. Located adjacent to some known flood areas and raising of land for development may cause issues for adjacent Airport that would need to be addressed.	1 = Significant portions of the site were heavily impacted by flooding from Cyclone Gabrielle.	3 = The area is subject to a medium risk for liquefication for S00 years return in H8 Hazards Portal. I level down form highest risk (4 risk level) for Amplification. Any development of the site would need to include extensive engineered fill and appropriate structural design to address risks.
FM3*	Omahu Road	4 = The area is not subject to any identified areas of cultural significance or areas of significance to Maeri (draft). No particular concern has been raised by iwi and hapu to date.	n/a	2 = The site is within 3km of an estimated residential population of 13,700 people. It is adjacent to 5HD and o cycleway as well as the emerging industrial area along Omahu Road. The site is also located in proximity to potential greenfield growth areas around Flasmere and Hastings.	4 = The site is largely flat and suitable for larger-scale business / industrial development.	3 - The site is approx. BD ha in size and is well sized for industrial development. It presents an opportunity to expand the emerging industrial area around Ornahu Road.	4 - Not located in close proximity to sensitive land uses and it is unlikely to give rise to any reverse sensitivity effects.	4 = The site is not subject to any coastal hazards	3 - No flooding info is available and there is no known historical flooding. Noting the site comprises flat and free-draning sols so unlikely to be an issue.	4 = The site was not impacted by Cyclone Gabrielie.	3 = A small part of the site is affected by high liquefaction vulnerability but it is not affected by the high risk of the Doyare return problem (updatation severity. The site is subject to a moderate level for amplification (height 10 evid own from the highest risk which comprises a total of 4 risk levels).
FM4*	Omahu Rd/SH 50 Rd	4 = The area is not subject to any identified areas of cultural significance or areas of significance to Maeri (draft). No particular concern has been raised by ivi and hapu to date.	n/a	1 = The site is within 3km of an estimated residential population of 8,500 people. It is adjacent to 5H50 and a cycleway as well as the emerging industrial area along Onutua Road. The site is also located in proximity to potential greenfield growth areas around Flammer.	4 = The site is largely flat and suitable for larger-scale business / industrial development.	2 – The site is approx. 34ha in size and is moderately sized for industrial development. It presents an opportunity to expand the emerging industrial area around Omahu Road.	4 - Not located in close proximity to sensitive land uses and it is unlikely to give rise to any reverse sensitivity effects.	4 = The site is not subject to any coastal hazards	3 - No flooding info is available and there is no known historical flooding. Hoting the site comprises flat and free-draining soils so unlikely to be an issue.	4 = The site was not impacted by Cyclone Gabrielie.	4 The site is not affected by any high risk of liquefaction vulnerbility or 100 year return period liquefaction sevenity. It is subject to a moderate level for amplification (being 3 level down from the highest risk which comprises a total of 4 risk levels).
H6	Tomoana industrial	4 = The area is not subject to any identified areas of cultural significance or areas of significance to Maeri (draft). No particular concern has been raised by ivi and hapu to date.	n/a	3 = The site is within 3km of an estimated residential population of 32,500 people, it is proximate to 5/51, 5/10, allway and optieway and is served weaking and proposed (infrequent) bus services.	4 = The site is largely flat and suitable for larger-scale business / industrial development.	3 The site is approx. 75ha in site and is well sized for industrial development. It presents opportunities as an expansion from an emerging industrial area and there is a string preference from land owners/developers to developer to an emerginate of the site of the site developer of the site of the site of the site of the developer of the site of the site of the site of the location.	2 - Interface with Northwood residential development. Control may be required in terms of badding bad, traffic and route to reduce revenue sensitivity effects.	4 = The site is not subject to any coastal hazards	1 = A large contiguous part of the site is subject to flooding risks while other parts of the site have no brown flood data.	2 - Some parts of the site experienced flooding during Cyclone Gabrielle.	2 - The site is mostly affected by the high risk of logistication vulnerability. It is not affected by the high risk of the 10-operature priorid logistican serverly. It is also subject to a moderate level for amplification.
IR1	York Rd	4 = The area is not subject to any identified areas of cultural significance or areas of significance to Maeri (draft). No particular concern has been raised by iwi and hapu to date.	n/a	4 = The site is within 3km of an estimated residential population of 38.000 people. It is adjacent to 542 and served by waiting or proposed bus vortices. The site is also in close proximity to a number of potential greentifield growth areas around Flaxmere and Hastings.	4 = The site is largely flat and suitable for larger-scale business / industrial development.	3 = The site is approx. 86% in site and is well sized for industrial development. It presents opportunities as an expansion from the emerging trongate industrial. There is a strong preference from land comercil/evelopents to develop this area and there has been a quick uptale of sites at the existing trongate development.	3 = Currently not located in dose provinity to sensitive indi uses. However, the site is adjacent to a proposed greenfield expansion. Controls may be required in terms of building built oraficand notice to reduce reverse sensitivity effects at this interface or eating some limitations on development.	4 = The site is not subject to any coastal hazards	3- Some parts of the site are affected by flooding. It is also known to be located adjacent to some identified flood areas (stream channels).	4 = The site was not impacted by Cyclone Gabrielle.	3 = The site is mostly affected by a medium risk of liquetation vulnerability. It is not affected by the high tack of the 100-year turn period liquetation serverly. It is also subject to a moderate level for amplification.
IR2	Longlands Road	4 = The area is not subject to any identified areas of cultural significance or areas of significance to Maori (draft). No particular concern has been raised by iwi and hapu to date.	n/a	2 = The site is within 3km of an estimated residential population of 18,500 people. The site is also located in provinnity to potential geneficid growth areas around Flammere and Mastings. The site is adjacent to 342 but is adjacent to an emerging industrial area and depending resal or scale could support the development of supporting relation community services as well as public transport.	4 = The site is largely flat and suitable for larger-scale business / industrial development.	3 = The site is approx. 70ha in size and is well sized for industrial development. It presents opportunities as a respansion from the emerging longate industrial. Therefore is a strong preference from land owner/developes to develop this area and there has been a quick uptake of sites at the existing irongate development.	4 = Not located in close proximity to sensitive land uses and it is unlikely to give rise to any reverse sensitivity effects.	4 = The site is not subject to any coastal hazards	3= Some parts of the site are affected by flooding. It is also known to be located adjacent to some identified flood areas (stream channels).	4 = The site was not impacted by Cyclone Gabrielle.	3 = The site is affected by a medium risk of liquefaction vulnerability. It is not affected by the high risk of 100- year return period inguedicant servery. It is also subject to a moderate level for amplification.
IR3a*	irongate industrial	4 = The area is not subject to any identified areas of cultural significance or areas of significance to Maori (draft). No particular concern has been raised by iwi and hapu to date.	4 = The site is owned by Heretaunga Tamatea Pou Tahua Ltd and it has been put forward as a site for future industrial development.	3 = The site is within 3km of an estimated residential population of 25,000 people. The site is also located in proximity to potential greenfield growth areas around Fixmere and Hasting. The site is algoraten to SH2 but of	4 = The site is largely flat and suitable for larger-scale business / industrial development.	3 = The site is approx. 52ha in size and is well sized for industrial development. It presents opportunities as an expansion from the emerging irongate industrial. There is a strong preference from raid over-(developerts develop this area and there has been a quick uptake of sites at the existing irongate development.	4 = Currently not located in close proximity to sensitive land uses.	4 = The site is not subject to any coastal hazards	3= Some parts of the site are affected by flooding. It is also known to be located adjacent to some identified flood areas (stream channels).	4 = The site was not impacted by Cyclone Gabrielle.	3 = The site is affected by a medium risk of liquefaction vulnerability, it is not affected by the high risk of the 100 year return period inguestican severy. It is also subject to a moderate level for amplification.
IR3b*	irongate Industrial	4 = The area is not subject to any identified areas of cultural significance or areas of significance to Maori (draft). No particular concern has been raised by iwi and hapu to date.	n/a	not currently served by public transport. The site is adjacent to an emerging industrial sets and depending on scale could support the development of supporting retail or community services as well as public transport.	4 = The site is largely flat and suitable for larger-scale business / industrial development.	3 = The site is approx. 72ha in size and is well sized for industrial development. It presents opportunities as a reparation from the emerging frongate industrial. There is a strong preference from land owner/developerts develop this area and there has been a quick uptake of sites at the existing irongate development.	3 = Currently not located in close proximity to sensitive land uses. Operational requirements, particularly those relating to emergency management of the Hastings Aerodrome would need to be factored into design of any development.	4 = The site is not subject to any coastal hazards	3= Some parts of the site are affected by flooding. It is also known to be located adjacent to some identified flood areas (stream channels).	4 = The site was not impacted by Cyclone Gabrielle.	3 = The site is affected by a medium risk of liquefaction vulnerability, it is not affected by the high risk of the 100 year return period liquefaction severy. It is also subject to a moderate level for amplification.
IR4	Bridge Pa	4 = The area is not subject to any identified areas of cultural significance or areas of significance to Maori (draft). No particular concern has been raised by iwi and hapu to date.	n/a	O = The site is within 3km of an estimated residential population of 9,600 people. Limited access is a other modes and not located in prominity to supporting services or other industrial uses.	3 = The site is largely flat and suitable for some business / industrial development.	0 = The site is approx. 12ha in site, relatively small-scale for industrial development. It is not adjacent to any existing industrial sites although sits adjacent to the Hastings Aerodome.	4 = Currently not located in close proximity to sensitive land uses.	4 = The site is not subject to any coastal hazards	3 = No flooding info is available. However, there is no known historical flooding.	4 = The site was not impacted by Cyclone Gabrielle.	3 = The site is affected by a medium risk of liquefaction wuhrerability. It is not affected by the high risk of 100- year return period liquefaction severity. It is also subject to a moderate level for amplification.
WH1*	Anderson Rd Whakatu	4 = The area is not subject to any identified areas of cultural significance or areas of significance to Maori (draft). No particular concern has been raised by iwi and hapu to date.	n/a	1 = The site is within 3km of an estimated residential population of 7,700 people. The site is close to State Nighway 51 and is also served by existing and proposed (infrequent) bus services.	4 = The site is largely flat and suitable for larger-scale business / industrial development.	4 = The site is approx. 70ha in size and is well sized for industrial development. It presents opportunities as an expansion from an existing industrial area and there is a strong preference from land owners/developers to develop this area and it is located close to the propsed Inland Port.	2 = interface with Mangateretere school and Whakatu residential settlement. Controls may be required in terms of building buik, traffic and noise to reduce reverse sensitivity effects.	2 = Part of the site is likely to be affected by the 1000- year ARI + 1.99m SIR Sunami risk. The HB Portal shows Tsunami Near Source inundation affects the majority of the site.	4= The site is free from flooding and is shown as low risk for flooding.	4 = The site was not impacted by Cyclone Gabrielle.	3 = The site is mostly affected by high to medium risks of liquefaction vulnerability. It is not affected by the high risk of 100-year return period liquefaction severity. It is also subject to a moderate level for amplification (being 3 level down from the highest risk which comprises a total of 4 risk levels).
SP	Prebensen Drive	4 = The area is not subject to any identified areas of cultural significance or areas of significance to Maori (draft). No particular concern has been ensisted by iwi and hapu to date.	4 - This has been put forward by Mana Ahurin Trust. 4 - This has been put forward by Mana Ahurin Trust. Industrial / Large Format Retail uses to support long- tern wellbeing of the iwi and enhancement of the site.	4 = The site is within 3km of an estimated residential population of 43,000 people. Located in close proximity to 3ket legitways, public transport and cycleways. The like is adjuent to sixing indicated advorgement and close to the port and airport along with a number of supporting commercial service.	4 = The site is largely flat and suitable for larger-scale business / industrial development.	4 = Relatively small in scale (Sha) but part of a wider area already zone6 for industrial uses that is currently undeveloped.	4 = Not located in close proximity to sensitive land uses and it is unlikely to give rise to any reverse sensitivity effects.	2 - Part of the site is likely to be affected by Tsunami under the 2300, 1000, 500 and 100-year ARI with a 109m SUP. Potentia to also be ingrad. Under a 2300- year ARI with a 1m SUF.	2 - Portions of the site are identified as being subject to known flood hazards.	0 × The entre site was heavily impacted by flooding from Cyclore Gabriele.	3 - The area is subject to amedium risk for liqueflication for 500 years return.

		HPL	Biodiversity	Water quality Infra		Infrastructure (three waters)	I	Infrastructure (transport)	Infrastructure (transmission/energy)	Other significant constraints
Location	Address									
AW1	Awatoto Growth Area (Industrial)	1 = Small part of the site features LUC 2 land; the rest is classed as LUC3. Drainage and waterlogging constraints exist as primary constraints for productivity. Oxgenation of the root zone is limiting for perennial thee crops in this area.	4 = The site is not subject to any identified features and has no known biodiversity related constraints identified.	4 = The site is not subject to any identified features.	1 = There is no reticulated water service available to the wider Awatob industrial area with esiting activities having their own hore supplies. The site is within a proposed water supply extension area and a borefield and treatment plant for Awatob are identified within the NCC infrastructure strategy.	3 = The site is not currently serviced by the reticulated network but it is located adjacent to the WWTP, which provides opportunities to link into the system. Some capacity constraints during periods of wet weather.	3 = Assume stormwater could be managed through onsite detention by the developers. Flood protection works proposed adjacent to site to help address flooding issues which arose during Cyclone Gabrielle.	3 - New roading connections or minor suggrades may be required to the State Highway due to the nature and scale of potential commercial development and would need to be funded by the developer.	3 = No major known issues with electricity infrastructure but it will depend on connection loads.	4 = the site is not subject to any other identified constraints.
AS3	Aburiri Station (north of Onehunga Road)	2 - the area is classed as LUCI land. Productivity of the land is highly constrained via drainage and flooting from a traditional production view. The area is very poorly drained with aline influences and not readly suitable for perennial tree cropping, but some value for sessional cropping.	4 = the area is not subject to any identified features. Some part of the area is utilised for pasture with limited biological value.	4 = The site is not subject to any identified features but sits in close proximity to an existing wetland and estuary.	2 = There is potential for existing services to be extended but water pressure and capacity likely to be an issue given the scale of potential development. A new reservoir in the vicinity will be required to help manage water supply.	1 = Development would require new pump stations and rising main which comes with high capital costs. It is assume this would be entirely funded by the developer but long-term maintenance of the extended network will fail	3 = Stormwater will require a new pump stations in the vicinity to manage on-site stormwater. It is likely that a large area of the site will need to be set aide for a stormwater detertion basin to manage the stormwater	1 – New and/ or upgraded intersections and SH capacity will likely be required to the SH through to Prebensen Drive to facilitate large scale indicatesi advectopment. This includes new intersections directly onto the SH network. Modeling indicates potential for delays, as several intersections and grSV and accurs. Its insoft ethas to the SH as several intersections and grSV and accurs. Its insoft ethas to the upgrade to the SH as several intersections and grSV and accurs. Its insoft ethas to me upgrades to the SH as several intersections and grSV and accurs. Its insoft ethas the upgrade to the SH as several intersections. Also grSV and SH as several intersections and grSV and grAV.	2 = Limited supply and security, would require development of substation and lines for electricity infrastructure. Potential for on-site generation via a dard farm to supple electricity - further understanding	2 = The site fails within the proposed Te Whangsourk-0 onto Special Chrvather Landscape under the Dath Poinche potentially limits the height of future buildings to 3m and therefore Fasable development (special) if the smould
AS4	Ahuriri Station (south of Onehunga Road)	2 = the area is classed as LUC3 land. Productivity of the land is highly constrained via drainage and Booling from a traditional production view. The area is very poorly drained with saline influences and not readily subtalle for perennal tree cropping, but some value for seasonal cropping.	3 - The northern portion of the site includes an extensive area of SNA / open wetland (the second largest in Napier). Development provides an opportunity to potentially enhance its value.	3 - The site features a large wetland in its northern portion, development will have to avoid this area. Potential to enhance water quality / function through appropriate design and development.	Noting there will be a limitation on water take for all areas within the region.	on Council.	volume generated by the proposed development area.	network in the vicinity of the site will be required regardless of growth.	or generation capacity / demand required.	needs to be raised to address flood risk).
FM3*	Qmahu Road	2 - A small part of the site is classed as LUC2 while the rest is fee from either LUC2 or 3 land, Large parts of the site do, however, fail within the koys Hill Winegrowing area.	4 = The site is not subject to any identified features and has no known constraints identified. Far to the site is utilised for cropping and it is also adjacent to large continuous area of cropland with limited biological value	1 – The entire site is subject to the identified unconfined aquifer. Particular care needs to be taken around developing above the unconfined aquifer.	3 - A Minor netension of refsculated system will be required. Noting there will be a limitation on water take for all areas within the region.	2 = Cannection to the existing network will be required but it is not foreseen as a real sissue. There is some trade waste capacity.	3 = Assume stormwater could be managed onsite.	2 - New reading connections or minor segmeter may be required to the State Highway the field of the second second second second second second result to be intersected by the developer: There are selferly issues with the SHS0 and Omaha Road intersection that will need to be addressed, which likely requires some intersection upgrades.	2 – Upgrade will be required for electricity infrastructure. Union noticel there are places to upgrade that would be implemented by this growth.	3 - Transmission lines run through part of the site and there is an existing substation in the area.
FM4*	Omahu Rd/SH 50 Rd	2 = A small part of the site is classed as LUC 1, the rest is free from LUC1, 2 or 3. Development may instude on Gimbiett Gravel extents, some site-specific consideration is waranted to confirm the extent.	4 = The site is not subject to any identified features and has no known constraints identified. Part of the site is utilised for cropping and it is also adjacent to large continuous area of cropland with limited biological value	1 – The entire site is subject to the identified unconfined aquifer. Particular care needs to be taken around developing above the unconfined aquifer.	3 – A Minor extension of reticulated system will be required. Noting there will be a limitation on water take for all areas within the region.	2 = Connection to the existing network will be required but it is not foreseen as a real issue. There is some trade waste capacity.	3 = Assume stormwater could be managed onsite.	2 = New roading connections or minor upgrades may be required to the State Highway due to the nature and scale of potential commercial development and would need to be funded by the developer. There are a self's vases with the St0 and Omah would intersection that will need to be addressed, which likely requires some intersection upgrades.	2 = Upgrade will be required for electricity infrastructure. Unson noted there are plans to upgrade that would be implemented by this growth.	3 = Transmission lines run through part of the site.
Нб	Tomoana industrial	2 = The entire site is classed as writter LUCE or 2 land. Well thicked and accepted is highly abductive role. Contenent, Bit and bond toyong versels some constraints for dravecipment into perennia tree company or the high-upure enterprise. Stablass and revens enrollwhy a play. Constants increase southeast towards Wattes.	4 = The site is not subject to any identified features and has no known constraints identified. Part of the site is utilised for cropping and it is also adjecent to large continuous area of oroginant with limited biological value	4 = The site is not subject to any identified features or constraints.	3 - There is an existing water main near the site but not to the boundary. Potential to link into Wapatu link and back to Tomoana Rd. Noting there will be a limitation on water take for all areas within the region.	1 = The exiting sever main intersects the site which provides good connectivity to connect to. There is limited taxie exacter, there is potential connecting to the trade waste system but it is located in the rail control, which requires strategic planning and higher costs.	2 = A stormwater main intersects the site and it. could rely on the local system to discharge to Tonsana Drain. Assume some types of mitigations will be required for any development. The infrastructure Report indicates a reasonable level or major level of upgrade may be required to mitigate stormwater constraints.	3 = New roading connections or minor upgrades may be required due to the nature and scale of potential commercial development and would need to be funded by the developer. Upgrade or improvement to the current active mode network will likely to be required.	2 = Upgrade will be required for electricity infrastructure as the existing substations are nearing capacity.	4 = the site is not subject to any other identified constraints.
IR1	York Rd	0 = part of the site is closed as either USC 1 and 2, the red is the from USC 2 or 3. Generally goad outs and highly productive in the sena- done contracts potentially every with variable sof conditions. More detailed mapping may be warranted	A = the site is not subject to any identified features or constraints related to biodiversity.	1 = The entire site is subject to the identified TANK Source Protection Zone. Particular care needs to be taken around developing the site.	2 – A Minor extension of reticulated system will be required. Noting there will be a limitation on water take for all areas within the region.	2 - The site is serviced by the reticulated system and there is capacity for longate and longate West. There is limited trade waste capacity.	3 = Assume stormwater could be managed onsite. Opportunities for a comprehensive stormwater solution for all irongether areas should they get strategically planned and developed.	3 = New roading connections or minor upgrades may be required to the State Highway due to the nature and scale of potential commercial development and would need to be funded by the developer. Currently, there is some active mode network but will need to be upgraded and extended to accommodate the right level of growth. There is potential for Park and Ride as the area provides more growth. Noting there are already existing industrial user, here it may present peart-optication to the strategic pain for growth for a wider area (including residential growth nearby).	2 = Upgrade will be required for electricity infrastructure and will be depending on the total growth within trongste areas.	4 = the site is not subject to any other identified constraints.
IR2	Longlands Road	D = part of the site in classed in 1122 and 2 while the rest is fee from 1122 or 3. Solis on site are variable and while score areas are under productive up, they per known to 3 single due to soli variability. Portions of the site are already developed and the heigh bodieg of all scores a portion that will be constrained and the site of productive).	4 - The site is not subject to any identified features and has no known constraints identified. Some and of the subject is subject for cropping and it is adjacent to large area of continous copiand with limited biological value.	1 = The entire site is subject to the identified TANK Source Protection Zone. Particular care needs to be taken around developing the site.	2 – A Minor extension of reticulated system will be required. Noting there will be a limitation on water take for all areas within the region.	2 – The site is serviced by the reticulated system and there is some capacity for trongate and trongate West. An uggrade to provide an area wide wastewater scheme may be possible dependent on the scale and extent of growth in this general area. There is no trade waste capacity.	3 = Assume stormwater could be managed onsite. Opportunities for a comprehensive stormwater solution for all incoget a reas should they get strategically planned and developed.	3 = New roading connections or minor upgrades may be required to the State Highway due to the nature and scale of potential commercial development and would need to be funded by the developer. Currently, there is some active mode network but will need to be upgraded and extended to accommodate the right level of growth. There is potential for Park and Ride as the area provides more growth. Noting there are already existing industrial uses, here it may present preder opportunities to the strategic plan for growth for a wider area (including residential growth nearby).	2 = Upgrade will be required for electricity infrastructure and will be depending on the total growth within trongate areas.	4 = the site is not subject to any other identified constraints.
IR3a*	irongate industrial	1 = A small portion of the site is classed as either LUC1 or 2 while the rest is either classed a LUC or lower. Large portions of the site does to Stock Road are already in peri-urban industrial uses which is likely to have impacted on the productive quality of the land.	4 = The site is not subject to any identified features and has no known constraints identified. Some part of the site is utilised for cropping and it is adjacent to large area of continous cropland with limited biological value.	1 - The entire site is subject to the identified TANK Source Protection Zone, Particular care needs to be taken around developing the site.	2 – A Minor extension of retioulated system will be required. Noting there will be a limitation on water take for all areas within the region.	2 - The site is serviced by the reliculated system and there is some capacity for irongate and irongate Weat. An upgrade to provide an area wide wastewater scheme may be possible dependent on the scale and extent of growth in this general area. There is no trade waste capacity.	3 = Assume stormwater could be managed onsite. Opportunities for a comprehensive stormwater solution for all incegate areas should they get strategically planned and developed.	3 - New roading connections or minor uggrades may be required to the State Highway due to the nature and scale of potential commercial development and would need to be funded by the development. Currently, there is some active mode network but will need to be uggraded and extended to accommodate the right level of growth. There is potential for fash and filed as the area protoest noor growth. Number of the ere area development of the ere area development of the ere area development of the ere area development. Second and the ere area development of the ere area development of the ere area of the	2 = Upgrade will be required for electricity infrastructure and will be depending on the total growth within irongate areas.	3 = The site is close to Hastings Aerodrome (1.5- 2.5km), Consideration of aerodrome operations and light approach would need to be taken into account should development of the site occur.
IR3b*	irongate industrial	0 + Parts of the site is classed as either 1001 or 2 while the res is either classed as UC3 or hower Sols at the northern end of this site are of setter quality, becoming gravity and dry towards the vest, notably around Equestrian Lane.	4 = The site is not subject to any identified features and has no known constraints identified. Some part of the site is utilised for cropping and it is adjacent to large area of continous cropland with limited biological value.	1 - The entire site is subject to the identified TANK Source Protection Zone, hence particular care needs to be taken around developing the site.	2 = Extension of reticulated system will be required. Noting there will be a limitation on water take for all areas within the region.	2 = The site is serviced by the reticulated system and there is some capacity for trongate and trongate West. An upgrade to provide an area wide wastewater scheme may be possible dependent on the scale and extent of growth in this general area. There is no trade waste capacity.	3 = Assume stormwater could be managed onsite. Opportunities for a comprehensive stormwater solution for all introgate areas should they get strategically planned and developed.	3 - New roading connections or minor upgrades may be required to the State Highway due to the nature and scale of potential commercial development and would need to be however, currently, here is some active molecular extra the bar of the state highway and the state have a scalar and the state of the state have a scalar and the state of the state have a scalar and the scalar and the state have a scalar and the state have a scalar and the scalar and t	2 = Upgrade will be required for electricity infrastructure and will be depending on the total growth within irongate areas.	3 = The site is close to Hastings Aerodrome (1.5- 2.5km). Consideration of aerodrome operations and light approach would need to be taken into account should development of the site occur.
IR4	Bridge Pa	2 = The entire site is classed as LUC3 land. Limitations via water holding capacity and gravely nature exist in this area. Not the best example of productive soils in the region. Constrained with aero club use.	4 = the site is not subject to any identified features or constraints related to biodiversity.	1 - The entire after is subject to the identified unconfined aquifer; hence particular care needs to be that them around developing above the unconfined aquifer.	2 = Estension of reticulated system will be required. Noting there will be a limitation on water take for all areas within the region.	2 = The site is serviced by the reticulated system and there is some capacity for fromgate and frongate West. An upgrade to provide an area wide wastewater scheme may be possible dependent on the scale and extent of growth in this general area. There is no trade wastewate capacity.	3 = Assume stormwater could be managed onsite. Opportunities for a comprehensive stormwater solution for all trongate areas should they get strategically planned and developed.	3 - New roading connections or minor upgrades may be required to the State Highway, due to the nature and scale of patiential commercial development and would need to be funded by the developer. Noting it is located further away from the existing SH network.	2 = Upgrade will be required for electricity infrastructure and will be depending on the total growth within trongste areas.	3 = The site is close to Hastings Aerodrome. Consideration of aerodrome operations and light approach would need to be taken into account should development of the site occur.
WH1*	Anderson Rd Whakatu	-1 - the entire site is classed as LUCI land, the most productive. Very good ons and high-producing orchards. Well established and close to infrastructure.	4 = The site is not subject to any identified features and has no known issues or constraints identified. Part of the site is utilised for cropping and it is adjacent to a large area of continous cropland.	4 = The site is not subject to any identified features or constraints.	2 = A Minor extension of reticulated system will be required. Noting there will be a limitation on water take for all areas within the region.	1 = Wastewater is on the domestic system and has a limitation on taking more water.	2 = Stormwater mains network goes to the boundary of the site. Stormwater relies on HBRC drainage network which is at capacity so all stormwater must be mitigated onsite.	2 - New reading connections or minor upgrades may be required to the State Highway due to the nature and scale of potential commercial development and would need to be funded by the developer.	2 = Upgrade will be required for electricity infrastructure. Unison noted there are plans to upgrade that would be implemented by this growth.	4 = the site is not subject to any other identified constraints.
SP	Prebensen Drive	2 = the area is classed as LUC3 land.	4 = The site is not subject to any identified features and has no known issues or constraints identified.	3 = Adjoins the Embankment Road Wetland SNA. Note this will limit development of the existing zoneal land but could also be utilised to help fulfill stormwater management requirements for white area (subject to apopposite transment) overlopment of the area could support enhancement of this feature.	4 = Sufficient capacity in the existing reliculated water network to service development.	4 = Sufficient capacity in the existing reticulated wastewater network to service development. Resilience to the wider Pandora are could be improved within an additional line but this is not required to enable this development.	2 = Existing stormwater quality issues around Pandora which currently drains directly to the Advirif Estaary. On after transment and storage should be incorporated into development plans.	3 = New roading connections or minor upgrades may be required due to the nature and scale of potential commercial development at junctions with hyderabad Road. This is already an issue for existing zoned development.	3 = No major known issues with electricity infrastructure but it will depend on connection loads.	2 = The site fails within the proposed Te Whanganui-i-Orotu Special Character Landscape under the Draft PDP which potentially limits the height of future buildings to 3m and therefore feasible development (especially if the ground needs to be raised to address flood risk).

# Appendix 4 – Refined Spatial Scenarios Site Summaries

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Napier Hastings Future Development Strategy 2024

8 July 2024



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## **Summary of Recommendations**

The purpose of this report is to provide a summary of the assessment undertaken for specific growth areas which formed part of the wider refined spatial scenario assessment. This includes a summary of key development metrics, development constraints and advantages and disadvantages of development on particular sites. This assessment has been used to inform the broader assessment of the advantages and disadvantages as required by the National Policy Statement on Urban Development.

A summary of the recommendations for each of the sites considered for residential development contained in this report is provided in the Table below.

Site	Area (Ha)	Housing Capacity	Existing HPUDS	Recommendation
H3 Kaiapo Road (Residential)	74	430	Yes	Retain in FDS
H4 Murdoch Road (Residential)	11	120	Reserve	Retain in FDS
H5b Wall Road (Residential)	11.3	110	Reserve	Exclude from FDS
H7 Riverslea Road (Residential)	4.2	40	Yes	Exclude from FDS
H8 Copeland Road (Residential)	14	130	Yes	Retain in FDS
H2a Lyndhurst Extension (Residential)	31	280	Yes	Retain in FDS
HN2a Te Mata Mushrooms	39.9	250	No	Exclude from FDS
(Residential)				
HN2b Arataki Extension (Residential)	12.1	110	Reserve	Retain in FDS
HN6 Brookvale Road (Residential)	9.1	80	Yes	Retain in FDS
HN10 Oderings Site (Residential)	2.03	35	No	Include in FDS
HN3a Middle Road (Residential)	21.4	220	Reserve	Retain in FDS
Hn3b Middle Road Extension	32.2	420	No	Include in FDS
(Residential)				
FM9 (Residential)	59.6	500	No	Merged with FM2
FM2 Portsmouth Road (Residential)	17.2	330	No	Include in FDS
FM11 Stock Road (Residential)	57.2	515	No	Exclude from FDS
BP4 Hastings Golf Club (Residential)	95.8	720	No	Exclude from FDS
NC4a The Loop (Residential)	23.5	290	Yes	Retain in FDS
NC4b Riverbend (Residential)	23.3	660	Yes	Retain in FDS
NC4c Waverley Road (Residential)	56.0	335	No	Exclude from FDS
NC4d South Pirimai (Residential)	61.6	370	Reserve	Retain in FDS
NC7a & b Willowbank Road	22.6	155	No	Exclude from FDS
(Residential)				
NC6 Mission Estate (Residential)	9.05	100	No	Include in FDS
BV3 Bayview (Residential)	16.6	150	Yes	Exclude from FDS
AS1 Onehunga Road North	52.8	750	No	Exclude from FDS
(Residential)				
AS2 Onehunga Road South	31.1	225	No	Exclude from FDS
(Residential)				
BV 5 Bayview North (Residential)	13.7	100	No	Exclude from FDS
BV2 & 4 Bayview East (Residential)	63.8	529	No	Exclude from FDS

A summary of the recommendations for each of the sites considered for industrial or business development contained in this report is provided in the Table below

Site	Area (Ha)	Existing HPUDS	Recommendation
AS3 Airport (Industrial)	36.8	No	Exclude from FDS
AS4 Ahuriri Station (Industrial)	409.4	No	Exclude from FDS
H6 Tomoana (Industrial)	35	Indicative	Exclude from FDS
AW1 Awatoto (Industrial)	37	Indicative	Exclude from FDS
WH1 Whakatu (Industrial)	69.3	Indicative	Exclude from FDS
IR2 Irongate South (Industrial)	48	No	Include in FDS
IR3a Irongate West (Industrial)	52.5	No	Include in FDS
IR3b Irongate West (Industrial)	53	No	Exclude from FDS
SP Severn Precinct (Commercial)	6	No	Include in FDS

Site Reference:	H3 Kaiapo Road (Residential)	Status:	Existing HPUDS site to be Retained
Site address:	Kaiapo Road, Hastings	Site area:	74ha
Landowner(s):	Approx. 20 different land titles. The majority of these titles are under different ownership.		
Sources:	Existing HPUDS - Residential Growth (Kaiapo Road); Also nominated by the development community (Development Nous)		
Metrics:	430 dwellings.		
Overall MCA Score/Ranking	Score: 59/76; Ranking 4= of 28 (Short list).		



Figure 1 - Location Plan

# Infrastructure Triggers and / or Considerations to support urbanisation

- Relatively straight forward ability to expand existing reticulated water and wastewater networks. For wastewater, it is known the proposal put forward would logically align with core wastewater infrastructure which is about to commence between Flaxmere and Hastings.
- The Infrastructure Constraint Report indicates more reasonable or significant upgrades will be required for stormwater to accommodate a reasonable level of growth in the Kaiapo catchment.
- Existing capacity in the local primary, intermediate and secondary school networks.
- Existing electricity assets are being rebuilt in the wider area and may be accommodated by the time the site gets developed.

Identified Key Constraints			
The majority of the site is classed under LUC 1	The Southland Drain runs along the western		
and LUC 2 land – however as this site is	boundary and approximately 19ha (25.7%) of		
currently identified in HPUDS it does not fall	the area is subject to identified flooding. A		
within the definition of HPL under the NPS-HPL.	small part of the area was also affected by		



Soils are poorly drained and have some flooding during Cyclone Gabrielle. There is an structural vulnerability. existing detention pond onsite. LUCI LUC2 LUCE Site Advantages Site Disadvantages Large area of flooding with Southland As the site is already identified in HPUDS, • ٠ restrictions around development of HPL Drain, freeboard and detention pond present onsite. do not apply. Good level of accessibility to Irongate The majority of the site (over 90%) is ٠ and Ōmāhu employment areas, and a subject to LUC 1 & LUC 2 and some larger range of services, facilities and amenities sites are still in productive use. within the Flaxmere and Hastings centres Fragmented land ownership will require ٠ relative to other greenfield areas. strong coordination from the Council and The Southland Drain (and associated may impact on short-term deliverability of ٠ riparian buffers) could form a defensible land and the overall capacity that can urban edge/transition to rural land. be obtained. Proximate to future bus routes as Not all landowners may be motivated (or ٠ identified under RLTP, as well as proximate able) to redevelop. to the existing walking and cycling ٠ Direct access to SH2 is unlikely. Integration networks. with Camberley/ Huia St would likely Existing programme in place for the require land acquisition to enable ٠ extension of wastewater reticulated integration with existing neighbourhood network. amenities. The existing and planned bus network is Proximity to productive horticultural uses set up well for expansion to serve this area may give rise to some reverse sensitivity if required. effects (e.g. from spray drift). Sufficient Multiple landowners can help to support buffer for residential development is ٠ greater competition in the greenfield required. development market.
Site Reference:	H4 Murdoch Road (Residential)	Status:	Existing HPUDS Site to be Retained
Site address:	Murdoch Road, Hastings	Site area:	llha
Landowner(s):	2 land titles under different ownership.		
Sources:	Existing HPUDS – Reserve Residential Growth (Murdoch Road); Also nominated by the development community (TW Property Ltd; Development Nous).		
Metrics:	120 dwellings. Note: A more expansive area with greater dwelling capacity was initially investigated but ruled out due to impacts on HPL.		
Overall MCA Score/Ranking	Score: 59/76; Ranking 4= of 28 (Short list).		



Figure 2 – Location Plan

- Relatively straightforward ability to expand existing reticulated water and wastewater networks. However, this area remains in a constrained state post-IAF work for wastewater, as identified in the Infrastructure Constraint Report.
- The Infrastructure Constraint Report indicates some level of upgrades for stormwater will be required to accommodate a reasonable level of growth in the lower southland catchment.
- Existing demand pressure on Hastings' primary schools particularly with the intensification proposed in Hastings also creates demand. This will require ongoing monitoring of primary school capacity.
- Existing capacity in the local intermediate and secondary schools.
- Existing electricity assets are being rebuilt in the wider area and may be accommodated by the time the site gets developed.

#### Identified Key Constraints

The majority of the site is classed as LUC 2 land and further soil experts advised the site is considered to be a highly productive soil. Some limitations regarding waterlogging and





Site Reference:	H5b Wall Road (Residential)	Status:	Exclude from FDS
Site address:	Murdoch Road, Hastings	Site area:	11.3ha
Landowner(s):	5 land titles under different ownership.		
Sources:	Existing HPUDS – Reserve Residential Growth (Wall Road);		
Metrics:	110 dwellings.		
Overall MCA	Score: 56/76; Ranking 11 of 67 (Long list).		
Score/Ranking			



Figure 3 – Location Plan

- Relatively straightforward ability to expand existing reticulated water and wastewater networks. However, this area remains in a constrained state post-IAF work for wastewater, as identified in the Infrastructure Constraint Report.
- The Infrastructure Constraint Report indicates some level of upgrades for stormwater will be required to accommodate a reasonable level of growth in the lower southland catchment.
- Existing demand pressure on Hastings' primary schools particularly with the intensification proposed in Hastings also creates demand. This will require ongoing monitoring of primary school capacity.
- Existing capacity in the local intermediate and secondary schools.
- Existing electricity assets are being rebuilt in the wider area and may be accommodated by the time the site gets developed.

#### **Identified Key Constraints**

The majority of the site is classed as LUC 1 and LUC 2 land. Further soil experts advised the site is highly constrained due to the nature of existing development and hard urban boundaries. Some variability in mapped soil conditions, but unlikely to become highly productive in the





Site Reference:	H7 Riverslea Road (Residential)	Status:	Exclude from FDS
Site address:	Riverslea Road, Hastings	Site area:	4.24ha
Landowner(s):	18 different land titles. These titles are under different ownership of three different parties, including one owner owning over 3.2 ha of land (75% of the entire H7 area).		
Sources:	Existing HPUDS – Reserve Residential Growth (Copeland/Murdoch); Also nominated by the development community (Development Nous); The site at 701 Murdoch Rd was also nominated by the development community (Jono Strong).		
Metrics:	40 dwellings. Note: A more expansive area with greater dwelling capacity was initially investigated but ruled out due to impacts on HPL.		
Overall MCA Score/Rankina	Score: 53/76; Ranking 14 of 28 (Short list).		



Figure 4 - Location Plan

## Infrastructure Triggers and /or Considerations to support urbanisation

- Relatively straight forward ability to expand existing reticulated water and wastewater networks. However, this area remains in a constrained state post-IAF work for wastewater, as identified in the Infrastructure Constraint Report.
- The Infrastructure Constraint Report indicates some level of upgrades will be required for stormwater to accommodate a reasonable level of growth in the lower southland catchment.
- Existing demand pressure on Hastings' primary schools particularly with the intensification proposed in Hastings also creates demand. This will require ongoing monitoring of primary school capacity.
- Existing capacity in the local intermediate and secondary schools.
- Existing electricity assets are being rebuilt in the wider area and may be accommodated by the time the site gets developed.

The site is not situated proximate to existing and planned bus and cycling networks. May require expansion networks to serve future development.
Identified Key Constraints

The majority of the site is classed under LUC 2 land – however, as this site is currently identified in HPUDS it does not fall within the definition of HPL under the NPS-HPL. Nevertheless, further soil experts advised the site is considered to be a highly productive soil. Some limitations regarding waterlogging and variability in drainage. The site is also directly adjacent to other productive uses which may be impacted from urbanisation



Site Advantages	Site Disadvantages
<ul> <li>As the site is already identified in HPUDS, NPS-HPL's restrictions around development of HPL do not apply.</li> <li>Good level of accessibility to schools and a range of services, facilities and amenities within the Hastings centre relative to other greenfield areas.</li> <li>The existing and planned bus network is set up well for expansion to serve this area if required.</li> <li>Easy to integrate with existing neighbourhoods.</li> <li>The Southland Drain (and associated riparian buffers) could form a defensible urban edge/transition to rural land.</li> <li>Less fragmented land ownership means easier to get all or most of the land owners motivated for redevelopment over a shorter period.</li> </ul>	<ul> <li>The majority of the site is subject to LUC 2 with further soil analysis indicating its soil is highly productive with fewer constraints.</li> <li>Small total area, limited potential dwelling capacity and limited economic advantages.</li> <li>There is potential for localised flooding with the existing Southland Drain present along the western boundary.</li> <li>Potential for land banking or land lock by individual owners as most of the site is under one single ownership.</li> <li>When considered with other areas, may worsen the capacity pressure for central primary schools.</li> <li>Proximity to productive horticultural uses may give rise to some reverse sensitivity effects (e.g. from spray drift). Sufficient buffer to residential development required.</li> <li>No clear defensible urban boundary – may lead to pressure for further expansion in this area.</li> </ul>

• Wastewater reticulated network remains constrained post-IAF work.

Site Reference:	H8 Copeland Road (Residential)	Status:	Existing HPUDS Site to be
			Retained
Site address:	Copeland Road, Hastings	Site area:	14ha
Landowner(s):	9 different land titles. These titles are under different ownership, including		
	the Hawke's Bay Christian School which owns approximately 3.4 ha of land.		
Sources:	Existing HPUDS - Residential Growth (Copeland/Murdoch);		
	Also nominated by the development community (TW Property Ltd;		
	Development Nous).		
Metrics:	130 dwellings.		
	Note: A more expansive area with greater dwelling capacity was initially		
	investigated but ruled out due to i	impacts on l	HPL.
Overall MCA	Score: 55/76; Ranking 12 of 28 (Short list).		
Score/Ranking			



Figure 5 - Location Plan

- Relatively straight forward ability to expand existing reticulated water and wastewater networks. However, this area remains in a constrained state post-IAF work for wastewater, as identified in the Infrastructure Constraint Report.
- The Infrastructure Constraint Report indicates some level of upgrades will be required for stormwater to accommodate a reasonable level of growth in the lower southland catchment.
- Existing demand pressure on Hastings' primary schools particularly with the intensification proposed in Hastings also creates demand. This will require ongoing monitoring of primary school capacity.
- Existing capacity in the local intermediate and secondary schools.
- Existing electricity assets are being rebuilt in the wider area and may be accommodated by the time the site gets developed.



**Identified Key Constraints** The majority of the site is classed under LUC 1 and LUC 2 land – however, as this site is currently identified in HPUDS it does not fall within the definition of HPL under the NPS-HPL. Nevertheless, further soil experts advised the site is considered to be a highly productive soil. Some limitations regarding waterlogging and variability in drainage. Site Advantages Site Disadvantages As the site is already identified in HPUDS, The majority of the site is subject to LUC 1 ٠ ٠ NPS-HPL's restrictions around and LUC 2 with further soil analysis indicating its soil is highly productive with development of HPL do not apply. fewer constraints. Parts of the site still in Good level of accessibility to schools and • productive use. a range of services, facilities and amenities within the Hastings centre Fragmented land ownership may require relative to other greenfield areas. coordination from the Council and may Adjacent to Akina Park. impact on short-term deliverability of land The existing and planned bus network is and the overall capacity that can be set up well for expansion to serve this area obtained. if required. • Not all landowners may be motivated (or Multiple landowners can help to support able) to redevelop. greater competition in the greenfield There is potential for localised flooding with the existing Southland Drain present development market. Good access to local roading networks along the western boundary. Future which enable integration with existing development will need to factor this into neighbourhood amenities. the design. The Southland Drain (and associated May worsen the capacity pressure for • • riparian buffers) could form a defensible central Hastings primary schools (note, this urban edge/transition to rural land. also applies to areas of intensification). Proximity to productive horticultural uses may give rise to some reverse sensitivity effects (e.g. from spray drift). Sufficient buffer to residential development required. Wastewater reticulated network remains constrained post-IAF work.

The site is not situated proximate to existing and planned bus and cycling networks. May

require expansions of these networks to serve future development.

Site Reference:	H2a Lyndhurst Extension (Residential)	Status:	Existing HPUDS Site to be Retained
Site address:	Lyndhurst Road, Hastings	Site area:	31ha
Landowner(s):	Approx. 20 different land titles. The majority of these titles are under different ownership. HDC also owns 3.7663 ha of land within this site.		
Sources:	Existing HPUDS - Residential Growth (Lyndhurst Extension); Also nominated by the development community (Development Nous).		
Metrics:	280 dwellings. Note: A more expansive area to the west with greater dwelling capacity was initially investigated but ruled out due to impacts on HPL.		
Overall MCA Score/Ranking	Score: 62/76; Ranking 2 of 28 (Short list).		



Figure 6 - Location Plan

#### Infrastructure Triggers and /or Considerations to support urbanisation

- Relatively straight forward ability to expand existing reticulated water and wastewater networks, especially since there is capacity available post-IAF wastewater work, as indicated in the Infrastructure Constraint Report.
- The Infrastructure Constraint Report indicates some level of upgrades for stormwater will be required to accommodate a reasonable level of growth.
- Sufficient capacity in the local primary, intermediate and secondary school networks.
- The wider area is constrained by existing electricity assets and there are plans to increase capacity. The timing and sizing of the upgrade will be a key consideration to unlock and accommodate the growth.

## Identified Key Constraints

The site is currently classed as LUC 1 land – however, as this site is currently identified in HPUDS it does not fall within the definition of HPL under the NPS-HPL. However, further soil experts advised the site is considered to be a highly productive soil with low levels of constraints. Some variability in mapped soils is noted and would benefit from a site-specific assessment.

The western edge along Lyndhurst Road has co	onstraints from proximity to existing dwellings
and the presence of lifestyle blocks.	
Site Advantages	Site Disadvantages
<ul> <li>As the site is already identified in HPUDS, NPS-HPL's restrictions around development of HPL do not apply.</li> <li>Good level of accessibility to Tomoana and Ōmāhu employment areas, and a range of services, facilities and amenities within the Hastings centre relative to other greenfield areas.</li> <li>Adjacent to both the Hawke's Bay Regional Sports Park and Frimley Park.</li> <li>Proximate to future bus routes as identified under RLTP, as well as proximate to the existing cycling networks.</li> <li>Existing programme in place for the extension of wastewater reticulated network.</li> <li>Multiple landowners, including council- owned land, can help to support greater competition in the greenfield development market.</li> <li>Potential connections to the recently developed Lyndhurst Road subdivision to the west already provided. This would enable integration with existing neighbourhood amenities.</li> </ul>	<ul> <li>The entire site is subject to LUC 1 with further soil analysis indicating its soil is highly productive with fewer constraints.</li> <li>Fragmented land ownership will require strong coordination from the Council and may impact on short-term deliverability of land and the overall capacity that can be obtained. However, it is known one developer who has purchased a number of the properties between the Council owned detention basin and the Lindisfarne playing fields.</li> <li>Not all landowners may be motivated (or able) to redevelop.</li> <li>Proximity to productive horticultural uses may give rise to some reverse sensitivity effects (e.g. from spray drift). Sufficient buffer to residential development required.</li> <li>No clear defensible urban boundary with the exception of "The Farne" sportsfield – may lead to pressure for further expansion in this area.</li> </ul>

Site Reference:	HN2a Te Mata Mushrooms (Residential)	Status:	Exclude from FDS
Site address:	Brookvale Road, Hastings	Site area:	39.9ha
Landowner(s):	Comprises approx. 4 different land titles and three of them are under one single ownership.		
Sources:	Nominated by the development community (Te Mata Mushrooms Brookvale Road Ltd)		
Metrics:	250 dwellings (Note: landowner has signalled some non-residential uses for this site such as a healthcare retreat).		
Overall MCA Score/Ranking	Score: 56/76; Ranking 9= of 28 (Short list).		



Figure 7 - Location Plan

- Relatively straight forward ability to expand existing reticulated water and wastewater networks. The Infrastructure Constraint Report did not signal wastewater to be an issue to accommodate growth, with localised improvements to optimise the provision of growth capacity in Brookvale needed.
- Stormwater is relatively more challenging compared to Hastings and Flaxmere areas. A potential solution would be consolidated stormwater detention and/or wetland treatment with other sites. This area is also subject to the TANK drinking water source protection zone and will require careful design and treatment for water quality.
- Existing capacity in the local primary, intermediate and secondary school networks.
- Currently limited access to the existing or proposed bus network and cycle facilities. Along with neighbouring sites, may require extension of these networks to support any growth.
- Requires investment in capital assets for electricity infrastructure.

#### Identified Key Constraints



Site Reference:	HN2b Arataki Extension (Residential)	Status:	Existing HPUDS Site to be Retained
Site address:	Arataki Road, Hastings	Site area:	12.1ha
Landowner(s):	Comprises approx. 4 different land titles and three of them are under single ownership.		
Sources:	Existing HPUDS – Reserve Residential Growth (Arataki Extension); Also nominated by the development community (Development Nous)		
Metrics:	110 dwellings		
Overall MCA Score/Ranking	Score: 56/76; Ranking 9= of 28 (She	ort list).	



Figure 8 - Location Plan

## Infrastructure Triggers and /or Considerations to support urbanisation

- Relatively straight forward ability to expand existing reticulated water and wastewater networks. The Infrastructure Constraint Report did not signal wastewater to be an issue to accommodate growth, with localised improvements to optimise the provision of growth capacity in Brookvale needed.
- Stormwater is relatively more challenging compared to Hastings and Flaxmere areas. A
  potential solution would be consolidated stormwater detention and/or wetland
  treatment with other currently undeveloped sites. This area is also subject to the TANK
  drinking water source protection zone and will require careful design and treatment for
  water quality.
- Existing capacity in the local primary, intermediate and secondary school networks.
- Currently limited access to the existing or proposed bus network and cycle facilities. Along with neighbouring sites, may require extension of these networks to support any growth.
- Require investment in capital assets for electricity infrastructure.

## **Identified Key Constraints**

The site is classed as LUC 3 land. Since the site is currently identified in HPUDS as a reserve residential growth area, it does not fall within the exemption of HPL under the NPS-HPL.. Further soil experts advised top terrace adjacent to Arataki Road has some constraints given the proximity of the existing residential edge and soils present on site. While appearing to be of good quality, the area has never been intensively used and may be a result of limitations in recent fluvial soils.



# Site Advantages Existing programme in place for the extension of the reticulated wastewater network in this area.

- Potential to connect in with the recently developed Brookvale Road subdivision. This would enable integration with existing neighbourhood amenities.
- Soil experts advise the site has less value for productive uses.
- Less fragmented land ownership means easier to get all or most of the land owners motivated for redevelopment over a shorter period.
- Relatively straightforward to extend water and wastewater networks.
- Located proximate to other growth areas, which allows for more comprehensive development to support infrastructure investment.
- Strong natural boundary in the form of a ridgeline to form a clear defensible urban boundary.

## Site Disadvantages

- The site is currently classed as LUC 3 land and it does not fall within the exemption of HPL under the NPS-HPL.
- Less accessible and proximate to existing and/or future bus routes as identified under Regional Land Transport Plan, as well as to the existing cycling networks.
- Proximity to neighbouring former Mushroom Farm may give rise to some reverse sensitivity effects (note: the Mushroom Farm Site -HN2a – is also proposed for urbanisation)
- The southern portion of the site has not been subject to any flood modelling so some uncertainty as to natural hazard risks.

Site Reference:	HN6 Brookvale Road (Residential)	Status:	Existing HPUDS site to be Retained
Site address:	Brookvale Road, Hastings	Site area:	9.1ha
Landowner(s):	Comprises approx. 5 different land titles and approximately 50% of the site is under one single ownership.		
Sources:	Existing HPUDS - Residential Growth (Brookvale Road/Romanes Drive); Also nominated by development community (Terry Evans; MetlifeCare; Heather & Mike Murphy and neighbours)		
Metrics:	80 dwellings (Note: this site has been refined down to a smaller area based on the constraints analysis).		
Overall MCA Score/Ranking	Score: 58/76; Ranking 8 of 28 (Short list).		



Figure 9 - Location Plan

- Relatively straight forward ability to expand existing reticulated water and wastewater networks. The Infrastructure Constraint Report did not signal wastewater to be an issue to accommodate growth, with localised improvements to optimise the provision of growth capacity in Brookvale needed.
- Stormwater is relatively more challenging compared to Hastings and Flaxmere areas. A potential solution would be consolidated stormwater detention and/or wetland treatment with other sites. This area is also subject to the TANK drinking water source protection zone and will require careful design and treatment for water quality.
- Existing capacity in the local primary, intermediate and secondary school networks.
- Currently limited access to the existing or proposed bus network and cycle facilities. Along with neighbouring sites, may require extension of these networks to support any growth.
- Requires investment in capital assets for electricity infrastructure.



#### Identified Key Constraints

The site is classed under LUC 3 land. Further soil experts advised the full extent of HN6 is considered to be of good productive capacity. Some constraints exist regarding the proximity of competing land uses, some fragmentation and some variability in soil. Waterlogging and drainage issues occur in portions of the area.



#### Site Advantages

- As the site is already identified in HPUDS, NPS-HPL's restrictions around development of HPL do not apply.
- Existing programme in place for the extension of wastewater reticulated network.
- Less fragmented land ownership means easier to get all or most of the land owners motivated for redevelopment over a shorter period.
- The site is largely free from natural hazard constraints.
- Existing stream / canal along eastern and northern boundaries provides a defensible urban boundary.
- Relatively straightforward to extend water and wastewater networks.
- Locate proximate to other two preferred growth areas, which allows for large-scale comprehensive development.

A small part of the site is subject to identified flooding hazards along the northern boundary in the vicinity of the existing canal / stream.



#### Site Disadvantages

- Less accessible and proximate to existing and/or future bus routes as identified under Regional Land Transport Plan, as well as to the existing cycling networks.
- Proximity to productive horticultural uses may give rise to some reverse sensitivity effects (e.g. from spray drift). Sufficient buffer to residential development required.
- Whilst noting that the site is not currently in productive use, soil experts have advised that the site is considered to be of good productive capacity (note this would likely require site amalgamation to be economically feasible).



Site Reference:	HN10 Oderings Site (Residential)	Status:	Greenfield Residential Expansion
Site address:	Brookvale Road, Hastings	Site area:	2.03 ha
Landowner(s):	Single land ownership.		
Sources:	Nominated by the development community (Catherine Reaburn); Also there is an existing resource consent application lodged for the site.		
Metrics:	35 units as per consent application (at the time prepared this information and assessed the site, no consent decision has been made).		
Overall MCA Score/Ranking	Score: 63/76; Ranking 1 of 28 (Short list).		



Figure 10 - Location Plan



Site Advantages	Site Disadvantages
<ul> <li>Good level of accessibility to Havelock North centre, and a range of services, facilities and amenities relative to other greenfield areas.</li> <li>Water, wastewater and stormwater infrastructure servicing solutions are addressed as part of the existing consent application.</li> <li>Existing resource consent application means a high level of motivation for development over a short period.</li> <li>Strong natural boundaries given surrounding sites zone residential.</li> </ul>	<ul> <li>The site is classed under LUC 3 land. However, soil experts advised the site is already developed and highly modified under Oderings Nursery operations. It was previously under impermeable coverage so productive capacity was already lost/compromised.</li> </ul>

Site Reference:	HN3a Middle Road (Residential)	Status:	Existing HPUDS site to be Retained
Site address:	Middle Road, Havelock North	Site area:	21.14ha
Landowner(s):	4 different land titles with two sepa	arate owner	S.
Sources:	Existing HPUDS – Reserve Residential Growth (Middle Road); Nominated by the development community (McKenna; also identified by FDS TAG and Consultant Group; southern portion of site identified by Save the Plains.		
Metrics:	220 dwellings		
Overall MCA Score/Ranking	Score: 52/76; Ranking 16 of 28 (Sho	ort list).	



Figure 11 - Location Plan

- Relatively straight forward ability to expand existing reticulated water and wastewater networks however there are some potential capacity constraints which will need to be addressed to enable development.
- Stormwater is more challenging compared to other sites in Hastings and Flaxmere. Would likely require a consolidated stormwater detention and/or wetland treatment with other sites. Careful design and treatment will be required for water quality.
- Difficult to expand local primary school capacity. Would likely require increased capacity at Havelock North Intermediate & High Schools. MoE may need to look at integrated school rolls.
- Currently, limited access to the passenger transport and active mode networks.
- Does not give rise to any notable issues for electricity infrastructure.

#### Identified Key Constraints

-	
The site is classed under LUC 2 land and since	Part of the area is subject to flooding. Noting
the site is currently identified in HPUDS as a	previous ponding history and proposed
reserve residential growth area, it does not fall	detention for Iona development. A large



Site Reference:	HN3b Middle Road Extension (Residential)	Status:	Greenfield Residential Expansion
Site address:	Middle Road, Havelock North	Site area:	32.2ha
Landowner(s):	16 different land titles with 9 separate owners.		
Sources:	Nominated by the development community (McKenna Group); also identified by FDS TAG and Consultant Group. Southern portion of site identified by Save the Plains.		
Metrics:	420 dwellings		
Score: 52/76; Ranking 16 of 28 (Short list).	Score: 53/76; Ranking 14= of 28 (SI	nort list).	



Figure 12 - Location Plan

- Relatively straight forward ability to expand existing reticulated water and wastewater networks however there are some potential capacity constraints which will need to be addressed to enable development.
- Stormwater is more challenging compared to other sites in Hastings and Flaxmere. Would likely require a consolidated stormwater detention and/or wetland treatment with other sites. Careful design and treatment will be required for water quality.
- Difficult to expand local primary school capacity. Would likely require increased capacity at Havelock North Intermediate & High Schools. MoE may need to look at integrated school rolls.
- Currently, limited access to the passenger transport and active mode networks, thereby requiring a greater level of investment.
- Does not give rise to any notable issues for electricity infrastructure.





Site Reference:	FM9 (Residential)	Status:	Merged with FM2
Site address:	Portsmouth Road (Northwest),	Site area:	59.6ha
	Flaxmere		
Landowner(s):	The site comprises 2 land titles eac	h under sep	parate ownership.
Sources:	Nominated by the development community (Maven Collective; Save the		
	Plains Group); Also identified by FDS TAG and Consultant Group.		
Metrics:	500 dwellings (Note: this site has been refined down to a smaller area		
	based on the constraints analysis).		
Overall MCA	Score: 59/76; Ranking 4= of 28.		
Score/Ranking			



#### Figure 13 - Location Plan

## Infrastructure Triggers and /or Considerations to support urbanisation

- Relatively straight forward ability to expand existing reticulated water and wastewater networks. Infrastructure Constraint Report noted little constraints for wastewater post-IAF work, with some street-level upgrades that may be required.
- The Infrastructure Constraint Report indicates some level of upgrades for stormwater will be required to accommodate a reasonable level of growth in Flaxmere and Irongate catchment. This area is also subject to the TANK drinking water source protection zone and will require careful design and treatment for water quality.
- May lead to a requirement for capacity upgrades of several intersections in the wider Flaxmere area (along with potential development of other sites).
- Existing capacity in the local primary, intermediate and secondary school networks.
- New electricity assets are likely to required including a substation and sub-transmission upgrades.

## Identified Key Constraints

Part of the site is classed under LUC 3 land and it is part of the identified Roys Hill Wine-growing area. Soil experts further advise that there is some variability in soil typologies through this area



Site Reference:	FM2 Portsmouth Road (Residential)	Status:	Greenfield Residential Expansion
Site address:	Portsmouth Road (Southwest), Flaxmere	Site area:	17.2ha
Landowner(s):	Single ownership.		
Sources:	Nominated by the development community (Maven Collective; Save the Plains Group); also identified by FDS TAG and Consultant Group.		
Metrics:	330 dwellings (Note: this site has been refined down to a smaller area based on the constraints analysis).		
Overall MCA Score/Ranking	Score: 59/76; Ranking 4= of 28.		



Figure 14 - Location Plan

- Relatively straight forward ability to expand existing water and wastewater reticulated networks Infrastructure Constraint Report noted little constraints for wastewater post-IAF work, with some street-level upgrades that may be required.
- The Infrastructure Constraint Report indicates some level of upgrades for stormwater will be required to accommodate a reasonable level of growth in Flaxmere and Irongate catchment. This area is also subject to the TANK drinking water source protection zone and will require careful design and treatment for water quality.
- Existing capacity in the local primary, intermediate and secondary school networks.
- Electricity assets are likely to require substation and sub-transmission upgrades.



#### Identified Key Constraints



Site Reference:	FM11 Stock Road (Residential)	Status:	Exclude from FDS
Site address:	Stock Road, Flaxmere	Site area:	57.2ha
Landowner(s):	Comprises 5 different land titles all under different ownership. Approximately 26% of the site is Crown land and it is occupied by an existing childcare centre.		
Sources:	Nominated by the development community (Save the Plains Group).		
Metrics:	515 dwellings (Noted this site has been refined down based on constraints analysis to the most suitable area)		
Overall MCA Score/Ranking	Score: 56/76; Ranking 9= of 28.		



Figure 15 - Location Plan

- Relatively straight forward ability to expand existing water and wastewater reticulated networks, especially since there is a current programme underway for areas in the south of Flaxmere and Irongate to allow for a significant amount of additional housing.
- The Infrastructure Constraint Report indicates some level of upgrades will be required to accommodate a reasonable level of growth in Flaxmere and Irongate catchment.
- Existing capacity in the local primary and secondary school networks at Bridge Pa School and Flaxmere College. Will require Ministry Transport.
- Electricity assets are likely to require substation and sub-transmission upgrades.
- Upgrades to the roading network both urbanisation and intersection capacity (including to State Highways) as well as roading extensions will be required.

## Identified Key Constraints

Part of the site is classed under LUC 1 land.	A very small part of the site is subject to the
Soil experts further advise that in areas to the	identified port/airport noise boundaries. It is
equestrian park south and west, soils	located proximate to the Hastings Aerodrome,





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Site Reference:	BP4 Hastings Golf Club (Residential)	Status:	Exclude from FDS
Site address:	Maraekakaho Road – east of Hastings Golf Course	Site area:	95.8ha
Landowner(s):	15 different land titles. The majority of these titles are under different ownership.		
Sources:	Nominated by the development community (Hastings Golf Development Ltd; Save the Plains Group ); also identified by FDS TAG and Consultant Group.		
Metrics:	720 dwellings.		
Overall MCA Score/Ranking	Score: 52/76; Ranking 16= of 28.		



Figure 16 - Location Plan

- Water may require connection to the reticulated network in the Bridge Pa area.
- There is a current programme underway for areas in the south of Flaxmere and Irongate to allow for a significant amount of additional housing.
- The Infrastructure Constraint Report indicates some level of upgrades will be required to accommodate a reasonable level of growth in Flaxmere and Irongate catchment.
- Significant investment will be required for electricity infrastructure to urbanise the Flaxmere South / Bridge Pa area (substation and sub-transmission upgrades).
- Upgrades to the roading network both urbanisation and intersection capacity (including to State Highways) as well as roading extensions will be required.
- Existing capacity in the local primary and secondary school networks at Bridge Pa School and Flaxmere College. Will require Ministry Transport.

#### Identified Key Constraint

Part of the site is classed under LUC 3 land. Soil experts further advise that this area has limited productive values and is challenged for productive uses.

Site Advant	ages	Site	Disadvantages
Good le	evel of accessibility to Irongate	•	A lower level of accessibility to urban
employ	ment area.		areas relative to other greenfield areas.
The site	is not subject to any significant	•	Less accessible and proximate to existing
natural	hazard constraints.		and/or future bus routes as identified
Multiple	landowners, including council-		under Regional Land Transport Plan, as
owned	land, can help to support greater	`	well as to the existing cycling networks.
compet	tition in the greenfield	•	Proximity to productive horticultural uses
develop	oment market.		may give rise to some reverse sensitivity
<ul> <li>Potentic</li> </ul>	al to undertake comprehensive		effects (e.g. from spray drift). Sufficient
develop	oment with another adjacent	l	buffer to residential development
preferre	ed growth area (FM11) and the	1	required.
adjacer	nt Hastings Golf Course, which	•	Fragmented land ownership will require
could d	eliver a large number of dwellings		coordination from the Council and may
over a s	hort period of time.	i	impact on short-term deliverability of land
There a	re benefits and opportunities for		and the overall capacity that can be
integrat	ted strategic planning for water		obtained.
and wa	istewater infrastructure of the	•	Not all landowners may be motivated (or
wider a	rea due to the potential scale of		able) to redevelop.
develop	oment in this area.	•	Proximate to the Hastings Aerodrome
<ul> <li>Despite</li> </ul>	the site being partially subject to		(mostly outside existing noise contours).
LUC 3 lo	and, soil experts have advised that		Could limit future expansion or
the area	a is less productive than other rural		development of the Aerodrome.
areas in	proximity to this site.	• :	Significant capital investments may be
There a	re opportunities to be developed	l	required for school and electricity
with the	adjacent industrial sites and	I	intrastructure to support the urbanisation
better s	upport expansion of existing		ot this area.
infrastru	cture.		

Site Reference:	NC4a The Loop (Residential)	Status:	Existing HPUDS Site to be Retained
Site address:	The Loop and Willowbank Ave, Napier	Site area:	23.5 ha
Landowner(s):	Under single ownership.		
Sources:	Existing HPUDS - Residential Growth (The Loop); Also nominated by development community (Development Nous)		
Metrics:	175 dwellings.		
Overall MCA Score/Ranking	Score: 54/76; Ranking 13 of 28.		



Figure 17 - Location Plan

- Relatively straight forward ability to expand existing reticulated water and wastewater networks. GHD report indicates upgrades may include new pump stations and network upgrades.
- Stormwater will require significant and coordinated investment with potential uncertainties of ongoing maintenance. Part of the area is also subject to the TANK drinking water source protection zone and will require careful design and treatment for water quality.
- Existing capacity in the local primary, intermediate and secondary school networks.
- The wider area is constrained by existing electricity assets and there is planned to increase capacity. The timing and sizing of the upgrade will be the key considerations to unlock and accommodate the growth.

## **Identified Key Constraints**

-	
The site is classed under LUC 3 land –	The entire site is subject to tsunami risks under
however, as this site is currently identified in	a 1000 and 2500 yr ARI with flood depths up
HPUDS it does not fall within the definition of	to 1m across a large portion of the site under

HPL under the NPS-HPL. However, further soil experts advised the soils and climate of the area (NC4a – NC4d) are of good productive capacity but suffer limitations regarding drainage and waterlogging.



the 1.99m SLR assumption. The immediate area was also affected by Cyclone Gabrielle and it is within the identified flood hazard area. An existing technical report (GHD report) indicates the area is less constrained by flooding. It should be noted that a sizable area of the site (15%) will still need to be set aside for a stormwater detention basin to manage the stormwater volume generated by the proposed development area.



#### Site Advantages Site Disadvantages Very good level of accessibility when Entire site is subject to LUC 3 classified ٠ compared with all other greenfield sites land. due to proximity to multiple schools, Affected by 1000 and 2500 yr ARI tsunami ٠ Awatoto employment area, Napier and risks and sea level rise although to a lesser Taradale centres, employment areas and extent than other greenfield options considered in Napier. Urbanisation means existing supermarkets. more people and infrastructure would be Adjacent to existing off-street cycle • network providing connections to other exposed to these risks. amenities / destinations. Isolated/distant from high ground in terms Located at the edge of the existing urban of potential evacuation in a tsunami area, thereby great opportunities with event Part of the immediate area was affected improved access to a wide range of by Cyclone Gabrielle. amenities and PT network in Napier City. The site is subject to high-risk liquefaction. Potential to undertake comprehensive ٠ Generally poor / soft soils across the site. development with three other adjacent preferred growth areas (NC4b and Urbanisation could exacerbate local flooding risks, including displacement of NC4d), which could deliver a large stormwater that is detained here. Will number of homes over a short period of require a comprehensive approach to time Redevelopment of this area could stormwater management. • potentially help support wider flood Proximity to productive horticultural uses mitigation works for the Maraenui area. may give rise to some reverse sensitivity As the site is already identified in HPUDS, effects (e.g. from spray drift). Sufficient restrictions around development of HPL buffer to residential development do not apply. required.

Site Reference:	NC4b Riverbend (Residential)	Status:	Existing HPUDS Site to be Retained
Site address:	Riverbend Road, Napier	Site area:	23.3ha
Landowner(s):	Under single ownership.		
Sources:	Existing HPUDS - Residential Growth (Riverbend);		
	Also nominated by the development community (Development Nous)		
Metrics:	660 units (Based on the development concept plan provided as part of the		
	former Covid Fast Track consent application)		
Overall MCA	Score: 49/76; Ranking 18 of 28.		
Score/Ranking			



Figure 18 - Location Plan

- Relatively straight forward ability to expand existing reticulated water and wastewater networks. GHD report indicates upgrades may include new pump stations and network upgrades.
- Stormwater will require significant and coordinated investment with potential uncertainties of ongoing maintenance. Part of the area is also subject to the TANK drinking water source protection zone and will require careful design and treatment for water quality.
- Existing capacity in the local primary, intermediate and secondary school networks.
- The wider area is constrained by existing electricity assets and there is planned to increase capacity. The timing and sizing of the upgrade will be the key considerations to unlock and accommodate the growth.

#### Identified Key Constraints

The site is classed under LUC 3 land – however, as this site is currently identified in HPUDS it does not fall within the definition of HPL under the NPS-HPL. However, further soil experts advised the soils and climate of the area (NC4a – NC4d) are of good productive capacity





due to proximity to multiple schools, Awatoto employment area, Napier and Taradale centres, employment areas and existing supermarkets.

- Adjacent to existing off-street cycle network providing connections to other amenities / destinations.
- Located at the edge of the existing urban area, thereby great opportunities with improved access to a wide range of amenities and passenger transport network in Napier City.
- Strong development motivation from the land owner for redevelopment in the short term.
- Provides for a significant level of residential development capacity within the context of the potential long-term shortfall identified.
- Potential to undertake comprehensive development with three other adjacent preferred growth areas (NC4a and NC4d), which could deliver a large number of dwellings over the short-to-medium term.
- Development may be undertaken in partnership with mana whenua, supporting the wellbeing of whanau.
- Substantial investigation around hazard risks of the site has been undertaken since HPUDS was adopted and potential solutions have been identified and factored into masterplans.
- Redevelopment of this area could help support wider flood mitigation works for the Maraenui area.
- As the site is already identified in HPUDS, NPS-HPL's restrictions around development of HPL do not apply.

liquefaction which means more people and infrastructure may be exposed to these hazards relative to other greenfield areas.

- Isolated/distant from high ground in terms of potential evacuation in a tsunami event.
- Part of the immediate area was affected by Cyclone Gabrielle.
- Part of the site is subject to high-risk liquefaction. Generally poor / soft soils across the site.
- Higher risk and potential operational costs for maintaining infrastructure if transferred to Council ownership due to natural hazard impacts.
- Higher costs for land development to address natural hazard risks, stormwater requirements and ground conditions may impact on feasibility.
- Urbanisation could exacerbate local flooding risks. Will require a comprehensive approach to stormwater management.
- Proximity to productive horticultural uses may give rise to some reverse sensitivity effects (e.g. from spray drift). Sufficient buffer to residential development required.

Site Reference:	NC4c Waverley Road (Residential)	Status:	Exclude from FDS
Site address:	Waverley Rd North (The Loop), Napier	Site area:	56.0 ha
Landowner(s):	10 different land titles. The majority of these titles are under different ownership. However, one landowner controls over 40% of the area.		
Sources:	Nominated by the development community (Development Nous)		
Metrics:	335 dwellings.		
Overall MCA	Score: 45/76; Ranking 20= of 28.		
Score/Ranking			



Figure 19 - Location Plan

- Relatively straight forward ability to expand existing reticulated water and wastewater networks (note: this site was not considered within the GHD report).
- Stormwater will require significant and coordinated investment with potential uncertainties of ongoing maintenance. GHD report also indicates a large portion of this site may be required for stormwater detention.
- Existing capacity in the local primary, intermediate and secondary school networks.
- The wider area is constrained by existing electricity assets and there is planned to increase capacity. The timing and sizing of the upgrade will be the key considerations to unlock and accommodate the growth.
- Noted that the site has been identified, under a technical report, to be used in part for mitigation of natural hazards as well as part of the stormwater infrastructure for the [now expired] COVID19 Fast Track consent application of the NC4b site.

#### **Identified Key Constraints**

The site is classed under LUC 2 and LUC 3 land. However, further soil experts advised the soils and climate of the area (NC4a – NC4d) are of good productive capacity but suffer limitations regarding drainage and waterlogging as well as fragmentation due to lifestyle developments.


Taradale centres, employment areas and existing supermarkets.

- Located at the edge of the existing urban area, thereby great opportunities with improved access to a wide range of amenities and passenger transport network in Napier City.
- Strong development motivation from the land owner for redevelopment in the short term.
- Potential to undertake comprehensive development with three other adjacent preferred growth areas (NC4a and NC4d), which could deliver a large number of dwellings over the short-to-medium term.
- Development may be undertaken in partnership with mana whenua, supporting the wellbeing of whanau.
- Investigation around hazard risks of the site has been undertaken since HPUDS was adopted and potential solutions have been identified and factored into masterplans.
- Redevelopment of this area could help support wider flood mitigation works for the Maraenui area.

- Impacted by a number of natural hazard risks including tsunami risks, flooding and liquefaction which means more people and infrastructure may be exposed to these hazards relative to other greenfield areas.
- Isolated/distant from high ground in terms of potential evacuation in a tsunami event.
- Part of the immediate area was affected by Cyclone Gabrielle.
- Part of the site is subject to high-risk liquefaction.
- Higher risk and potential operational costs for maintaining infrastructure if transferred to Council ownership due to natural hazard impacts.
- Higher costs for land development to address natural hazard risks and ground conditions may impact on feasibility.
- Urbanisation could exacerbate local flooding risks, and will displace stormwater that is detained on this site Will require a comprehensive approach to stormwater management.
- Proximity to productive horticultural uses may give rise to some reverse sensitivity effects (e.g. from spray drift). Sufficient buffer to residential development required.

Site Reference:	NC4d South Pirimai (Residential)	Status:	Existing HPUDS Site to be Retained
Site address:	Waverley Road North, Napier	Site area:	61.6 ha
Landowner(s):	10 different land titles. The majority of these titles are under different ownership. However, one landowner controls over 40% of the area.		
Sources:	Existing HPUDS - Reserve Area (South Pirimai); Also Nominated by the development community (Development Nous)		
Metrics:	370 dwellings.		
Overall MCA Score/Ranking	Score: 45/76; Ranking 20= of 28.		



Figure 20 - Location Plan

- Relatively straight forward ability to expand existing reticulated water and wastewater networks. GHD report indicates upgrades may include new pump stations and network upgrades.
- Stormwater will require significant and coordinated investment with potential uncertainties of ongoing maintenance. Large portions of the site (48%) are identified as being potentially required for future stormwater detention basins to serve this site and the wider area within the GHD report.
- Existing capacity in the local primary, intermediate and secondary school networks.
- The wider area is constrained by existing electricity assets and there are plans to increase capacity. The timing and sizing of the upgrade will be the key considerations to unlock and accommodate the growth.

#### Identified Key Constraints

The site features both LUC 2 and LUC3 soil and since the site is currently identified in HPUDS as a reserve residential growth area, it does not fall within the exemption of HPL under the NPS-

HPL Soil experts have further advised the soils and climate of the area (NC4a – NC4d) are of good productive capacity but do suffer some limitations regarding drainage and waterlogging as well as fragmentation due to lifestyle developments.



The entire site is subject to tsunami risks under a 100 (see below), 500, 1000 and 2500 yr ARI (under both 1m and 1.99m SLR assumptions). Flood depths of greater than 2m across a large portion of the site under the more conservative 1.99m SLR assumption. Isolated/distant from high ground in terms of potential evacuation. This site has a deeper flood depth compared to one of the other adjacent preferred growth areas (NC4a) but is less prominent compared to NC4b.

Parts of the site were impacted by Cyclone Gabrielle and known flood hazards are also present.



Adjacent to existing off-street cycle infrastructure may be exposed to these network providing connections to hazards relative to other greenfield areas. other amenities / destinations. Isolated/distant from high ground in terms of • potential evacuation in a tsunami event. Urbanisation of parts of Ulyat Road • already undertaken as part of the Part of the immediate area was affected by Willowbank Retirement Village Cyclone Gabrielle. Development. Part of the site is subject to high-risk Multiple landowners within this area liquefaction. Generally poor / soft soils across the site. could help to support greater competition in the greenfield Higher risk and potential operational costs for maintaining infrastructure if transferred to development market. Potential to undertake comprehensive Council ownership due to natural hazard • development with three other impacts. adjacent preferred growth areas Higher costs for land development to (NC4a and NC4b), which could deliver address natural hazard risks, stormwater a large number of dwellings over a needs and ground conditions may impact short period of time. feasibility. Urbanisation could exacerbate local • The large site provides opportunities to • flooding risks and will displace stormwater address natural hazard risks (in line with what is proposed for NC4d) and also that pools on this site to another site. Will require a comprehensive approach to deliver much higher capacity of dwellings than currently estimated. stormwater management. Proximity to productive horticultural uses may • give rise to some reverse sensitivity effects (e.g. from spray drift). Sufficient buffer to residential development required. • Fragmented land ownership will require coordination from the Council and may impact on short-term deliverability of land and the overall capacity that can be obtained. • Not all landowners may be motivated (or able) to redevelop, noting significant portions of land will be required for stormwater management. • The site is predominantly LUC 3 land but features some LUC2 land. As such, it does not fall within the exemption of HPL under the NPS-HPL. • Limited defensible urban boundary to the south (Waverley Road)

Site Reference:	NC7a & NC7b Willowbank Ave (Residential)	Status:	Exclude from FDS	
Site address:	Willowbank Avenue, Napier	Site area:	22.6 ha	
Landowner(s):	10 different land titles. The majority of these titles are under different ownership. However, one landowner controls over 50% of the area.			
Sources:	Nominated by the development community (Development Nous)			
Metrics:	155 dwellings.			
Overall MCA Score/Ranking	Score: 41/76 and 42/76; Ranking 22= and 25 of 28.			



Figure 21 - Location Plan

- Relatively straight forward ability to expand existing reticulated water and wastewater networks.
- Stormwater will require significant and coordinated investment with potential uncertainties of ongoing maintenance. The area is also subject to the TANK drinking water source protection zone and will require careful design and treatment for water quality.
- Existing capacity in the local primary, intermediate and secondary school networks.
- The wider area is constrained by existing electricity assets and there is planned to increase capacity. The timing and sizing of the upgrade will be the key considerations to unlock and accommodate the growth.

### Identified Key Constraints

The site is classed under LUC 2 and LUC 3 land. Further soil experts advised the soils and climate of the area (including the sites at NC4a – NC4d) are of good productive capacity. The site has some limitations in terms of structural vulnerability due to being recent fluvial deposits.



Site Reference:	NC6 Mission Estate (Residential)	Status:	Greenfield Residential Expansion
Site address:	Church Road	Site area:	9.05ha
Landowner(s):	Three titles with two separate landowners.		
Sources:	Nominated by development community (Mission Estate property); also identified by TAG & Consultant group.		
Metrics:	100 dwellings.		
Overall MCA Score/Ranking	Score: 60/76; Ranking 3 of 28.		



#### Figure 22 - Location Plan

# Infrastructure Triggers and /or Considerations to support urbanisation

- Relatively straight forward ability to expand existing reticulated water and wastewater networks.
- Existing capacity in the local primary, intermediate and secondary school networks.
- Existing capacity in local electricity network.

#### Identified Key Constraints

Some part of the site is identified as LUC 1 land. While soil experts advised the wider site has highly productive capacity it is subject to numerous constraints for productive use. The area put forward for potential development is not currently used for productive uses as part of the wider Mission Estate.





Site Reference:	BV3 Bay View (Residential)	Status:	Exclude from FDS
Site address:	Main North Rd, Bay View	Site area:	16.6ha
Landowner(s):	15 different land titles. The majority of these titles are under different ownership.		
Sources:	Existing HPUDS - Residential Growth (Bayview).		
Metrics:	150 dwellings.		
Overall MCA	Score: 42/76; Ranking 22= of 28.		
Score/Ranking			



Figure 23 - Location Plan

- Bay View is at the furthest extent of the water and wastewater networks, will need a substantial level of growth to drive required investment. In particular, wastewater will require pump station and rising main which comes with high costs.
- Some upgrades to the state highway will be required regardless of growth. New and/ or upgraded intersections to the state highway are required to facilitate development and further capacity upgrades to the state highway may be required south of Meeanee Quay. Assume new roading connections internal to the site can be funded by the developer.
- Electricity assets are likely to require substation and sub-transmission upgrades to support further residential growth.
- Depending on the total extent of growth proposed in Bay View, a new primary school may be required.

#### Identified Key Constraints

The site is subject to tsunami risks under a 100, 500, 1000 and 2500-yr ARI with flood depths of greater than 1m across a large portion of the site (under the most conservative1.99m SLR



<ul> <li>Upgrades will be required for water, wastewater, school and electricity infrastructure.</li> <li>Fragmented land ownership will require coordination from the Council and may impact on the overall capacity that can be obtained (note: high-level structure plan for site already prepared).</li> <li>Not all landowners may be motivated (or able) to redevelop.</li> </ul>	
	<ul> <li>Upgrades will be required for water, wastewater, school and electricity infrastructure.</li> <li>Fragmented land ownership will require coordination from the Council and may impact on the overall capacity that can be obtained (note: high-level structure plan for site already prepared).</li> <li>Not all landowners may be motivated (or able) to redevelop.</li> </ul>

Site Reference:	AS1 Onehunga Road North (Residential)	Status:	Exclude from FDS
Site address:	Ahuriri Station (north of	Site area:	52.8ha
	Ohenunga kodaj		
Landowner(s):	The site is under single ownership.		
Sources:	Nominated by the development community (Development Nous); Also put forward by Mana Ahuriri Trust.		
Metrics:	750 dwellings (including potential for Papakainga).		
Overall MCA	Score:46/76; Ranking 19 of 28.		
Score/Ranking			



Figure 24 - Location Plan

- Bay View is at the furthest extent of the water and wastewater networks, will need a substantial level of growth to drive required investment. In particular, wastewater will require pump station and rising main which comes with high costs.
- Some upgrades to the state highway will be required regardless of growth. New and/ or upgraded intersections to the state highway are required to facilitate development and further capacity upgrades to the state highway may be required south of Meeanee Quay. Assume new roading connections internal to the site can be funded by the developer.
- Electricity assets are likely to require substation and sub-transmission upgrades to support further residential growth.
- Depending on the total extent of growth proposed in Bay View, a new primary school may be required.

#### Identified Key Constraints



- Potential to link in with Bay View shared path to provide off-street cycling route to Ahuriri and beyond.
- Single ownership and strong development motivations provide a good opportunity to comprehensively redevelop the site and be able to deliver a large number of dwellings.
- Provides for a significant level of residential development capacity within the context of the potential long-term shortfall identified.
- Provides opportunities for Mana Ahuriri hapu to provide for social, cultural, environmental and economic wellbeing of their whanau (in the event that Mana Ahuriri Trust do choose to purchase Ahuriri Station from the Crown).
- Development of this site could be undertaken in a comprehensive manner with other sites around Bay View, and better support expansion and/or upgrade of existing infrastructure.
- In close proximity to high ground to facilitate evacuation during a tsunami or flood event.

- Limited level of accessibility and proximity to the existing Napier centre area and its existing amenities, facilities and services.
- Impacted by a number of natural hazard risks including tsunami risks, and flooding which means more people and infrastructure may be exposed to these hazards relative to other greenfield areas.
- Majority of the site and parts of the immediate surrounding area was affected by Cyclone Gabrielle.
- Higher risk and potential operational costs for maintaining infrastructure if transferred to Council ownership due to natural hazard impacts.
- Higher costs for land development to address natural hazard risks and ground conditions may impact on feasibility.
- Large investment may be required for upgrades to SH2.
- Upgrades will be required for water, wastewater, school and electricity infrastructure.

Site Reference:	AS2 Onehunga Road South (Residential)	Status:	Exclude from FDS
Site address:	Ahuriri Station (south of	Site area:	31.1ha
	Onehunga Road)		
Landowner(s):	The site is under single ownership.		
Sources:	Nominated by Mana Ahuriri Trust.		
Metrics:	225 dwellings (including potential for Papakainga).		
Overall MCA	Score: 39/76; Ranking 26= of 28.		
Score/Ranking			



#### Figure 25 - Location Plan

### Infrastructure Triggers and /or Considerations to support urbanisation

- Bay View is at the furthest extent of the water and wastewater networks, will need a substantial level of growth to drive required investment. In particular, wastewater will require pump station and rising main which comes with high costs.
- Some upgrades to the state highway will be required regardless of growth. New and/ or upgraded intersections to the state highway are required to facilitate development and further capacity upgrades to the state highway may be required south of Meeanee Quay. Assume new roading connections internal to the site can be funded by the developer.
- Electricity assets are likely to require substation and sub-transmission upgrades to support further residential growth.
- Depending on the total extent of growth proposed in Bay View, a new primary school may be required.

#### Identified Key Constraints

The site is classed under LUC 3 land. However,	The entire site is subject to tsunami risks under
further soil experts also advised the site is	a 100, 500, 1000 and 2500-yr ARI with flood



highly constrained due to drainage and

- Potential to link in with Bay View shared path to provide off-street cycling route to Ahuriri and beyond.
- Single ownership and strong development motivations provide a good opportunity to comprehensively redevelop the site and be able to deliver a large number of dwellings.
- Provides opportunities for Mana Ahuriri hapu to provide for social, cultural, environmental and economic wellbeing of their whanau (in the event that Mana Ahuriri Trust do choose to purchase Ahuriri Station from the Crown).
- Development of this site could be undertaken in a comprehensive manner with other sites around Bay View, and better support expansion and/or upgrade of existing infrastructure.

- Limited level of accessibility and proximity to the existing Napier centre area and its existing amenities, facilities and services.
- Impacted by a number of natural hazard risks including tsunami risks, and potentially flooding which means more people and infrastructure may be exposed to these hazards relative to other greenfield areas.
- Full flood modelling for the site has not been undertaken so there remains some uncertainty as to potential impacts of this hazard.
- The site and parts of the immediate surrounding area was affected by Cyclone Gabrielle.
- Higher risk and potential operational costs for maintaining infrastructure if transferred to Council ownership due to natural hazard impacts.
- Higher costs for land development to address natural hazard risks and ground conditions may impact on feasibility.
- Large investment may be required for upgrades to SH2.
- Upgrades will be required for water, wastewater, school and electricity infrastructure.
- Proximate to the Napier Airport which means careful design should take into account to prevent reverse sensitivity effects from the Airport.

Site Reference:	BV 5 Bayview North (Residential)	Status:	Exclude from FDS
Site address:	Bay View, Napier	Site area:	16.6ha
Landowner(s):	Multiple different land titles. The majority of these titles are under different ownership.		
Sources:	Nominated by the development community (Development Nous and Mark Vinall);		
Metrics:	100 dwellings		
Overall MCA Score/Ranking	Score: 42/76; Ranking 22= of 28.		



Figure 26 - Location Plan

- Bay View is at the furthest extent of the water and wastewater networks, will need a substantial level of growth to drive the investment. In particular, wastewater will require pump station and rising main which comes with high costs.
- Some upgrades to the state highway will be required regardless of growth. New and/ or upgraded intersections to the state highway are required to facilitate development and further capacity upgrades to the state highway may be required south of Meeanee Quay. Assume new roading connections internal to the site can be funded by the developer.
- Electricity assets are likely to require substation and sub-transmission upgrades to support further residential growth.
- Depending on the total extent of growth proposed in Bay View, a new primary school may be required.





Site Reference:	BV2 & 4 Bayview East (Residential)	Status:	Exclude from FDS
Site address:	Bay View, Napier	Site area:	63.8ha
Landowner(s):	Multiple different land titles. The majority of these titles are under different ownership.		
Sources:	Nominated by the development community (Development Nous and Mark Vinall);		
Metrics:	BV2 = 59 dwellings; BV4 = 470 dwellings;		
Overall MCA Score/Ranking	Score: 39/76 and 37/76; Ranking 26= and 28 of 28.		



Figure 27 - Location Plan

- Bay View is at the furthest extent of the water and wastewater networks, will need a substantial level of growth to drive the investment. In particular, wastewater will require pump station and rising main which comes with high costs.
- Some upgrades to the state highway will be required regardless of growth. New and/ or upgraded intersections to the state highway are required to facilitate development and further capacity upgrades to the state highway may be required south of Meeanee Quay. Assume new roading connections internal to the site can be funded by the developer.
- Electricity assets are likely to require substation and sub-transmission upgrades to support further residential growth.
- Depending on the total extent of growth proposed in Bay View, a new primary school may be required.

#### Identified Key Constraints

BV4 is classed under LUC 1 land. Further soil experts also advised the site is considered generally good, with some variability in soil type and limitations from drainage at Franklin Road end due to being recent fluvial soils. There are existing well-performing orchards.



also subject to other coastal hazards including high-risk coastal erosion and coastal inundation.				
Site Advantages	Site Disadvantages			
<ul> <li>Multiple landowners can help to support greater competition in the greenfield development market.</li> <li>Good access to local roading networks which will enable integration with the existing Bay View urban area.</li> <li>Potential to link in with Bay View shared path to provide off-street cycling route to Ahuriri and beyond.</li> <li>Development of this site could be undertaken in a comprehensive manner with other sites around Bay View, and better support expansion and/or upgrade of existing infrastructure.</li> </ul>	<ul> <li>BV4 is not identified in HPUDS, restrictions around development of HPL is still applicable.</li> <li>Limited level of accessibility and proximity to the existing amenities, facilities and services in Napier.</li> <li>Limited access to active mode facilities and a good level of investment will be required if the area is urbanised.</li> <li>Impacted by by Cyclone Gabrielle.</li> <li>Large investment may be required for existing roading and SH2 networks.</li> <li>Large investments will be required for water, wastewater, school and electricity infrastructure.</li> <li>Fragmented land ownership will require strong coordination from the Council and may impact on short-term deliverability of land and the overall capacity that can be obtained.</li> <li>Not all landowners may be motivated (or able) to redevelop.</li> </ul>			

Site Reference:	AS3 Airport (Industrial)	Status:	Exclude from FDS
Site address:	Ahuriri Station (south of	Site area:	36.82ha
	Onehunga Road)		
Landowner(s):	The site is under single ownership.		
Sources:	Nominated by Mana Ahuriri Trust.		
Metrics:	36 Ha		
Overall MCA	Score: 48/76; Ranking 9 of 13.		
Score/Ranking			



Figure 28 - Location Plan

- The site (and AS4) is at the further extent of the water and wastewater networks, will need a substantial level of growth to drive the investment. In particular, wastewater will require pump station and rising main which comes with high costs.
- New and/ or upgraded intersections to the state highway are required to facilitate industrial development.
- Require development of substations and lines for electricity infrastructure. Potential for onsite generation via a solar farm to supply electricity - further understanding of generation capacity/demand required.

#### Identified Key Constraints

The majority of the site is likely to be affected by the 1000-year ARI + 1.99m SLR tsunami risk. Whilst no flooding information is available for most of the site, the site is low-lying and is protected to a low degree by a combination of stop banks and drains. Located adjacent to some known flood areas. The site was impacted in parts by Cyclone Gabrielle.



- Good level of accessibility and proximity to Napier Airport and Port as well as state highway network.
- Single ownership and strong development motivations provide a good opportunity to comprehensively redevelop the site.
- Provides opportunities for Mana Ahuriri hapu to provide for social, cultural, environmental and economic wellbeing of their whanau (in the event that Mana Ahuriri Trust do choose to purchase Ahuriri Station from the Crown).
- Development of this site could be undertaken in a comprehensive manner with other sites around Bay View, and better support expansion and/or upgrade of existing infrastructure.
- Not located in close proximity to sensitive land uses and it is unlikely to give rise to any reverse sensitivity effects.
- Low-lying ground but currently some low-level protection by a combination of stop banks and drains.

- Impacted by a number of natural hazard risks including tsunami risks, and potentially flooding which means more businesses may be exposed to these hazards relative to other greenfield areas.
- The site and large parts of the immediate area was affected by Cyclone Gabrielle.
- Higher risk and potential operational costs for maintaining infrastructure if transferred to Council ownership due to natural hazard impacts.
- Higher costs for land development to address natural hazard risks and ground conditions may impact on feasibility.
- Ground conditions / high water table may increase the cost or feasibility to develop compared with other options. Longer term, rising sea levels may have a greater impact on groundwater conditions which could further constrain development.
- Large investment may be required for existing roading and SH2 networks.
- Large investments will be required for water, wastewater and electricity infrastructure.
- Affected by the proposed Te Whanganuiā-Orotu Special Character Landscape which potentially limits the height of future buildings to 3m and future development feasibility (especially if the ground needs to be raised to address flood risk).
- Potential reverse sensitivity impacts on airport operations associated with increased risk of bird strike from ecological enhancements.

Site Reference:	AS4 Ahuriri Station (Industrial)	Status:	Exclude from FDS
Site address:	Ahuriri Station (south of	Site area:	409.4ha
	Onehunga Road)		
Landowner(s):	The majority of the site is under single ownership.		
Sources:	Nominated by Mana Ahuriri Trust.		
Metrics:	Up to 409 Ha		
Overall MCA	Score: 46/76; Ranking 12 of 13.		
Score/Ranking			



Figure 29 - Location Plan

Infrastructure Triggers and /or Considerations to support urbanisation				
• The site (and AS3) is at the further extent c	The site (and AS3) is at the further extent of the water and wastewater networks, will			
need a substantial level of growth to drive	need a substantial level of growth to drive the investment. In particular, wastewater will			
require pump station and rising main which comes with high costs.				
New and/ or upgraded intersections to the state highway are required to facilitate				
industrial development.				
Require development of substations and lines for electricity infrastructure. Potential for on-				
site generation via a solar farm to supply electricity - further understanding of generation				
capacity/demand required.				
Identified Key Constraints				
The site is classed under LUC 3 land. Further	The northern portion of the site includes an			
soil experts also advised the site is highly extensive area of SNA / open wetland				
constrained due to drainage and flooding (second largest in Napier). Future				
from a traditional production view				





The site falls within the proposed Te Whanganui-ā-Orotu Special Character Landscape which potentially limits the height of future buildings to 3m and therefore feasible development (especially if the ground needs to be raised to address flood risk). The site is also in proximity of conservation land and specific design consideration may be required.



	<ul> <li>Potential reverse sensitivity impacts on airport operations associated with increased risk of bird strike from ecological enhancements.</li> </ul>

Site Reference:	H6 Tomoana (Industrial)	Status:	Exclude from FDS
Site address:	Pakowhai Road, Tomoana	Site area:	35ha
Landowner(s):	10 different land titles. Over 50% of the land is under one single ownership.		
Sources:	Existing indicative HPUDS area		
Metrics:	35Ha		
Overall MCA	Score: 49/76; Ranking 8 of 13.		
Score/Ranking			



Figure 30 - Location Plan

- There is some limited trade waste capacity available in this area. There is potential connecting to the trade waste system but it is located in the rail corridor, which requires strategic planning and high costs.
- The upgrade will be required for electricity infrastructure as the existing substations are nearing capacity.

#### **Identified Key Constraints**

The site is classed under LUC 1 land. Further soil experts advised the site has highly productive soil. However, hard urban boundary presents some constraints for development into perennial tree cropping or other high-value enterprises. Constraints increase southeast towards Watties.





Site Reference:	AW1 Awatoto (Industrial)	Status:	Exclude from FDS
Site address:	Awatoto Road	Site area:	37ha
Landowner(s):	Approx. 7 different land titles and all of these titles are under different ownership.		
Sources:	Existing indicative HPUDS area.		
Metrics:	37На		
Overall MCA	Score: 43/76; Ranking 13 of 13.		
Score/Ranking			



Figure 31 - Location Plan

- Located within a proposed water supply extension area and there is more work happening in the Awatoto area over an 18-month programme. The wider industrial area is currently served by local bores.
- Located adjacent to the WWTP which presents opportunities, subject to Council's planning.
- The area is also subject to the TANK drinking water source protection zone and will require careful design and treatment for water quality.
- No major issue for electricity infrastructure.
- Proposed stop bank / flood protection works along northern banks of Tutaekuri River and along Eriksen / McLeod roads proposed as part of the Cyclone Recovery works.

### Identified Key Constraints

The site is classed under LUC 2 and LUC 3 land. Further soil experts also advised the site has drainage and waterlogging as primary constraints and is limited in its productive value.



The majority of the site is assessed to be at risk in the 100-year, 500-year, 1000-year and 2500year ARI + 1.99m SLR tsunami scenarios. The HB Hazard Portal currently shows Tsunami Near Source Inundation affects the entire site and Distant Source Inundation affects part of the site. The site is also affected by identified flooding hazards and it was Impacted by by Cyclone Gabrielle.



#### Good level of accessibility to existing ٠ Awatoto employment areas and labour pool.

- Good level of accessibility to SH51, ٠ railway, bus routes and cycleway.
- Largely flat and suitable for large-scale ٠ industrial development, including potential wet industries subject to water supply issues being addressed.
- No issue with the electricity infrastructure. •
- Opportunities to extend water and . wastewater infrastructure.
- Not located in close proximity to sensitive • land uses and it is unlikely to give rise to any reverse sensitivity effects.
- can be obtained. Flood protections works proposed by ٠ Hawke's Bay Regional Council as part of ٠ Cyclone Gabrielle recovery programme able) to redevelop. would provide increased protection of the site.

- Features land currently identified as containing both LUC2 and LUC3 soils.
- Impacted by by Cyclone Gabrielle.
- Affected by tsunami risks, Tsunami Near Source Inundation and Distant Source Inundation.
- Affected by 100-year return period liquefaction severity and high-risk liquefaction vulnerability. Part of the site is also subject to the highest risk for amplification.
- Fragmented land ownership will require • coordination from the Council and may impact on short-term deliverability of land and the overall industrial capacity that
- Not all landowners may be motivated (or
- Require significant capital investment in reticulated water infrastructure.

Site Reference:	WH1 Whakatu (Industrial)	Status:	Exclude from FDS
Site address:	Anderson Rd Whakatu	Site area:	69.3ha
Landowner(s):	Approx. 20 different land titles. The majority of these titles are under different ownership. Approximately 49% of the site is under one single ownership.		
Sources:	Existing indicative HPUDS area; Also nominated by the development community (Mr Apple New Zealand Ltd)		
Metrics:	69.3Ha		
Overall MCA Score/Ranking	Score: 48/76; Ranking 10 of 13.		



Figure 32 - Location Plan

- Connection to the existing water supply network will be required and it uses a separate network.
- Wastewater is on the domestic system and has limited capacity so will require upgrading. There is potential connecting to the trade waste system but it is located in the rail corridor, which requires strategic planning and potentially high costs.
- Stormwater relies on the HBRC drainage network which is at capacity so all stormwater must be collected, treated and attenuated onsite.
- The upgrade will be required for electricity infrastructure. Unison noted there are plans to upgrade that would be implemented by this growth.


- Fragmented land ownership will require strong coordination from the Council and may impact on short-term deliverability of land and the overall capacity that can be obtained.
- Not all landowners may be motivated (or able) to redevelop.
- Locate proximate to Mangateretere school and Whakatu residential settlement. Controls may be required in terms of

building bulk, traffic and noise to reduce
reverse sensitivity effects.
More challenges for wastewater and
stormwater relative to other areas. There is
potential connecting to the trade waste
system but it is located in the rail corridor,
which requires high costs and consultation
with relevant key stakeholder (KiwiRail).

Site Reference:	IR2 Irongate South (Industrial)	Status:	Recommend to include
Site address:	Longlands Road	Site area:	48ha
Landowner(s):	Approx. 7 different land titles and all of these titles are under different ownership.		
Sources:	Nominated by the development community (David Phillips); Also identified by FDS TAG and Consultant Group.		
Metrics:	48Ha		
Overall MCA Score/Ranking	Score: 53/76; Ranking 5 of 13.		



Figure 33 - Location Plan

#### Infrastructure Triggers and /or Considerations to support urbanisation

- The site is serviced by the reticulated system and there is some capacity for Irongate and Irongate West. An upgrade to provide an area wide wastewater scheme may be possible dependent on the scale and extent of growth in this general area. There is no trade waste capacity.
- The upgrade will be required for electricity infrastructure and will depend on the total growth within the wider Irongate areas.
- The site is subject to TANK drinking water Source Protection Zone which requires a specific design for water quality.



Site Reference:	IR3a Irongate West (Industrial)	Status:	Recommend to include
Site address:	Irongate West	e West Site area: 52.5ha	
Landowner(s):	Two titles with separate landowners (including Heretaunga Tamatea Pou Tahua)		
Sources:	Nominated by Save the Plains and Tamatea Pokai Whenua; also identified by FDS TAG and Consultant Group.		
Metrics:	52 Ha		
Overall MCA Score/Ranking	Score: 57/76; Ranking 2 of 13.		



Figure 34 - Location Plan

## Infrastructure Triggers and /or Considerations to support urbanisation

- The site is serviced by the reticulated system and there is some capacity for Irongate and Irongate West. An upgrade to provide an area wide wastewater scheme may be possible dependent on the scale and extent of growth in this general area. There is no trade waste capacity.
- Careful design and treatment will be required for water quality given the site is subject to TANK drinking water Source Protection Zone.
- The upgrade will be required for electricity infrastructure and will depend on the total growth within the wider Irongate areas.
- New roading connections and/or upgrades may be required to the State Highway. Depending on the scale and level of work required, this may be able to be funded by the developer.

### Identified Key Constraints

The majority of the site is classed under LUC 1 – LUC3 land. The LUC1 land is limited to a narrow band adjoining State Highway 2.



Site Reference:	IR3b Irongate West (Industrial)	Status:	Exclude from FDS	
Site address:	Irongate West	Site area:	53ha	
Landowner(s):	Approx. 8 different land titles under three ownerships.			
Sources:	Nominated by the Save the Plains; also identified by FDS TAG and Consultant			
	Group.			
Metrics:	53Ha			
Overall MCA	Score: 52/76; Ranking 7 of 13.			
Score/Ranking				



Figure 35 - Location Plan

### Infrastructure Triggers and /or Considerations to support urbanisation

- The site is serviced by the reticulated system and there is some capacity for Irongate and Irongate West. An upgrade to provide an area wide wastewater scheme may be possible dependent on the scale and extent of growth in this general area. There is no trade waste capacity.
- Careful design and treatment will be required for water quality given the site is subject to TANK drinking water Source Protection Zone.
- The upgrade will be required for electricity infrastructure and will depend on the total growth within the wider lrongate areas.



New roading connections and/or upgrades may be required to the State Highway. Depending on the scale and level of work required, this may be able to be funded by the developer. Identified Key Constraints The majority of the site is classed under LUC 1 – LUC3 land. Further, soil experts have advised the northern portion of the site has good-quality soil that remains suitable for productive uses. LUC LUC1 LUC2 LUC3 Site Disadvantages Site Advantages Good level of accessibility to existing • The majority of the site is subject to LUC 1 ٠ Irongate employment areas, and - LUC 3 with further soil analysis indicating Flaxmere urban area relative to other the northern portion of the site has goodindustrial areas. quality of soil. Largely flat and unfragmented Not all landowners may be motivated (or • ٠ landholdings suitable for large-scale able) to redevelop. development. Located adjacent to two preferred long-• Existing wastewater capacity is available, term greenfield expansions (FM11 and and there is an existing programme in BP4). Controls may be required in terms of place for the extension of the wastewater building bulk, traffic and noise to reduce reticulated network. reverse sensitivity effects. Good level of accessibility to State • No existing trade waste capacity located ٠ Highway 2. in close proximity to the site. The site is located away from the coastal Large investment may be required for • area, which is less sensitive to coastalnew connections and/or major upgrades related hazards relative to other industrial to SH2. areas.

Site Reference:	SP Severn Precinct (Industrial)	Status:	Recommended to include	
Site address:	58 Mersey St and 58 Severn St Site area: 6 ha			
Landowner(s):	One landowner.			
Sources:	Nominated by Mana Ahuriri Trust.			
Metrics:	6На			
Overall MCA	Score: 58/76; Ranking 1 of 13.			
Score/Ranking				



Figure 36 - Location Plan

#### Infrastructure Triggers and /or Considerations to support urbanisation

- Sufficient water and wastewater capacity to service the development. Relatively
  straightforward ability to expand existing reticulated wastewater reticulated networks, in
  particular, there are opportunities for resilience to the wider Pandora area that could be
  improved.
- Existing stormwater quality issues around Pandora which currently drains directly to the Ahuriri Estuary. On-site treatment and storage should be incorporated into development plans. Noting the site is adjacent to the Embankment Road Wetland SNA which could be utilised to help fulfil stormwater management requirements for the wider area (subject to appropriate treatment).
- New roading connections and/or upgrades may be required to the local roading network. Depending on the scale and level of work required, this may be able to be funded by the developer.
- No known constraint or limitation on electricity infrastructure.

#### **Identified Key Constraints**

The majority of the site is classed under LUC3 land although subject to limitations around drainage and waterlogging. It is noted that it is not currently in productive uses.



The site falls within the proposed Te Whanganui-ā-Orotu Special Character Landscape which potentially limits the height of future buildings to 3m and therefore feasible development (especially if the ground needs to be raised to address flood risk). The site is also in proximity of Significant Natural Area (Embankment Road wetland) and specific design consideration may be required.



# Appendix 5 – Housing and Business Capacity Assessments

! 19?MNapier Hastings Future Development Strategy 2024-2054 | Appendicies

Napier City Council Hastings District Council Hawkes Bay Regional Council

Future Development Strategy

Residential Capacity Assessment – Intensification options Supporting Analysis





## Prepared for:

Hastings District Council Napier City Council Hawke's Bay Regional Council

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## Summary

The Hastings District Council, Napier City Council and Hawke's Bay Regional Council ("the Councils") commissioned Market Economics (M.E) to assist them with the Housing Capacity Assessment (HCA) as well as a Business Capacity Assessment (BCA). These assessments were completed during 2021 and 2022. Subsequently, the Councils worked to ensure compliance with the National Policy Statement on Urban Development (NPS-UD) and are developing a Future Development Strategy (FDS). The aim of the FDS is to "show spatially how local authorities intend to achieve:

- 'well-functioning urban environments', and
- how and where they will provide 'sufficient development capacity' to meet future growth needs over the next 30 years."

Hastings District Council (HDC)<sup>1</sup> have identified potential spatial scenarios for responding to growth and these scenarios were assessed. Growth scenario modelling for Napier City Council was completed in 2021<sup>2</sup>, so no additional growth scenario modelling was carried out for this assessment. The assessment considers the different scenarios relative to an updated baseline i.e., the planning provisions per the proposed district plan (PDP) in Napier City, and Hastings District Council's Plan Change 5 (PC5).

The assessment was completed using several stages, and delivered over an extended period, so the baseline information might not reflect the most recent information. This includes (but is not limited to) the PC5 provisions being proposed. The project aim was to assess how much housing capacity would be enabled across the different options, and to compare the capacity against long term (30-year) demand patterns. The focus is on the existing urban growth areas (intensification). Two levels of intensification are assessed, and these are based on Council's intensification ambitions – accommodating either 60% or 40% of relevant growth via intensification. The balance of growth will be accommodated via greenfield development. The implied growth patterns are compared against historic observations as well as patterns seen in other cities around New Zealand.

HDC with the support of Barkers and Associates (B&A) identified 75 growth areas across the district. These are mix of greenfield areas, intensification areas, satellite towns as well as rural areas. Using these areas and combining these in different ways resulted in five scenarios.<sup>3</sup> This assessment considered the intensification options, and greenfields were excluded from the plan enabled and feasible capacity assessment. Consequently, the scenarios without an intensification element were excluded from the analysis.

The housing demand projections were updated using StatsNZ population projections – specifically the December 2022 release. These projections reflect the impacts of Covid and more recent information about birth, mortality, and migration rates. The new population projections also see a different age structure, with some flow on implications for housing demand, and the type of dwellings that will be demanded.

An estimated 33,530 households<sup>4</sup> reside in Hastings District and this is expected to increase to 43,800 households under a medium-high scenario (by 2052), an increase of 10,270 households. The number of

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<sup>&</sup>lt;sup>1</sup> With support from Barkers and Associates (B&A).

<sup>&</sup>lt;sup>2</sup> Development Capacity Assessment: Intensification Areas. February 2022. A report for Napier City Council by M.E Consulting.

 $<sup>^{\</sup>rm 3}$  A total of eleven options were derived by varying some parameters within the scenarios

<sup>&</sup>lt;sup>4</sup> 2022



households residing in Napier currently<sup>5</sup> is estimated at 26,900, and expected to increase to 32,600<sup>6</sup> by 2052, i.e., an increase of 5,700 households under a medium-high scenario.

The impacts of Cyclone Gabrielle on population and household numbers and future demand are unknown and not reflected in this analysis. Short-term effects could see an increase in demand due to workers assisting with the rebuild moving to the area. But this could be tempered by shifting migration patterns.

#### **Demand Outlook**

The composition and structure of households are important drivers of housing demand. The sociodemographic attributes (age, income, size) of households are considered when estimating demand for housing by type (attached and detached) because it is associated with affordability considerations. At a high level, the projections<sup>7</sup> suggest that:

- In Hastings District, approximately 8,220 additional dwellings<sup>8</sup> will be needed over the coming three decades.
- In Napier, approximately 5,700 additional dwellings will be needed over the same period.

These estimates reflect dwelling demand patterns and the existing dwelling preference patterns. Households make trade-offs between factors such as price, size, and location, leading to demand substitution across dwelling typologies. Therefore, actual dwelling demand patterns (by typology and location) can be expected to change over time.

There are different housing markets, and sub-markets, such as retirement villages and social housing. These markets have their own attributes and features, but they still form part of the total real estate market. The retirement segment captures a portion of dwelling demand associated with senior citizens. Similarly, the social housing providers also address a segment of housing need.

Two intensification target-levels are used to evaluate the degree to which the scenarios can support the anticipated growth. In other words, the household growth and associated development patterns will be distributed across Napier and Hastings, across urban and rural areas, and accommodated via the enabled urban growth patterns. These patterns relate to two scenarios – urban expansion and urban intensification. The former broadly aligns with historical patterns in which approximately 60% of long-term demand is satisfied through greenfield development. Conversely, the urban intensification scenario presents a situation where 60% of urban demand is satisfied through increased intensification within the existing urban area, i.e., brownfield development.

#### Long term capacity

The development capacity enabled by the scenarios are estimated following the NPS-UD approach, with plan enabled, commercially feasible and potential development capacity (PDC)<sup>9</sup> estimated for each scenario. This assessment focuses on the urban, intensification capacity and takes a long-term view (30-year). This long-term view captures price changes, demographic shifts, and affordability considerations.

<sup>5 2022</sup> 

<sup>&</sup>lt;sup>6</sup> The figures are rounded and do not aggregate (sum) to the same totals.

<sup>&</sup>lt;sup>7</sup> Excluding any competitiveness margins, these are included elsewhere in the analysis.

<sup>&</sup>lt;sup>8</sup> Urban demand.

<sup>&</sup>lt;sup>9</sup> A version of realistically expected to be realised (RER) capacity.



Commercially feasible capacity reflects the number of dwellings (development options) for which the estimated sales price exceeds the cost to develop and a developer's margin. Over time, a greater range of development options densities, typologies, and locations are expected to become feasible. This is relevant within the Napier-Hastings context where the proposed intensification provisions (PC5 and PDP) enable greater intensification than previously enabled. The market for these types of dwellings is currently not yet well established but will gradually become more established in response to affordability challenges and development pressures.

Capacity is estimated using two approaches – one based on the maximum profit margin will be pursued (i.e., where the developer gets the maximum return). The second based on a maximum yield (number of dwellings) to drive activity. This alternative is seen as a proxy for smaller housing products coming to the market, but it still reflects affordability and feasibility considerations. The results of the second approach are presented in the appendices.

The following table summarises the capacity assessment for <u>Hastings</u> under the baseline (BAU; PC5) and intensification scenario, and compares it with demand under an urban intensification and urban expansion scenario.

					BAU (Baseline)		FDS Scenario 2 (Intensification)		
					Urban Intensification (40% greenfield)	Urban Expansion (60% greenfield)	Urban Intensification (40% greenfield)	Urban Expansion (60% greenfield)	
_		Urban Demand (ir	ncl margin)	2022-2052	9,620	9,620	9,620	9,620	
ſ	IELD			Capacity (supply)	3,325	3,325	3,325	3,325	
	ENF			Demand (incl margin)	3,840	5,780	3,840	5,780	
	GRI	Shortage/Surplus			- 515	- 2,455	- 515	- 2,455	
Γ			Redevelopment	Detached	18,570	18,570	19,550	19,550	
			(net additional)	Attached	56,430	56,430	67,600	67,600	
	_	Plan Enabled Capacity	Infill	Detached	3,240	3,240	3,340	3,340	
	ield			Attached	6,680	6,680	7,650	7,650	
	wnf		Vacant	Detached	400	400	410	410	
	bro		Facant	Attached	570	570	760	760	
	Ē	Feasible Capacity	Max Profit	Total	15,370	15,370	20,840	20,840	
	NAF			Detached	9,490	9,490	10,280	10,280	
	ßAI			Attached	5,880	5,880	10,560	10,560	
	105			Total	5,220	3,320	5,230	3,280	
	Ž	PDC Capacity	PDC Capacity Max Profit	Detached	3,805	2,455	3,770	2,400	
	EXIS			Attached	1,415	865	1,460	880	
		Retirement	Villages (10 years'	average annual growth)	350	350	350	350	
1			Non-market ho	using (5% profit margin)	270	270	270	270	
L		Demand (incl margin)	2022-2052	EXISTING URBAN AREA	5,780	3,840	5,780	3,840	
				Shortage/Surplus	60	100	70	60	

### Summary of results - Hastings District



The main difference between BAU and Scenario 2 is the increased height limits in central areas of Havelock North and Hastings. The intensification scenario lifts capacity as follows:

- Plan Enabled Capacity: Scenario 2 enables between 990 and 11,360 more dwellings (redevelopment plus vacant capacity) relative to the baseline. The range reflects typology and shows that the additional capacity is either 990 additional standalone dwellings or 11,360 attached dwelling units, under Scenario 2 settings.
- **Feasible Capacity:** Under Scenario 2, between 900 and 8,520 additional dwellings (redevelopment plus vacant capacity) are feasible over the long term. Like PEC, the range reflects typology.

Looking beyond typologies and locations, understanding the price points at which capacity is feasible is an important consideration because of the link to affordability. Under Scenario 2, the weighted **average price point decreases due to the enabled intensification**. More capacity becomes feasible but at lower price points because smaller dwellings (more intensive development) can be delivered. Put differently, the analysis shows that on average, the prices under Scenario 2 are between 0.5% and 4.5% lower than under BAU. The analysis supports the notion that enabling greater densities can provide a way for the market to deliver affordable dwellings by shifting the typologies. The results show that under both scenarios higher density options are on average 24% to 33% more affordable than detached dwellings.

The <u>Napier</u> results are presented in the following table. The BAU scenario (baseline) reflects the PDP planning provisions, and therefore, the capacity values are the same across two scenarios for the estimated capacity. The results compare the estimated capacity with demand under an urban intensification and urban expansion scenario – the demand estimates vary based on the assumptions for the scenarios.

			BAU (Ba	iseline)	
				Urban Intensification (40% greenfield)	Urban Expansion (60% greenfield)
	Urban Deman	d (incl margin)	2022-2052	6,700	6,700
ELD	Capacity (supply)			3,325	3,325
ENF			Demand (incl margin)	2,680	4,020
GRE			Shortage/Surplus	645	- 695
		Redevelopment (net	Detached	9,470	9,470
		additional)	Attached	134,040	134,040
	Plan Enabled Capacity	Infill	Detached	1,505	1,505
_			Attached	9,900	9,900
field		Vacant	Detached	450	450
L NO			Attached	2,230	2,230
(prd)	Feasible Capacity	Max Profit (detached preferred)	Total	45,045	45,045
REA			Detached	3,325	3,325
NA			Attached	41,720	41,720
JRB/		May Draft (datashed	Total	3,220	1,915
- SN	PDC Capacity	PDC Capacity preferred)	Detached	2,165	1,505
IST	At		Attached	1,055	410
l ä	Retirement Villages (10 years' average annual growth)			230	230
		Non-r	narket housing (5% profit margin)	620	620
	Demand (incl margin)	2022-2052	EXISTING URBAN AREA	4,020	2,680
			Shortage/Surplus	50	85

Summary of results - Napier

Under the urban expansion scenario, 60% of demand is expected to be met through greenfield capacity. Under this scenario, there would be insufficient greenfield capacity over the long term if no further greenfield capacity is made available. In contrast, under the urban intensification scenario, 40% of demand is expected to be met through greenfield capacity. In this scenario the greenfield capacity which have been



identified, would be sufficient to accommodate growth over the next 30 years. Although plan enabled and feasible capacity do not vary between the two demand scenarios, PDC differs because it informed by demand. Under the urban expansion scenario, the demand to be accommodated through intensification (brownfield development) is 2,680 dwellings. Under the urban intensification scenario, it is 4,020. After accounting for different housing segments, the analysis suggests that there would be sufficient capacity to meet demand within the urban boundaries.

The intensification scenarios make assumptions about the level of intensification that could be achieved. Evaluating historic intensification patterns and estimating past levels of intensification are challenging, with several limitations and caveats. We used attached dwellings as a proxy for intensification but acknowledge that there are limitations with this approach. Drawing on consent data, we examined historic shares of attached dwellings (as a % of total) and on a 'per population' basis across tier 1 councils as well as other tier 2 councils. Five different patterns (pathways) reflecting how local households might change their dwelling preferences were modelled. The long-term outcomes (cumulative change) were compared against the intensification targets to determine achievability. Applying the population projections to estimate attached dwellings and the shift towards higher density dwellings to the Napier-Hastings situation shows that benchmarks are towards the ambitious end of the spectrum. Under the aggressive pathways the intensification targets, but still falling short. Affordability pressures and household preferences could result in higher demand for more affordable dwelling options, and intensification is likely to support the market to address housing needs.

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## 1 Introduction

In 2021, Hastings District Council, Napier City Council and Hawke's Bay Regional Council ("the Councils") commissioned Market Economics (M.E) to assist them with the Housing Capacity Assessment (HCA) as well as a Business Capacity Assessment (BCA), as required under the National Policy Statement on Urban Development (NPS-UD). These assessments were completed during 2021 and 2022.

As the next step of the Councils' efforts to comply with the NPS-UD, they are developing a Future Development Strategy (FDS). The aim of the FDS is to "show spatially how local authorities intend to achieve 'well-functioning urban environments', and how and where they will provide 'sufficient development capacity' to meet future growth needs over the next 30 years." The Councils<sup>10</sup> have identified several potential spatial scenarios for responding to growth. These scenarios reflect a mix of potential development approaches within the existing urban areas (intensification) as well as through greenfield options. The yields associated with the greenfield options are beyond the scope of this assessment but the shares of growth that will need to be accommodated via greenfield options are highlighted.

In addition to assessing the potential spatial scenarios, the baseline also needs to be updated. Since the HCA was completed, Napier City Council (NCC) initiated a district plan review and Hastings District Council (HDC) initiated an intensification plan change (Plan Change 5). This requires a revisit of the baseline scenario ('Business as Usual', BAU) to incorporate the proposed settings. The planning provisions as proposed by the NCC proposed district plan (PDP) and HCC Plan Change 5 (PC5) are used to inform the 'new baseline' in this report.

Growth scenario modelling for Napier City Council was completed in 2021<sup>11</sup>, so no additional growth scenario modelling was carried out for this assessment.

Importantly, the assessment reflected in this report was completed over an extended period, so the baseline information might not reflect the latest information. This includes (but is not limited to) the PC5 provisions being proposed.

## 1.1 Project Aim and Objectives

The aim of this work is to assess the housing capacity that would be enabled by the different growth options and to compare these against the long-term growth outlook (demand). Crucially, this assessment does not replace or replicate the full housing assessment associated with a HCA, but it follows the same methodology and focuses on the long term, i.e., the 30-year period. The focus is on the existing urban growth areas (intensification). The relative change in the enabled capacity is a function of the change in the planning provisions and what it is compared against – the assessment considers the change in the long-term development capacity, relative to baseline scenario. The business-as-usual (BAU) scenario normally reflects the do-nothing situation. In the HCA, the operative district plan forms this baseline. However, in this assessment, a modified BAU is used, and is as follows:

- Hastings the zoning proposed under the proposed Plan Change 5<sup>12</sup> forms the baseline.
- Napier based on zoning in the Proposed District Plan.

The plan enabled capacity is translated into feasible capacity and 'potential development capacity' and then compared against the updated demand estimates. Using this approach, M.E can identify the degree to which

<sup>&</sup>lt;sup>10</sup> With support from Barkers and Associates (B&A).

<sup>&</sup>lt;sup>11</sup> Development Capacity Assessment: Intensification Areas. February 2022. A report for Napier City Council by M.E Consulting. <sup>12</sup> The planning settings reflected the notified version of PC5.



the different spatial scenarios are likely to address housing capacity issues identified as part of earlier processes. The following project objectives guided the assessment:

- To update the demand component of the assessment using new information and population projections as prepared by StatsNZ. The updated projections include information about different market segments, dwelling typologies, and demographic shifts.
- To update and refine the Capacity and Feasibility Model developed for the HCA so that it can be used for this current assessment.
- To apply the Capacity and Feasibility Model for the intensification areas, to estimate the:
  - o Plan Enabled Capacity (PEC),
  - o Feasible Capacity (FC), and
  - Potential Development Capacity<sup>13</sup>.
- To provide high-level commentary on Councils' ambitions to accommodate 60% of demand (growth) within the existing urban area by 2050.

## 1.2 Caveats and Limitations

The model and associated approach is detailed in existing reports (e.g., Housing Capacity Assessment) and not discussed in detail in this report. Additional information can be provided if needed, and the following caveats and limitations are highlighted for this report:

- This work was undertaken over an extended period and reflects information that was current at the point of completing the analysis, and when the different parts were documented. We did not revisit all the input data as part of finalising the report. For example, PC5 hearings have recently been conducted, and we are aware that Council have proposed changes to the spatial extent of the medium density residential zone. The further refinements were not re-modelling in this analysis.
- The capacity and feasibility modelling are limited to brownfield development, i.e., intensification in the existing urban areas.
- A set of assumptions inform the distribution of demand across development opportunities. Importantly, demand is mobile, and households make trade-offs between housing options, locations, and budget considerations. This means that there is uncertainty about the spatial distribution of potential development capacity (PDC).
- Potential development capacity is the share of feasible capacity which would need to be realised for demand to be matched. It is not the intent, nor is it realistically possible, to identify individual parcels that will be developed because this would need to model the development intention and ability of all economic agents (households, landowners, and developers). Consequently, the spatial patterns reflect broad quantum based on the estimated feasible capacity and urban demand levels to provide an indication of the anticipated scale.
- The modelling is carried out at a parcel level, but do not consider every possible development pathway and dwelling typology/size. Instead, capacity for attached<sup>14</sup> and detached dwellings under different pathways (redevelopment, infill, vacant) are presented. This means, unless otherwise stated, results are not cumulative across typology.

 $<sup>^{13}</sup>$  Uptake of feasible capacity needed to meet demand. Variation on realistically expected to be realised capacity.  $^{14}$  Horizontally (e.g., terrace homes) or vertically (apartments) attached.



- Infrastructure availability is not considered as a constraint even though it is an issue that needs to be considered as part of the wider assessment of capacity.
- While it is acknowledged that greenfield developments can accommodate attached dwellings, we used attached dwellings as a proxy for intensification, but this limitation is acknowledged.

## 1.3 Report Structure

This report was originally commissioned as a scenario assessment of residential capacity, to inform the FDS process. However, as the project unfolded, several related questions were posed to M.E and addressed these during the process. The main points are included in the report. The assessment is structured as follows:

- Section 2 outlines the approach and settings used in the assessment.
- Section 3 describes the updated household demand estimates.
- Section 4 presents the results of the capacity assessments for Napier and Hastings, respectively. The plan enabled, feasible capacity and potential development capacity are presented, and the main points are highlighted/
- Section 5 concludes the report with high-level observations and concluding remarks.

Supporting data and technical information are presented in the appendices.



## 2 Approach and settings

This section provides a brief explanation of the modelling approach and key settings used in this assessment. The approach is not discussed in detail, but a more comprehensive overview of the methodology can be found in HCA report<sup>15</sup>. The refinements and variations added to the modelling structure and the settings used – relative to the HCA – are highlighted. The first part of this section sets out the approach and reason for updating housing demand projections, followed by information about the capacity assessment. The section closes out with an overview of the new the baseline and proposed growth options.

## 2.1 Residential Demand

As part of developing the Future Development Strategy (FDS), councils must consider housing demand as well as development capacity. Consideration must be given to typology and location. For the HCA, the Councils had opted for a medium-high population projection set. This represented a growth future based on the average between StatsNZ's medium and high population projections. StatsNZ have recently<sup>16</sup> updated the country's population projections, so consequently, the Councils had to update the demand projections for the FDS. Using a medium-high scenario was again regarded as appropriate.

Demand is presented in terms of resident households, allowing for one dwelling per household, with future demand for housing based on the projected household growth in over the next three decades. The population projections published by Statistics NZ (2022), inform the household projections. At the time of this assessment, StatsNZ had not yet updated the household projections so M.E translated the population projections into household estimates. The translation draws on the rate of change in each cohort and revealed housing-preferences (age by housing type), to estimate the household counts. M.E's *Housing Demand Model (2021)* which was used for the HCA, is utilised to estimate demand for dwellings, providing detail on the size and structure of current and projected housing demand in Napier and Hastings.

The demand assessment estimates the likely future demand and segment the results in terms of:

- types of dwelling typologies (detached and attached) by
- household types (composition and income levels), and
- across the urban environment.

Urban demand is illustrated by including the relevant competitiveness margin.<sup>17</sup> These demand scenarios are then compared against potential development capacity (PDC) associated with the different capacity scenarios to reflect the sufficiency situation.

#### **Demand Scenarios**

As part of this assessment, two potential future growth (demand) patterns within Hastings and Napier are tested. Each pattern allocates a different share of demand to brownfield and greenfield areas. The total allocated demand remains the same across both scenarios. The tested patterns are:

• An **urban expansion** pattern which is largely consistent with historical development patterns, assumes that over the long-term (2022-2052):

<sup>17</sup> As set out in section 3.22 of the NPSUD.

<sup>&</sup>lt;sup>15</sup> Housing Development Capacity Assessment 2021. A report for Napier City Council, Hastings District Council and Hawke's Bay Regional Council. M.E Consulting.

<sup>&</sup>lt;sup>16</sup> December 2022.



- o 40% of demand is met within brownfield areas through intensification, and
- o 60% is met within the identified greenfield areas.
- Historically, around 62% of growth occurred in greenfield areas.
- An **urban intensification** pattern, where a higher share of demand is allocated to the existing urban (brownfield) areas. This assumes that:
  - o 60% of the total long-term demand (2022-2052) is met through intensification and
  - o 40% within the greenfield areas.

A transition towards more intensive use of existing urban land, with less reliance on greenfield developments is normally associated with a change in dwelling typologies that are developed, specifically from detached dwellings to attached dwellings. Intensification in existing urban areas can occur through infill development, i.e., where a detached dwelling is developed on a back section of a property. However, identifying patterns over time is more difficult because urban boundaries shift outward. The relative distribution of attached vs detached development is used as a general proxy for intensification. The report examines how realistic this degree of shift is, by analysing historic building consent patterns both locally (Hastings and Napier), and in more mature housing markets, i.e., where the shifts to attached dwellings are well progressed<sup>18</sup>.

Building consent data was sourced from Stats NZ, covering all territorial authorities and consents between 1990 and 2023, focussing on the post 2000 period. The classification is as follows:

- Detached:
  - Houses
  - Attached:
    - o Apartments
    - o Townhouses, flats, units, and other dwellings
  - Excludes: Retirement Units (can be attached or detached)

Expressing attached consents relative to population size serves as a metric for understanding the per capita demand for attached dwellings within a given area. This is used to frame growth patterns. The ratio changes over time so encapsulates:

- o Shifts in demand preferences.
- o Changes in dwellings delivered (supply patterns, affordability/construction costs).

First, the 'attached dwelling per capita' ratio is applied to Napier-Hastings population projections, to provide an indication of the growth pattern which could be expected if historic trends (including observed shifts) continue.

Applying the 'attached dwelling per capita' ratio derived from selected Tier 1 urban environments (where the shift to attached dwellings are well established), then provides an indication of what shifts are required for Napier-Hastings to reach the levels of intensification aimed for by the urban intensification demand scenario.

Lastly, consents across all Tier 2 urban environments are combined to provide a benchmark against which Napier-Hastings is compared. The results of the consent analysis are included in section 3.2.

<sup>&</sup>lt;sup>18</sup> Tier 1 urban environments.



## 2.2 Residential Capacity (Supply)

The second part of the assessment process reflects the supply side i.e., the capacity estimates. The HCA models developed for Hastings and Napier were updated to estimate the residential development capacity under an updated baseline and different growth scenarios. The capacity is estimated across three core stages:

- Plan enabled capacity (PEC) this is the theoretical maximum dwelling capacity that is enabled based on the planning provisions (zoning, subdivision rules, activity status, etc.) within the relevant district plan.
- Commercially feasible capacity (FC) the PEC, which is deemed commercially viable, i.e., the price
  point at which the estimated sales price is greater than the cost to deliver the dwelling plus a suitable
  profit margin.
- Potential Development Capacity (PDC) this refers to a sub-set of FC that would need to be developed to satisfy demand.

Development capacity is estimated over the long term (30 years). The short- and medium-term capacity was not included as part of this assessment. The general approach for each of the abovementioned categories is summarized below.

## **Plan Enabled Capacity**

The capacity assessment uses the relevant planning provisions (e.g., lot sizes, height limits, offsets, setbacks and so forth), to estimate the potential to add an additional dwelling (or dwellings). This estimate is completed at a parcel level. Only the net change (count of dwellings) is included.

A combination of GIS and FME modelling is used to identify the additional dwellings that could be accommodated on each parcel. Infrastructure availability is not considered as a constraint (even though it is an issue that needs to be considered by councils as part of the wider assessment).

Capacity is estimated for several different pathways; redevelopment, infill development or developing vacant land. Importantly, redevelopment and infill capacity are mutually exclusive, not additive. It is not possible to estimate what share of capacity will be taken up through redevelopment, infill, or vacant development but some assumptions are used to illustrate the implications of different pathways (based on the developer's margins in a subsequent step).

Typology is differentiated into detached and attached dwellings. Again, the two types are mutually exclusive. That is, if a standalone dwelling is developed, then other development options such as duplex/terrace house/apartment can no longer be taken up. The PEC capacity is based on Council-provided information relating to planning settings and assumptions regarding typologies and dwelling densities.

Importantly, these typologies (and the assumptions) show one possible development pathway. But a mixture of pathways could be followed.

## Commercially Feasible Capacity

Commercially feasible capacity (FC) is a portion of PEC that will be feasible to develop. The FC was estimated using a financial model with the same broad parameters as applied in the HCA. Some input parameters were updated to reflect new information and price changes. FC is based on the relationship between potential sales prices and total development costs. If the sales price is greater than total development cost including a 20% developer's margin, then it is assumed that a developer could be motivated to pursue the development



(subject to demand conditions and affordability constraints). However, affordability is captured in the next step. Therefore, the feasible capacity as estimated here reflects the supply side.

All the different development options, dwelling types and size combinations were explored – this is consistent with the HCA approach. Then two approaches are used to illustrate the potential spread of outcomes. In the first approach, it is assumed the development option (pathway and typology) with the greatest profit margin is pursued. For the second approach, the maximum yield is considered (highest capacity). The first approach is the preferred option and the second is included because it reflects a potential response to affordability considerations.

The results from the maximum profit approach are included in the body of the report and results from the maximum yield approach are presented in appendices.

#### Potential Development Capacity (RER-equivalent)

The final step of the capacity assessment seeks to shed some light on the potential capacity that could be taken up (developed). For the purposes of this project, we have opted for a RER-equivalent<sup>19</sup>, i.e., potential development capacity (PDC). The potential development capacity is similar to reasonably expected to be realised (RER) capacity, but household demand patterns are considered for PDC. This slightly different approach means that the results in this assessment might differ from the previous estimates provided in earlier related work. This is due to several methodological variations, including refined assumptions, methodological advances, new information, expectations about the future, and the likelihood of capacity being developed.

The uptake of residential capacity (by developers) is influenced by factors such as:

- Location attributes (accessibility, community facilities, and local land values),
  - Affordability as influenced by:
  - Household incomes,
    - o Interest rates,
    - o Inflation rates and construction costs.
- Macro-economic conditions (economic growth levels, business/consumer confidence levels, and growth cycles).
- Households' dwelling preferences (e.g., detached-vs-attached).

The spatial distribution of feasible capacity (i.e., the percentage of total feasible capacity across the city, and across values bands) informs the contemplated development patterns. The anticipated demand patterns are influenced by affordability levels, with affordability linked to the property value bands. The required uptake rates (what share of feasible capacity than must be developed to satisfy demand) is estimate on a city-wide level. The necessary competitiveness margins are also considered. These shares are estimated based on a consideration of the following factors:

- the spatial distribution of dwelling options (typologies) by price band,
- household demand across
  - o value bands i.e., to reflect affordability,
  - o different typologies (detached vs attached) to show preference for different typologies,
  - o households' location preferences (at a broad urban location level),
- total feasible capacity by value band,
- the value distribution of the existing estate, and
- the potential movements of households between properties by value bands and locations (to show the trade-offs).

<sup>&</sup>lt;sup>19</sup> Used in the HCA.



A core assumption is that locations can be substituted. For example, the urban scale of Napier (and Hastings) suggests that most of the city's urban area is accessible (via a short drive) from most locations within the urban area. As such, households can choose to trade off one location for another if another location has more affordable dwellings (of a specific typology). Households can also trade-off between typologies (detached vs attached) to some extent.

## 2.3 Updated baseline

This section presents an overview of the main changes affecting capacity which have been proposed since the completion of the HCA. These changes form a new baseline against which the different scenarios are assessed. While the new baseline is also referred to as Business as Usual (BAU) throughout the report, it differs from the baseline/BAU reported in the HCA.

## Hastings

At the time of writing, Plan Change 5 was underway in Hastings, with the aim to increase capacity within the existing urban areas, i.e., enable residential intensification. It is acknowledged that Council has since considered changes to the proposed planning provisions which differ from those originally assessed. The assessment reflects the proposed changes outlined in the notified version of PC5, and include:

- establishing a Medium Density Residential Zone in Hastings and Havelock North.
- enabling smaller lot sizes in the General Residential Zones in specific locations around:
  - o Hastings,
  - o Havelock North, and
  - o Flaxmere.

The specific locations where the smaller lots are enabled are in sites located close to public parks, commercial centres and public transport routes and are based on Council's work to define 'walkable catchments'. It is important to note that the effect of these changes is that some of the GRZ (within the walkable catchment) is treated like MDRZ. Table 2-1 summarises the provisions which are used to estimate PEC. It only presents zones affected by the proposed plan change. Other planning zones which enable residential development were included in the modelling, but not shown here.

## Table 2-1: Planning Provisions in affected residential zones (Hastings)

	Op	perative D	istrict Pla	า	PC5 proposed provisions						
Planning Zone	Min Lot Size	Site Cover	Max Height	Out. Living	Min Lot Size*	Site Max Cover Height		Out. Living			
Hastings General Res outside walkable catchment	350m <sup>2</sup>	45%	8m	50m <sup>2</sup>	350m <sup>2</sup>	45%	8m	50m <sup>2</sup>			
Hastings General Res within walkable catchment	350m <sup>2</sup>	45%	8m	50m <sup>2</sup>	200m <sup>2</sup>	50%	11m	30m <sup>2</sup>			
Hastings City Living	250m <sup>2</sup>	45%	8m	50m <sup>2</sup>	Absorbed by MDRZ						
Hastings Character Res.		Various o	overlays		Various overlays + MDRZ						
Havelock Nth Gen Res outside walkable catchment	350m <sup>2</sup>	45%	8m	50m <sup>2</sup>	350m <sup>2</sup>	45%	8m	50m <sup>2</sup>			
Havelock Nth Gen Res within walkable catchment	350m <sup>2</sup>	45%	8m	50m <sup>2</sup>	200m <sup>2</sup>	50%	11m	30m <sup>2</sup>			
Flaxmere Residential outside walkable catchment	500m <sup>2</sup>	45%	8m	50m <sup>2</sup>	500m <sup>2</sup>	45%	8m	50m <sup>2</sup>			
Flaxmere Residential within walkable catchment	500m <sup>2</sup>	45%	8m	50m <sup>2</sup>	200m <sup>2</sup>	50%	11m	30m <sup>2</sup>			
Medium Density Residential		No	t		200m <sup>2</sup>	50%	11m	30m <sup>2</sup>			
*PC5 proposed to have no minimum lot size.											



### Napier

Napier's District Plan review is underway at present, and the main changes being proposed for residential development include:

- simplification of zoning by amalgamating and renaming some zones,
- spatially redefining selected zones,
- introducing Medium Density and High Density Residential zones, and
- enabling higher density residential development through smaller minimum lot sizes<sup>20</sup> and increased heights around centres.

Table 2-2 presents the planning provisions in zones where residential development is enabled, under the Operative and Proposed District Plan.

## Table 2-2: Planning Provisions (Napier)

Operative Napier Plan										
Planning Zone	Min Lot Size	Site Cover	Max Height							
Main Residential	350m <sup>2</sup>	50%	8m							
Napier Hill Character	500m <sup>2</sup>	50%	8m							
Northern Residential	250m <sup>2</sup>	50%	8m							
Hardinge Road	150m <sup>2</sup>	75%	7.5m							
Marewa Ard Deco Character	500m <sup>2</sup>	40%	5m							
Marewa State Housing Character	500m <sup>2</sup>	40%	5m							
Te Awa Bungalow Character	500m <sup>2</sup>	40%	5m							
Marine Parade Character	150m <sup>2</sup>	75%	12m							
Mission Special Character Resid. Precinct	250m <sup>2</sup>	50%	10m							
Inner City	n/a	n/a	10m							
Art Deco Quarter	n/a	n/a	10m							
Mixed use zone	250m <sup>2</sup>	50%	12m							
Fringe Commercial	n/a	n/a	10m							
Suburban Commercial	n/a	n/a	10m							
Foreshore Commercial	n/a	80%	7.5m							
West Quay Waterfront	n/a	n/a	10m							
	Proposed District Plan									
General Residential	350m <sup>2</sup>	50%	8m							
Large Lot Residential <sup>21</sup>	3,000m <sup>2</sup>	25% <sup>22</sup>	7.5m							
Medium Density Residential	350m <sup>2</sup>	50%	12m							
High Density Residential	350m <sup>2</sup>	50%	19.5m							
Mission Residential Precinct	250m <sup>2</sup>	50%	10m							
Napier Hill Precinct	500m <sup>2</sup>	40%	8m							
City Centre	n/a	100%	32m							
Town Centre	n/a	100%	24m							
Local Centre	n/a	100%	16m							
Neighbourhood Centre	n/a	100%	12m							
Mixed Use Zone	n/a	70%	24m							
West Quay Waterfront Precinct	n/a	70%	24m							
Foreshore Commercial Precinct	n/a	80%	7.5m							
Napier City Heritage Precinct	n/a	100%	10m							

<sup>&</sup>lt;sup>20</sup> Or no minimum lot size in some areas. Where this is the case, assumptions were made about minimum lot sizes for the modeling.
<sup>21</sup> This is the minimum average lot size, minimum lot size is 1,000m<sup>2</sup>.

<sup>&</sup>lt;sup>22</sup> Or 500m<sup>2</sup>, whichever is lesser.



## 2.4 Growth Options/Scenarios

Hastings District Council with support of Barkers and Associates (B&A), have identified several growth areas in and around Hastings, where future growth (demand) could be accommodated. In total, 75 growth areas (polygons) have been identified across the district and are categorised as follows (the numbers show the count of growth area per category):

- Greenfield 29
- Intensification 13
- Satellite Towns 16
- Business Industrial 7
- Rural Lifestyle 10

Five scenarios were defined, and some have variations within them mean that a total of eleven combinations were considered. Table 2-3 shows the combination of polygons included under each of the scenarios for Hastings District. Figure 2-1 maps the location of the relevant intensification growth areas located in Hastings, Havelock North and Flaxmere. This is followed by a list of planning zones<sup>23</sup> which are covered by the intensification polygons, and the model settings used to estimate PEC (Table 2-4). Appendix 1 contains a map showing the different areas associated with the scenarios in and around Hastings.

The following scenarios were considered by HDC:

- 1. Scenario 1:
  - Scenario 1<sup>24</sup>: No HPL land
  - o Scenario 1a: No LUC 1&2 land
- 2. Scenario 2:
  - o Scenario 2: Intensification Only
- 3. Scenario 3: Satellite Towns
  - o Scenario 3a: Pakipaki
  - o Scenario 3b: Maraekakahoe
  - o Scenario 3c: Bridge Pa
  - o Scenario 3d: Bayview
- 4. Scenario 4:
  - o Scenario 4: Expansive Greenfield
  - Scenario 4a: Expansive Greenfield exclude vulnerable areas.
- 5. Scenario 5:
  - o Scenario 5: Business and Industrial.

Using supplied information about the contemplated densities, planning provisions and assumptions about dwelling typologies, the PEC for relevant scenarios is estimated. The PEC is then assessed in terms of the feasible capacity that could be enabled through intensification and compared against the baselines. The model settings used to estimate PEC for the intensification areas are presented in Table 2-4. Feasible capacity is only estimated for polygons within the urban boundary (i.e., intensification areas).

After a review of the scenario, it was noted that only scenarios with an intensification element would be modelled as part of this assessment. This is because greenfield capacity is not assessed in terms of feasibility.

 $<sup>^{\</sup>rm 23}$  These zones align with the new baseline, i.e. PC5 and Proposed District Plan.

<sup>&</sup>lt;sup>24</sup> Scenario 1 is excluded based on other criteria, so was not modelled at all.



	Hastings	Scenario 1	Scenario 1a	2	Scenario 3	3a 3a	Scenario 3b	3c	3d	Scenario 4	4a	Scenario 5
Location	Name	н	н	н	н	н	ні	н	н	н	н	н
BP1	Satellite Town			×	1	×	×	1		×	×	×
BP2	Satellite Town			×	✓	×	×	✓		×	×	×
BP3	Satellite Town			×	✓	×	×	~		×	×	×
BP4	Satellite Town			×	✓	×	×	~		×	×	×
BP5	Satellite Town			×	1	×	×	~		×	×	×
BP6	Satellite Town			×	~	×	×	~		×	×	×
C1	Greenfield Expansion			×	×	×	×	×		× .	×	×
C2	Greenfield Expansion			×	×	×	×	×		~	×	×
FM1	Greenfield Expansion			×	×	×	×	×		× .	×	×
FIVI10	Greenfield Expansion			×	×	×	×	×		× .	×	×
FIVI11	Greenfield Expansion			× ~	×	× ×	×	×		*	×	×
FIVIZ EM2	Business /Industrial			<u></u>	~	<u></u>	<u></u>	~		~	×	<b>^</b>
FIVIS EM/	Busilless/industrial			Ŷ	×	Ŷ	Ŷ	Ŷ		- Î	<u>`</u>	×
EM5	Greenfield Expansion			×	×	×	×	×				×
FM6	Greenfield Expansion			×	×	×	×	×		1	~	×
FM7	Greenfield Expansion			×	×	×	×	×		~	~	×
FM8	Greenfield Expansion			×	×	×	×	×		~	×	×
FM9	Greenfield Expansion			×	×	×	×	×		~	~	×
FMC1	Intensification			~	×	×	×	×		×	×	×
FMC2	Intensification			✓	×	×	×	×		×	×	×
FMCC	Intensification			×	×	×	×	×		×	×	×
H1	Greenfield Expansion			×	×	×	×	×		~	~	×
H2	Greenfield Expansion			×	×	×	×	×		~	~	×
H3	Greenfield Expansion			×	×	×	×	×		~	✓	×
H4	Greenfield Expansion			×	×	×	×	×		~	~	×
H5	Greenfield Expansion			×	×	×	×	×		~	✓	×
H6	Business/Industrial			×	×	×	×	×		×	×	×
H7	Greenfield Expansion			×	×	×	×	×		× .	×	<ul> <li>✓</li> </ul>
H8	Greenfield Expansion			×	×	×	×	×		×	×	×
H9	Greenfield Expansion			× ~	×	× ×	×	×		*	×	×
	Rural Lifestyle			- Û	Ŷ	Ŷ	Ŷ	Ŷ		*	*	Ŷ
HAU2	Rural Lifestyle	L	4	×	×	×	×	×	щ	× ✓	~	×
HC1	Intensification	ā	6	×	×	×	×	×	В	×	×	×
HC2	Intensification	Ś	ť.	√ 	×	×	×	×	.∢	×	×	×
HC3	Intensification	<u> </u>	2	~	×	×	×	×	9	×	×	×
HC4	Intensification	ā	7	~	×	×	×	×	2	×	×	×
HC5	Intensification	ā	Σ,	1	×	×	×	×	<u> </u>	×	×	×
HCC	Intensification	<	τ.	1	×	×	×	×	<	×	×	×
HN1	Rural Lifestyle	Ļ	5	×	×	×	×	×		$\checkmark$	×	×
HN2	Greenfield Expansion	5	2	×	×	×	×	×	¥	$\checkmark$	✓	×
HN3	Greenfield Expansion	-	-	×	×	×	×	×	~	$\checkmark$	✓	×
HN4	Rural Lifestyle			×	×	×	×	×		~	~	×
HN5	Rural Lifestyle			×	×	×	×	×		~	~	×
HN6	Greenfield Expansion			×	×	×	×	×		✓	×	×
HN7	Greenfield Expansion			×	×	×	×	×		✓	✓	×
HN8	Greenfield Expansion			×	×	×	×	×		~	~	×
HNCI	Intensification			×	×	×	×	×		×	×	×
HNC2	Intensification			×	×	×	×	×		×	×	×
HNCC	Intensification			~	×	×	×	×		×	×	×
IR1	Business/Industrial			×	×	×	×	×		×	×	~
IR2	Business/Industrial			×	×	×	×	×		×	×	1
IR3	Business/Industrial			×	×	×	×	×		×	×	1
IR4	Business/Industrial			×	×	×	×	×		×	×	×
IR5	Greenfield Expansion			×	1	×	×	~		~	×	×
M1	Satellite Town			×	~	×	×	×		×	×	×
M2	Satellite Town			×	~	×	×	×		×	×	×
M3	Satellite Town			×	✓	×	~	×		×	×	×
M4	Satellite Town			×	✓	×	×	×		×	×	×
NC2	Greenfield Expansion			×	×	×	×	×		~	~	×
01	Greenfield Expansion			×	×	×	×	×		~	~	×
02	Rural Lifestyle			×	×	×	×	×		~	~	×
P1	Rural Lifestyle			×	×	×	×	×		~	~	×
P2	Satellite Town			×	~	~	×	×		×	×	×
P3	Satellite Town			×	1	×	×	×		×	×	×
P4	Satellite Iown			×	~	~	×	×		×	×	×
P5	Satellite Town			×			×	×		×	×	~
P6	Satellite Town			×	×	×	×	×		×	×	×
RH -	Rural Lifestyle			Ŷ	×	×	×	Ŷ		Ŷ	Ĵ	×
TA	Greenfield Expansion			×	×	×	×	×		×	×	×
W1.	Greenfield Expansion			×	×	×	×	×		1	×	×
WH1	Business/Industrial			×	Ŷ	¥	×	Ŷ		×	×	~

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Table 2-4: Intensification Model settings (PEC)

				Detached			Attached (horizontal)			Attached (vertical)		
Urban Area Location Zone		Min Lot Size (sqm)	sqm per dwelling	Site Cover	Max Height (storeys)	sqm per dwelling	Site Cover	Max Height (storeys)	Average apartment size (gross)	Site Cover	Storeys residenti al	
Flaxmere	FMC1	Flaxmere General Residential	200	200	50%	3	67	50%	3	80	50%	3
Flaxmere	FMC2	Flaxmere General Residential	200	200	50%	3	67	50%	3	80	50%	3
Flaxmere	FMCC	Flaxmere Community Residential	500	na	na	na	na	na	na	80	50%	5
Hastings	HC1	Hastings General Residential	200	200	50%	3	67	50%	3	80	50%	3
Hastings	HC1	Hastings Character Residential	200	200	50%	3	67	50%	3	80	50%	3
Hastings	HC1	Commercial Service	500	na	na	na	na	na	na	80	50%	2
Hastings	HC2	Hastings General Residential	200	200	50%	3	67	50%	3	80	50%	3
Hastings	HC2	Suburban Commercial	500	na	na	na	na	na	na	80	50%	5
Hastings	HC2	Commercial Service	500	na	na	na	na	na	na	80	50%	2
Hastings	HC3	Hastings General Residential	200	200	50%	3	67	50%	3	80	50%	3
Hastings	HC3	Suburban Commercial	500	na	na	na	na	na	na	80	50%	2
Hastings	HC3	Medium Density Residential	200	200	50%	3	67	50%	3	80	50%	3
Hastings	HC4	Hastings General Residential	200	200	50%	3	67	50%	3	80	50%	3
Hastings	HC4	Hastings Character Residential	200	200	50%	3	67	50%	3	80	50%	3
Hastings	HC4	Suburban Commercial	500	na	na	na	na	na	na	80	50%	2
Hastings	HC5	Hastings General Residential	200	200	50%	3	67	50%	3	80	50%	3
Hastings	HC5	Hastings Character Residential	200	200	50%	3	67	50%	3	80	50%	3
Hastings	HC5	Suburban Commercial	500	na	na	na	na	na	na	80	50%	2
Hastings	HC5	Medium Density Residential	200	200	50%	3	67	50%	3	80	50%	3
Hastings	HC5	Commercial Service	500	na	na	na	na	na	na	80	50%	2
Hastings	HCC	Central Commercial	500	na	na	na	na	na	na	80	50%	5
Hastings	HCC	Residential Commercial	500	na	na	na	na	na	na	80	50%	5
Havelock North	HNC1	Havelock North General Residential	200	200	50%	3	67	50%	3	80	50%	3
Havelock North	HNC3	Havelock North General Residential	200	200	50%	3	67	50%	3	80	50%	3
Havelock North	HNC3	Havelock North Character Residential	200	200	50%	3	67	50%	3	80	50%	3
Havelock North	HNCC	Havelock North Village Centre Retail	500	na	na	na	na	na	na	80	50%	5
Havelock North	HNCC	Havelock North General Residential	200	200	50%	3	67	50%	3	80	50%	3
Havelock North	HNCC	Havelock North Village Centre Mixed	500	na	na	na	na	na	na	80	50%	5



The plan enabled capacity covers the different growth areas (polygons) within the urban boundary and are in zones that enable residential development<sup>25</sup>. The specific parameters and settings to apply in the settings provided by B&A, are applied. Results are presented in section 4.

The next section presents the updated housing demand projections that were used as part of the FDSanalysis process.

<sup>&</sup>lt;sup>25</sup> For example, Rural Residential, Plains Settlement, Tuki Tuki Special Character Area, etc.



## 3 Updated Housing Demand

The population and household projections are dynamic, constantly changing in response to global trends and local policy settings. This section presents the updated population and household estimates as well as the associated demand estimates. This is followed by a short discussion about the approach to other demand segments, such as the retirement sector and latent demand. An important part of the demand projections is the spatial distribution of growth, specifically, the urban-rural splits. An overview of the historical development patterns across urban and rural Hastings and Napier is presented. The HCA assumed the overall increase in demand will be accommodated within urban areas but for the FDS, a more nuanced approach is used.

## 3.1 Population and households

StatsNZ published updated population projections in December 2022. These projections reflect the impacts of Covid and more recent information about birth, mortality, and migration rates. While these population projections are marginally lower for New Zealand as a whole, the Hastings district and Napier projections have shifted upwards relative to the March 2021 projections. Figure 3-1 compares the 2021 and 2022 projections (dotted lines vs solid lines for Napier and Hastings.

## Figure 3-1: Population (2001-2053)



The shift in total population as estimated by StatsNZ between the estimation sets, show only a marginal upward shift. The recent population projections do however show **a shift in the population structures, with higher growth in the younger age cohorts.** Figure 3-2 shows the long term (to 2048) changes on an age cohort level. For example, under a medium growth scenario:

- Hastings is expected to have 2,820 more people in the sub-60 cohort than previously projected, and 1,050 fewer people in the above 70-cohort.
- Napier is projected to see an increase of 1,920 in the sub-60 cohort above the 2021 estimates. At the over 70-year cohort, the recent set project 780 fewer people.

The change in population structure suggests a change in housing demand. StatsNZ have not yet published the updated household projections. Therefore, M.E have developed a bespoke model, drawing on the rate of change in each cohort and revealed housing-preferences (age by housing type), to estimate the household counts.




Figure 3-2: Comparison of Population projection change (2018-2048) - StatsNZ Medium

Based on StatsNZ projections, an estimated 33,530 households currently<sup>26</sup> reside in Hastings District. Over the next three decades (by 2052) this is expected to increase to 43,800 households under a medium-high scenario. This implies an additional 10,270 households in the district. The number of households residing in Napier currently<sup>27</sup> is estimated at 26,900, and expected to increase to 32,600<sup>28</sup> by 2052, i.e., an increase of 5,700 households under a medium-high scenario.

The population shift means that the total, and type of dwelling demand, differ from the work for the HCA. While the population estimates are similar, the implied additional housing demand patterns are lower because a portion of population growth is associated with young people (sub-19 years) that live in existing households, and do not generate their own demand for dwellings. Regardless, there is still an increase in the number of dwellings needed over the next thirty years (demand growth).

The impact of Cyclone Gabrielle on population numbers is not reflected in the projections. While there could be short-term variations, we do not expect substantial long-term shifts due to the cyclone. Short-term effects could see an increase in demand due to workers assisting with the rebuild moving to the area. But this could be tempered by shifts in migration patterns. In terms of the potential red-stickering of properties, this will lead to a redistribution of demand, and the analysis (FDS) will need to include the number of displaced properties in the capacity analysis. Based on available information, an estimated 103 Hastings properties and four Napier properties were red-stickered after the cyclone.

## 3.1.1 Rural-Urban Distribution of Demand – Hastings District

The HCA considered overall demand and assumed that growth will be accommodated in urban areas. As part of the ongoing process, a more refined approach is now considered, and part of this refinement is investigating the historic share(s) of growth in the non-urban areas. How these shares are treated going forward is important because it relates to other policy positions, like the National Policy Statement on Highly Productive Land.

<sup>&</sup>lt;sup>26</sup> 2022 <sup>27</sup> 2022

<sup>&</sup>lt;sup>28</sup> The figures are rounded and do not aggregate (sum) to the same totals.

To estimate the proportion of growth that is likely to occur within the urban boundaries ('urban demand'), M.E combined historic building consent data<sup>29</sup> with StatsNZ rural-urban classification of Statistical Area 2 (SA2s) to identify the general distribution<sup>30</sup>. Importantly, urban boundaries move over time, and the analysis considers this shift. Figure 3-3 shows the historic shares.





Residential construction activity has been particularly strong in 2020 and 2021, reflecting pent up demand after the Covid-lockdowns, low interest rates as well as the within-NZ migration patterns. This mirrors patterns observed across NZ. However, the subsequent slowdown is evident in the figures, with a drop-off in 2022 showing up. The 2022 levels are broadly in line with the peaks seen pre-Global Financial Crisis (GFC).

Most residential consents are in the urban areas and the percentage share has remained relatively stable – between 75% and 85% for new dwellings; this includes smaller urban areas and rural settlements. In 1998, the share of rural consents was greatest (44%). However, this was also the lowest level of consents (by count of dwellings) issued in a single year suggesting that the high percentage is an outlier. The maximum urban share of consents over three decades, is 86% of the total (median = 76%). More recently (over the past three years), urban consents as a share of total approached 80%.

The historic average is an indication of the share of demand being met through development close to urban areas. It is expected that the share of rural consents will decline marginally in response to recent policy positions making it more difficult to develop on and protecting valuable soils (highly productive land). In response to the changing landscape, we suggest using a slightly higher share (urban as share of total) to inform the planning process. We suggest using a 78% - 80% range as a foundation value, with these percentages showing the share of demand being met within the urban areas<sup>31</sup>. This range represents around 200 households. The demand tables presented in the next section used 80% to estimate the urban demand in Hastings. Based on the StatsNZ classification, all of Napier is classed as an urban area.

# 3.2 Demand Outlook

The NPS-UD requires councils to provide sufficient capacity for urban demand, over the next three decades. This section presents the estimated urban demand and is used when assessing the capacity that is enabled in the different scenarios. Recall, it reflects the updated population projections as per StatsNZ's December 2022 release.

<sup>&</sup>lt;sup>29</sup> Source: Statistics NZ

<sup>&</sup>lt;sup>30</sup> The SA2 urban-rural classification is as per the StatsNZ data, and does not align with the planning zones in the District Plan.
<sup>31</sup> This proportion relates to the urban-rural split, and should not be confused with the greenfield-intensification split.



The composition and structure of households are important drivers of housing demand. The sociodemographic attributes (age, income, size) of households are considered when estimating demand for housing by type (attached and detached) arising from different households. Appendix 2 presents the updated demand outlook, first for Hastings then Napier. The information illustrates the breakdown of growth in terms of household types, dwelling demand (typology) and income levels within the urban area over the next 30 years. These results are not discussed in detail in this report but is instead included to show the data informing the FDS housing assessment. Nevertheless, some key observations are:

- The household growth implies that 8,220 additional dwellings<sup>32</sup> will be needed in Hastings District over the coming three decades. This is lower than the 11,000 projected in the HCA and reflect both a shift in population demographics (age structure) and the rural portion that is now excluded from these figures.
- In Napier, approximately 5,700 additional dwellings will be needed over the same period. This is also
  slightly lower than the 6,200 projected in the HCA. This shift is due to the variation in the population
  structure driving housing demand the housing demand patterns are lower because a portion of
  population growth is associated with young people (sub-19 years) that live in existing households.

We recognise the likelihood of an overlap in demand for different types of dwellings. That is, demand for a particular type of dwelling could potentially be satisfied by the supply of different type of dwelling. Households often make trade-offs between factors such as price, size, and location, leading to demand substitution across dwelling typologies. Additionally, underlying demand preferences may not align with final dwelling choices due to consumer constraints like household budget or travel considerations.

For example, a household may prefer a standalone home on a large lot, but they might choose a similarly sized attached dwelling on a smaller site in a more accessible location. Relative to the existing district plan provisions, the introduction of PC5 and PDP is expected to result in a more diverse future dwelling stock in the Hastings-Napier market. This diversity would offer consumers a greater range of housing options (choice), facilitating potential demand shifts (substitution). The assessment includes a preference shift from detached to attached dwellings over time, which is similar to the HCA. However, the rate of change could be faster (or slower) due to affordability, accessibility, and availability considerations.

Further, councils are also required to consider a competitiveness margin over and above the expected demand, to support choice and competitiveness in housing land markets. Table 3-1 below presents the urban demand over time, including the competitiveness margin, which is used when comparing the potential development capacity (supply) with the projected demand.

	HASTINGS	
		Total
Short term	2022-2025	1,510
Medium term	2025-2032	2,500
Long term	2032-2052	5,610
TOTAL	2022-2052	9,620
	NAPIER	
	NAPIER	Total
Short term	NAPIER 2022-2025	Total 980
Short term Medium term	NAPIER 2022-2025 2025-2032	<b>Total</b> 980 2,040
Short term Medium term Long term	NAPIER 2022-2025 2025-2032 2032-2052	<b>Total</b> 980 2,040 3,680

### Table 3-1: Urban Demand for Dwellings (including competitiveness margin)

<sup>32</sup> Urban demand.



Key observations:

- Incorporating the competitiveness margin<sup>33</sup> increases long-term demand by 1,400 households in Hastings and around 990<sup>34</sup> in Napier.
- Over the next 30 years, Hastings requires an additional 9,620 dwellings when competitiveness margins are included. This suggests Napier requires an additional 6,700 dwellings out to 2052, inclusive of margins. Put differently, councils have to accommodate for average growth of up 320 dwellings per annum in Hastings and 225 in Napier. Keep in mind the actual number of dwellings which will be developed will be slightly lower because these figures include the competitiveness margin, which ensures choice within the market.
- In Hastings, over the short term, dwelling demand is 1,510, implying average annual growth of around 500. This slows slightly over the medium term (~360 per annum) and long term (~280 per annum). In Napier short term demand is estimated to be around 980 additional dwellings, i.e., ~330 annually. Annual demand growth, like Hastings, is also expected to slow somewhat over the medium (~290 per annum) and long term (~185 per annum).

# 3.3 Other Demand Segments

As part of the capacity assessment, other demand segments must be considered because it changes the 'effective demand' for some dwelling types. While detailed analysis and assessments of these wider segments are beyond the scope of this assessment, the retirement village and latent demand are two important segments that should not be ignored. The retirement village segment captures a portion of overall demand and retirement villages tend to have unique land requirements that are difficult to accommodate/satisfy through traditional infill development options. In addition, there is existing unmet demand in the housing market. This latent demand is accommodated by non-mainstream providers such as Social Housing Providers (SHPs) and Kāinga Ora. Households associated with these providers have housing needs, but affordability constraints mean that they are often unable to find suitable accommodation through the mainstream market. The development activities of these providers do not follow the same due-diligence steps as the mainstream market because they tend to have different risk-return profiles. This assessment did not specifically assess the demand for housing in these segments, but some high-level commentary is provided.

### 3.3.1 Retirement village units

A report by Birman Consulting<sup>35</sup> on the retirement village sector demand in Hastings and Napier, projects that 2,450 more retirement village-based independent-living units (villas and apartments) would be needed in Napier and Hastings (30 years). That estimate translates into a demand for about 80 units per annum going forward.

For comparison, M.E used information prepared by JLL<sup>36</sup> to estimate the future demand for retirement village units. This report is based on JLLs work for New Zealand Retirement Village (NZRVD) and Aged Care (NZACD) databases. Combining the latest medium population projections (by age cohort) from StatsNZ with

<sup>&</sup>lt;sup>33</sup> 20% margin over the short and medium term and 15% margin over the long term.

<sup>&</sup>lt;sup>34</sup> Some variances because of rounding in household demand tables.

<sup>&</sup>lt;sup>35</sup> Retirement Village Sector Housing Demand Forecasts 2023-2053. A Draft report for the Heretaunga Plains Future Development Strategy by Birman Consulting Limited. February 2023

<sup>&</sup>lt;sup>36</sup> New Zealand Retirement Villages and Aged Care. A whitepaper by JLL, New Zealand. August 2023.



information from the JLL report about penetration rates<sup>37</sup> (PR) and average number of occupants per unit, enables us to estimate future demand.

The national average PR was used because the regional number for Hawke's Bay was not published in the report. Overall, PR for the country has remained largely stable over the recent past at around 14%, with only slight variation experienced by some regions. According to the graphic (p.29) in the JLL report, the PR for Hawke's Bay appears to align with the national average (14%). Based on a resident-to-unit ratio of 1.3, this suggests 1,560 additional units would be needed over the next 30 years, in Hastings and Napier combined. Around 900 of those are expected to be in Hastings and 660 in Napier. This implies an annual average of 52 units (30 in Hastings and 22 in Napier).

This estimate is much lower than what is estimated in the Birman report. Therefore, the PR is compared to patterns projected for other New Zealand regions. According to JLL, the Bay of Plenty has the highest PR (19%). Increasing the PR in Hastings and Napier to 19%, lifts the additional 30-year demand to 2,115 units (1,215 in Hastings and 900 in Napier). This suggests on average, 70 additional units would be required over the next thirty years. Using this methodology suggests the demand projected by Birman (80 units per annum) would require a PR of 21.5%, holding all else constant. Alternatively, if the average PR (14%) is used, the resident-to-unit ratio would need to be around 0.85, suggesting not all units would be occupied, which is unlikely.

In terms of delivery patterns, historically (1990-2022) the average combined number of retirement units consented in Napier and Hastings was 49 per year, 29 and 20, for the two areas respectively. Over the past 10 years, there has been a significant uptick in this sector, with 772 units consented since 2013. In Napier, on average 39 units annually and 38 per year in Hastings. This suggests activity in this sector would need to increase even further to keep up with the demand expected in the Birman report (80 units annually). The projected demand based on the JLL report (52 per annum) broadly aligns with the level of supply that has been delivered over the longer term (49 units per year). Further, the recent lift in annual consents (77 per units per annum) suggests demand assuming a higher PR (19%; 70 units annually) can also be accommodated by the retirement village sector.

To examine size and value of retirement village units being delivered, consent patterns over the past 10 years (2012-2022) were analysed. Consent information obtained from StatsNZ shows:

- Consent values for 80% of Napier's retirement village units came in between \$200,000 and \$300,000 (2022-dollars) over this period.
- In Hastings, 39% of the total consents for retirement units, came in between \$200,000 and \$300,000 (2022-dollars) over this period.
- Hastings is broadly aligned with the national figure, which is 38% of consents in this bracket, but Napier (80%) is more than double the national figure. This suggests the consent values in Napier are on average lower than those in the rest of the country. A possible explanation could be that on average, units are smaller in Napier than the national average (shown below).
- The consent values for retirement units in Hastings are slightly lower when compared with New Zealand as a whole. Nationally, almost a third (32%) of units' consent value is between \$300,000 and \$400,000 compared with 19% in Hastings. Correspondingly, nationally 16% of retirement unit consents are valued between \$100,000 and \$200,000, compared with 29% in Hastings.

<sup>&</sup>lt;sup>37</sup> The estimated resident numbers in Retirement Villages as a percentage of the 75+ population.



In terms of size, StatsNZ information about the average size of new retirement units consented between  $\overline{2012}$  and 2022 reveals:

- Nationally, units are on average, slightly larger than in Hastings and Napier, with the average size in:
  - o New Zealand 120sqm
  - o Hastings 112sqm, and
  - o Napier 94sqm.
- Retirement units in Napier are slightly smaller on average than Hastings, but their consent values are higher. This suggests units in Napier will fall in higher value brackets than units across Hastings District.

Importantly, consented values are not sales prices (no land value is included) but they provide an indication of the distribution of constructed units across value and size brackets. The Birman report mentions the aspect of affordability of retirement village units, and its effects on private sector delivered retirement activities are described. The specific quantum of retirement villages, and the associated land is subject to several assumptions, like household size, design guidelines (unit-to-land relationships), and other on-site services. Comparing the JLL and methodologies show that there is variation and sensitivity in the results. A key point is the despite the sizable difference between the different approaches, the retirement sector is projected to see a growth in this housing segment.

# 3.3.2 Latent demand

In the HCA, latent demand (or housing backlog) was not directly captured in the bottom lines. The policy position about how to accommodate latent demand, and to provide capacity is still to be worked through. Regardless of the final policy approach, the issue is that the mainstream market is unlikely to deliver housing aimed at household falling in the low-income cohorts. There is potential for latent demand to be addressed via other agencies (e.g., Kāinga Ora and social housing providers).

Drawing on Census data and other data sources, such as consent data, the latent demand is expressed as a range:

- Hastings 620 to 1065,
- Napier 60 to 360.

The combined range across Napier and Hastings is between 680 and 1,425. For context, the number of applicants on the Housing Register<sup>38</sup> (for social housing) is 670 in Hastings and 708 in Napier. There is a degree of uncertainty in these estimates because it uses the Census data and can mask the true level of housing need, due to:

- Reluctance to engage in official data collection.
- Households being recorded as multi-family households, or non-family households when in fact some of these households are 'single families' that are forced into shared living situations (e.g., grandparents or family members caring for grandchildren, children, etc.).

<sup>&</sup>lt;sup>38</sup> At 31 December 2022. Source: <u>https://www.msd.govt.nz/about-msd-and-our-work/publications-</u> resources/statistics/housing/housing-register.html#DownloadthelatestnumbersfortheHousingRegister3



Notwithstanding these issues, the estimates illustrate the general scale of latent demand. This demand needs to be considered as part of the overall situation but in a way that reflects the fact that the latent demand is part of housing demand but unlikely to be entirely fulfilled by the mainstream market.

The overall demand situation needs to also consider the potential implications of the red stickered dwellings (103) and the potential response to accommodate these households.

# 3.4 Demand Pathways

The household growth and associated development patterns will be distributed across Napier and Hastings, across urban and rural areas, and accommodated via the enabled urban growth patterns. These patterns relate to two scenarios – urban expansion and urban intensification. These align with the scenarios described in section 2.1. The former broadly aligns with historical patterns in which approximately 60% of long-term demand is satisfied through greenfield development. Conversely, the urban intensification scenario presents a situation where 60% of urban demand is satisfied through increased intensification within the existing urban area, i.e., brownfield development. To facilitate the move from 60% greenfield toward 60% intensification, a shift in housing preferences is needed. That is a demand shift away from detached dwellings to attached dwellings would be needed.

While it is acknowledged that intensification does not only comprise of attached dwellings, this typology is used as a proxy for intensification, to investigate whether shifting from accommodating 60% of growth through greenfield capacity, to accommodating 60% of demand through intensification (brownfield development), is reasonable.

Table 3-2 presents the long-term demand (30 years, net change) under urban expansion and urban intensification scenarios in Hastings and Napier. Appendix 2 provides additional detail about the long-term demand patterns and information used to estimate the potential shares of the brownfield and attached typologies going forward.

			IIAJIINUJ			
		Urban demand incl. margin	Urban Expan	sion (60% GF)	Urban Intensifi	cation (60% BF)
			GREENFIELD	BROWNFIELD	GREENFIELD	BROWNFIELD
Short term	2022-2025	1,510	910	600	600	910
Medium term	2025-2032	2,500	1,500	1,000	1,000	1,500
Long term	2032-2052	5,610	3,370	2,240	2,240	3,370
TOTAL	2022-2052	9,620	5,780	3,840	3,840	5,780
			NAPIER			
		Urban demand	Lirban F	vansion	Lirban inte	ncification
		incl. margin	Orbanic	xpansion	Orban inte	
		incl. margin	GREENFIELD	BROWNFIELD	GREENFIELD	BROWNFIELD
Short term	2022-2025	980	GREENFIELD 590	BROWNFIELD 390	GREENFIELD 390	BROWNFIELD 590
Short term Medium term	2022-2025 2025-2032	980 2,040	GREENFIELD 590 1,220	BROWNFIELD 390 820	GREENFIELD 390 820	BROWNFIELD 590 1,220
Short term Medium term Long term	2022-2025 2025-2032 2032-2052	980 2,040 3,680	GREENFIELD 590 1,220 2,210	BROWNFIELD 390 820 1,470	GREENFIELD 390 820 1,470	BROWNFIELD 590 1,220 2,210
Short term Medium term Long term <b>TOTAL</b>	2022-2025 2025-2032 2032-2052 2022-2052	980 2,040 3,680 <b>6,700</b>	GREENFIELD 590 1,220 2,210 <b>4,020</b>	BROWNFIELD 390 820 1,470 <b>2,680</b>	GREENFIELD 390 820 1,470 <b>2,680</b>	BROWNFIELD 590 1,220 2,210 <b>4,020</b>

### Table 3-2: Urban Demand Scenarios



To estimate the number of attached dwellings required under each of these scenarios, we draw on a range of inputs and assumptions, including information from the detailed long term demand outlook presented in Appendix 2. It is estimated 1,395 additional attached dwellings<sup>39</sup> would be required under an urban expansion scenario (650 in Hastings and 745 in Napier). Under an urban intensification scenario, this lifts to an additional 2,090 attached dwellings required (980 in Hastings and 1,110 in Napier). As mentioned earlier, attached dwellings are used a proxy for intensification. However, some attached dwellings could be delivered in greenfield areas, and detached dwellings could also be delivered in the brownfield locations. This means that the overall share of development that occurs in brownfield locations is likely to be higher than presented here

To look at how realistic such a shift could be in the local context, building consents for Napier and Hastings are analysed, and compared against patterns observed in other economies. These economies are represented by territorial authorities (TAs) classified by NPS-UD as tier 1 and tier 2. The urban environments were not isolated as per the NPS-UD; instead, statistical boundaries were used to define the areas being referred to. The comparison focuses on the relationships between attached and detached consents, and over time.

Figure 3-4 shows dwelling consents in tier 1 TAs split between those for attached and detached dwellings. The data is sourced from StatsNZ.



### Figure 3-4: Dwelling consents – attached vs detached (Tier 1)

Between 2000 and 2022 tier 1 consents per annum have increased from 6,190 to 15,120, an increase of 144%. While there has been a modest increase in detached consents – which rose from 4,940 to 7,840, an increase of 59% – the key driver of this increase has been the growth of attached dwellings. The period has seen a nearly sixfold increase in attached dwelling consents (from 1,250 to 7,290). In 2000 attached consents represented just 20% of the total; in 2022 that share has more than doubled to 48% of the total.

All tier 1 populations grew significantly over the period. At the low end, Wellington grew by 24%. Meanwhile the greater Tauranga area was the fastest growing area, swelling by 67%.

Figure 3-5 shows the number of attached dwellings per 1,000 head of population in tier 1 TAs between 2000 and 2022. This demonstrates the marked preference shift towards attached dwellings, especially since 2010. The effect of enabling greater densities through the Auckland Unitary Plan is also evident in the patterns.

<sup>&</sup>lt;sup>39</sup> Excludes the competitiveness margin.

Historically, the per capita rate has remained relatively range-bound around the 1 attached dwelling per 1,000 people level. However, this started to shift upwards coming out of the GFC period (circa 2012) and accelerated post 2019 to over 4 attached dwellings per 1,000 people.



### Figure 3-5. Attached dwelling consents per 1,000 population – Tier 1 Territorial Authorities

For tier 2 TAs, the patterns are not as clear. This is because there is considerable variation in terms of size, between the different areas in terms of population, and they are generally not as advanced in their planning cycles (with respect to enabling greater density). Figure 3-6 shows tier 2 TA dwelling consents split between attached and detached dwellings.

### Figure 3-6: Dwelling consents – Tier 2 Territorial authorities



### Dwelling Consents - Tier 2 Authorities Total

As expected, total dwelling consents are significantly lower than in tier 1 TAs (3,640 vs 15,120). All tier 2 consents combined still amount to less than half of the consents in Auckland alone. The growth in tier 2 TAs



has been less rapid over the period, with total consents growing 68% (compared to 144% in tier 1 TAs). Nevertheless, a significant share of that growth has come from attached dwellings. Over the period attached dwelling consents increased fourfold (from 190 to 780), whereas detached consents rose only by 46%. The share of total dwellings that attached dwellings make up, has risen from 9% to 21%.

Again, these authorities all saw population growth over the period. Rotorua grew the slowest (15%), while Whangarei grew the fastest (44%). Figure 3-7 shows consents per 1,000 people, for tier 2 TAs. These series are more volatile and erratic than tier 1 TAs, which is to be expected because individual developments will have a larger bearing on the total area numbers.



### Figure 3-7: Attached dwelling consents per 1,000 people - Tier 2 Territorial authorities

The change in the relationship between detached and attached dwellings, and the relative share of development accommodated via these typologies are used to frame potential development pathways. These pathways are applied to the Napier and Hastings growth scenarios to assess the potential implications in the local context i.e., the how transferable the attached-detached shifts could be.

The nuances between the trends observed across tier 1 and tier 2 authorities, as well as the idiosyncrasies of individual TAs, shows that there is considerable variation in terms of the scale and rate of change. The role of large shocks can also be seen in the data. For example, the impacts of the earthquakes in Christchurch are evident – a marked increase in all consents in the years following the earthquakes, including for attached dwellings. Also notably, the GFC had a suppressive impact on consents, and one which was more durable in tier 2 TAs than their larger counterparts, extending until 2015 (compared with 2012 for tier 1 areas). The Auckland Unitary Plan also enabled a shift in dwelling typology in the city. These patterns provide an ability to show the relative importance of different demand drivers.

For context, the historic consent patterns in Napier and Hastings are first presented (see Figure 3-8).

Historically, the share of dwelling consents that attached units accounted for, remained relatively low. The relative size of attached dwellings in the Napier-Hastings context does not show the same upward trends as observed in other tier 2 Tas (see At its lowest level (2009) attached dwellings accounted for less than 1% of the total consents, but this was during the GFC, and construction activity was very low – this drop-off is



however evident even before the GFC with a noticeable decline in the years before the GFC. More recently in 2021 and 2022, attached consents accounted for 24% and 22% of the total, respectively.



Figure 3-8: Napier-Hastings historic consents

As a share of urban consents,<sup>40</sup> attached consents accounted for slightly higher shares, ranging between 2% and 41% between 1990 and 2022. This implies an average of 14% over the past three decades. More recently, the share of attached dwellings has been increasing. Between 2017 and 2022 attached consents as a share of urban consents, ranged from 22% to 41%, suggesting an average of 24%. It is important however, to take care when projecting into the future, by looking through the short-term trends which can be very volatile. Pent-up demand post-pandemic and an accelerated Kāinga Ora build programme contributed to the relatively high shares 2021 and 2022. This suggests attached consents are unlikely to continue the current trajectory.

Despite a dip during the GFC and in the years following it, demand recovered between 2015 and 2020. Detached consents appear to have been more affected by the pandemic, although there was a slight drop in attached dwellings from 2021 to 2022, too. Analysing the past 20 years alone points to at least four distinct periods where demand was defined by an array of macroeconomic conditions and confidence in markets.

- Pre-GFC demand was strong and increasing.
- GFC demand was significantly suppressed.
- Post-GFC demand recovered to near pre-GFC rates. (Though a slightly higher population must also be accounted for.)
- Covid-19 and the aftermath the effects of which are still playing out in the data.

These trends must be accounted for when seeking to apply different growth pathways into the future. Table 3-3 provides a basic summary of the pathways. Crucially, these pathways are hypothetical, and meant to illustrate the potential profile. They show a mix of optimistic and pessimistic settings.

<sup>&</sup>lt;sup>40</sup> i.e., removing the rural consents which are predominantly detached dwellings from the total.



Pathway	Comment or description
A: Slow start and gradual change	Long term trends in per capita ratio, and projections based on historic patterns.
B: Adopt change pattern emerging coming out of GFC	Slower transitioning to higher density to reflect economic slowdown and lags. See demand for attached dwellings increase over the medium to long term.
C: Medium term lift in attached dwellings before pulling back to historic rates	The recent boom in attached dwellings could be related to low interest rates, and pent-up demand. This pathway smooths out the growth profile.
D: Medium term lift in attached dwellings and a more persistent shift over the long term.	The long-term shift is modelled on the very high growth observed over the past five years in tier 1 areas, but the forward-looking profile is assumed to fall back to current rates.
E: Aggressive rates	The rates of change seen in the tier 1 councils inform the pathway, and the change starts in the short term. While the tier 1 rates are used, these economies are considerably larger than Napier-Hastings, and the rates used in the pathway are moderated.

#### Table 3-3: Attached pathway descriptions

Crucially, these pathways are used to illustrate the potential ways in which attached dwellings could be delivered into the medium and long term. We begin by defining the initial level of demand. From here we incorporate a range of assumptions to project the path forward using the pathways described in Table 3-3.

Figure 3-9 shows the potential futures under different growth scenarios (development pathways) in which historical patterns (ratios) are applied to expected population growth. The figure shows the cumulative (total) attached consents for each pathway. The pathways are compared against two benchmarks – The cumulative total demand for attached dwellings in brownfield locations (dotted lines). The plotted against the share of long-term brownfield demand for attached dwellings, exclusive of a competitiveness margin (dotted lines). The black dotted lines show the level of attached development needed to achieve the urban intensification goals, and the bottom (blue) dotted line shows the levels associated with the urban expansion target.

Pathway E shows the fastest transition because it is informed by the rates observed in tier 1 TAs and assumes an immediate market response, i.e., housing demand shifting towards attached dwellings over the immediate short term and continuing to grow. Under these conditions, it will take around 20 years to reach the target level under urban expansion demand scenario, and a further five years to reach the target level under urban intensification scenario. Importantly, these underlying patterns are seen as aggressive because Napier-Hasting's residential markets are not as advanced or big as the markets in tier 1 Tas. Pathways A, B and C is based on local (Napier-Hastings) historical growth rates, with varying levels of deferred market response assumed. Using these more moderate pathways will see attached dwellings approach the 40% intensification target over the long term. Pathway D represents a scenario in which demand (from households) continuously



shift towards attached housing, with an acceleration/step change<sup>41</sup> observed in the medium term (from around 2030-2032 onwards). Under this pathway, the target level under urban expansion will be reached towards the end of the assessment period, and the urban intensification target beyond the assessment period.



#### Figure 3-9: Potential growth profiles for attached dwellings in Napier-Hastings

The different pathways shows that the long-term outlook for attached dwellings, based on the patterns observed elsewhere and locally, is expected to see an ongoing increase and acceptance. There is however some uncertainty around the overall scale of change and how fast the transition could occur. Factors such as affordability and accessibility as well as changing household structures (small families and the ageing population) are likely to support the shift. However, from a housing market perspective, it would be inappropriate to rely solely on infill (and attached) capacity to accommodate growth. A range of typologies and locations (including greenfield) is needed to ensure that a competitive market is supported, and the housing market delivers good outcomes.

# 3.5 Concluding Remarks

This section has shown that the population growth outlook for Hastings District and Napier City, is positive over the next three decades. The most recent population projections<sup>42</sup> published by StatsNZ show projections for Hastings and Napier have shifted upwards relative to the March 2021 projections. However, the shift in the population's age structure, with higher growth in the younger age cohorts, results in a smaller increase in the number of households than previous projected. These newer projections are therefore slightly lower than those used by Councils during earlier National Policy Statement on Urban Development Capacity related work and consequently the results differ from earlier iterations. The preferred projection series used in this report, is a medium-high scenario, which is midway between the StatsNZ medium and high series.

While this report did not specifically consider the share of demand to be met through retirement village units, it is estimated the demand could be somewhere between  $50^{43}$  and  $80^{44}$  units, annually. Historically (1990-

<sup>&</sup>lt;sup>41</sup> Higher growth rate than observed historically.

<sup>&</sup>lt;sup>42</sup> December 2022

 $<sup>^{\</sup>rm 43}$  Based on JLL's reported penetration rate and occupant to unit ratio.

<sup>&</sup>lt;sup>44</sup> According to the Birman report.



2022), the average number of retirement units consented in Napier and Hastings was 49 per year and more recently (2013-2023), 77 units were consented annually.

Another sub-segment unlikely to be addressed entirely by the mainstream market is latent demand (or housing backlog). Drawing on Census and other data sources such as the social housing register suggests that latent demand is between 680 and 1,425 (Hastings and Napier combined). There is potential for latent demand to be addressed via other agencies (e.g., Kāinga Ora and social housing providers).

The analysis illustrated the potential shift in dwelling preference to attached dwellings and uses this as a proxy for intensification. Applying five different patterns (pathways) to local population projections to estimate attached dwellings and the shift towards higher density dwellings to the Napier-Hastings situation shows that benchmarks are towards the ambitious end of the spectrum.



# 4 Estimated Capacity

This section presents plan enabled capacity, feasible capacity, and potential development capacity for the updated baseline in Hastings and Napier. The PEC and FC for the growth scenario (intensification areas) in Hastings is also reported. The results are reported using several tables presenting different spatial configurations – some are presented in the body of the report and others in the appendices. The assessment takes a long-term view (30-year) which captures price changes, demographic shifts and affordability considerations.

# 4.1 Plan Enabled Capacity

PEC is the theoretical maximum capacity within the urban area, as enabled through the planning provisions (and assumptions where appropriate). With reference to redevelopment, the 'net' change in dwellings is reported. Importantly, redevelopment and infill capacity are mutually exclusive, as are detached and attached typologies. This is, capacity cannot be added across types of dwellings, and redevelopment and infill capacity cannot be added together because when one option is exercised, then other options are foreclosed.

The PEC results are presented below, first for Hastings and then for Napier under separate headings. The different development pathways and two main typologies are reported.

# 4.1.1 Hastings District

The capacity situation is presented by outlining the BAU (baseline) capacity as well as the capacity as estimated for the growth scenarios.

### Business As Usual (baseline)

The PEC for Hastings is presented using a series of tables. Table 4-1 reports the baseline (BAU) capacity and the results are summarised across the zones (see Figure 4-1). The PEC is divided in to three broad development pathways: redevelopment, infill and vacant capacity. For each of the pathways, dwellings can be detached or attached. Figure 4-1 shows the spatial extent of the different zones.

Plan Enchlad Constitut (DEC)	Redevel	opment	In	fill	Vacant	
Plan Enabled Capacity (PEC)	Detached	Attached	Detached	Attached	Detached	Attached
Central Commercial	-	1,740	-	230	-	-
Clive-Whakatu Residential	30	-	20	-	20	-
Coastal Settlement	80	-	50	-	40	-
Flaxmere General Residential	2,420	8,920	290	910	50	70
Hastings Character Residential	30	10	20	-	10	-
Hastings General Residential	9,320	26,960	1,470	2,930	130	250
Haumoana - Te Awanga Residential	70	-	60	-	10	-
Havelock North Character Residential	10	-	10	-	-	-
Havelock North General Residential	2,200	8,020	390	1,080	60	210
Havelock North Rural Residential	480	-	110	-	20	-
Havelock North Village Centre Retail	-	170	-	-	-	-
Medium Density Residential	2,410	10,500	430	1,480	10	30
Plains Settlement	20	-	20	-	10	-
Rural Residential	710	-	100	-	20	-
Te Mata Special Character Area	80	-	20	-	-	-
Tuki Tuki Special Character Area	710	-	230	-	-	-
Waimarama Coastal Settlement	10	-	10	-	10	-
Total	18,580	56,320	3,230	6,630	390	560

### Table 4-1: Plan Enabled Capacity in Hastings District by Planning zone – BAU



Figure 4-1: Relevant Zones – Hastings (PC5)





Key observations:

- Overall, the redevelopment pathway enables the highest PEC in Hastings under the BAU scenario (i.e., proposed PC5 settings). Capacity for 18,580 dwellings exists under the redevelopment pathway for detached dwellings. Half of this capacity is in Hastings General Residential zone.
- For attached dwellings, capacity is significantly higher with 56,320 dwellings enabled through redevelopment. Like detached capacity, a large share (48%) of the attached redevelopment capacity is located in Hastings GRZ.
- Compared to redevelopment capacity, infill capacity is substantially lower. Detached capacity is 3,230 dwellings while attached capacity is 6,630. Again, capacity is concentrated in Hastings GRZ.
- A small amount of vacant PEC exists in Hastings. There is vacant capacity for 390 detached dwellings, with 130 of those located in Hastings GRZ. Attached capacity is approximately double the detached capacity enabling 560 dwellings, with 250 of those in Hastings GRZ.

### Growth Scenarios

Table 4-2 shows plan enabled capacity in each of the identified growth areas where applicable. The estimated PEC considered different pathways and typologies during the modelling phase. Only the theoretical maximums (dwelling capacity) are presented. The maximum capacity is interpreted as a sum of redevelopment capacity plus vacant capacity.

Some scenarios were not modelled as part of this assessment, and the following points should be noted:

- Scenario 1 was not modelled on advice from B&A, being excluded based on other criteria.
- Scenario 3d covers the Bayview area, so not applicable in this assessment.
- Scenario 5 includes industrial and business zones where residential is not enabled, so this is excluded.

Scenario 2 captures all the intensification areas. The higher density dwellings (apartments) in and around commercial centres are largely responsible for a share of the uplift in capacity relative to the baseline. This scenario is compared with the baseline in the capacity tables throughout the rest of the report because it represents the intensification results and change – the focus of this assessment.

Total PEC for Scenario 2 is 36,160 dwellings, the highest capacity across all the scenarios driven by intensification. Scenarios 4 and 4a capture all the greenfield expansion areas. These two scenarios deliver the next highest PEC with 22,690 and 20,035 respectively. The lowest PEC (3,010) is anticipated by Scenario 3b which only captures capacity in some of the satellite towns. The remaining capacity scenarios range from 6,170 to 15,555 PEC.

Table 4-3 provides more detail on the development options and typologies that are enabled within the intensification areas. The table compares the PEC under the baseline and Scenario 2.

At a maximum level – redevelopment plus vacant capacity – Scenario 2 will enable between 990 and 11,360 more dwellings than the baseline. The range reflects typology and shows that the additional capacity is either 990 additional standalone dwellings or 11,360 additional attached dwelling units when using the intensification settings. A mixture of the typologies can be expected.

The shifts are at a zone level. In growth areas (FM1, FM2, HNC1, HNC2) there is no lift in PEC because, despite the General Residential zoning in these areas, the planning provisions are similar to Medium Density



Residential zone. This is because these areas are within the walkable catchment proposed under PC5 i.e., to increase density<sup>45</sup>.

In growth areas where the PEC increases, the change is associate with increases in parcels located within walkable catchment, and because those properties are associated with commercial zones (e.g., Suburban Commercial zone) under the Intensification scenario. The resulting PEC provides an ability to develop residential dwelling options. However, the options need to be assessed in terms of the development costs and potential sales values. Commercially feasible capacity is explored in Section 4.2.

	Hastings	Scenario										
Location	Namo	1	La	2	3	38	30	30	30	4	4a	5
RD1	Satellite Town		10		4.00			465	NIA			
BD7	Satellite Town	1		-	465		-	465	NA	-	-	-
BP3	Satellite Town		JA	-	212	-	-	212	NA	-	-	-
BP4	Satellite Town	1	JΔ		1 620			1 620	NA			
BP5	Satellite Town	r	JA A	-	860	-	-	860	NA	-	-	-
BP6	Satellite Town	1	NA.	-	1.760	-	-	1.760	NA	-	-	-
C1	Greenfield Expansion	1	١A	-	-	-	-	· -	NA	25	-	-
C2	Greenfield Expansion	1	1A	-	-	-	-	-	NA	220	-	-
FM1	Greenfield Expansion	1	A	-	-	-	-	-	NA	545	545	-
FM10	Greenfield Expansion	1	A	-	-	-	-	-	NA	1,435	1,435	-
FM11	Greenfield Expansion	1	1A	-	-	-	-	-	NA	2,370	2,370	-
FIVIZ	Greenfield Expansion	r	NA .	-	-	-	-	-	NA	1,850	1,850	-
FIVIS	Busiliess/industrial	r	NA IA	-					NA	-	-	-
EM5	Greenfield Expansion	1		-	-	-	-	-	NA	40	40	-
FM6	Greenfield Expansion	1	JΔ						NA	905	905	
FM7	Greenfield Expansion	r	JA A	-	-		-		NA	625	625	-
FM8	Greenfield Expansion	1	NA.	-	-	-	-	-	NA	770	-	-
FM9	Greenfield Expansion	1	١A	-	-	-	-	-	NA	800	800	-
FMC1	Intensification	1	1A	630	-	-	-	-	NA	-	-	-
FMC2	Intensification	1	A A	1,640	-	-	-	-	NA	-	-	-
FMCC	Intensification	1	A	50	-	-	-	-	NA	-	-	-
H1	Greenfield Expansion	1	A	-	-	-	-	-	NA	435	435	-
HZ	Greenfield Expansion	1	NA IA			-		-	NA	1,925	1,925	-
H3	Greenfield Expansion	1	NA IA			-		-	NA	805	805	
H5	Greenfield Expansion	1	JA	-	-	-	-	-	NA	360	360	-
H6	Business/Industrial		JA	-	-	-	-	-	NA	145	145	-
HZ	Greenfield Expansion		JA A						NA	340		-
H8	Greenfield Expansion	1	NA.	-	-	-	-	-	NA	670	670	-
H9	Greenfield Expansion	1	١A	-	-	-	-	-	NA	1.235	1.235	-
HAU1	Rural Lifestyle	1	1A	-	-	-	-	-	NA	155	155	-
HAU2	Rural Lifestyle	1	1A	-	-	-	-	-	NA	200	200	-
HAU3	Rural Lifestyle	1	1A	-	-	-	-	-	NA	120	120	-
HC1	Intensification	1	1A	6,350	-		-		NA	-		-
HCZ	Intensification	r	NA .	3,310	-	-	-	-	NA	-	-	-
HC4	Intensification	r N	IA.	5,990					NA			-
HCS	Intensification	1	JΔ	6,690					NA	-	-	-
HCC	Intensification	1	NA.	4,270	-	-	-	-	NA	-	-	-
HN1	Rural Lifestyle	1	١A		-	-	-	-	NA	50	50	-
HN2	Greenfield Expansion	1	1A	-	-	-	-	-	NA	585	585	-
HN3	Greenfield Expansion	1	A	-	-	-	-	-	NA	720	720	-
HN4	Rural Lifestyle	1	A	-	-	-	-	-	NA	310	310	-
HNS	Rural Lifestyle	r	NA .	-	-	-	-	-	NA	60	60	-
	Greenfield Expansion	r	NA IA	-	-	-	-	-	NA	460	460	-
HNS	Greenfield Expansion	1	JA JA		-	-	-		NA	480	480	-
HNC1	Intensification		JΔ	1 180	-		-		NA	10	10	-
HNC2	Intensification	1	NA.	360	-	-	-	-	NA	-	-	-
HNC3	Intensification	1	١A	1,480	-	-	-	-	NA	-	-	-
HNCC	Intensification	1	1A	1,260	-	-	-	-	NA	-	-	-
IR1	Business/Industrial	١	NA.		-	-		-	NA		-	
IR2	Business/Industrial	1	NA .	-	-	-	-	-	NA		-	-
IR3	Business/Industrial	1	NA IA	-	-	-	-	-	NA	-	-	-
IR4	Greenfield Expansion	r N		-	-	-	-	450	NA	-	-	-
M1	Satellite Town	N 1			450		920	450	NA	450	450	
M2	Satellite Town	r	JA A		975		975		NA			-
M3	Satellite Town	1	NA.	-	700	-	700	-	NA	-	-	-
M4	Satellite Town	1	١A	-	415	-	415	-	NA	-	-	-
NC2	Greenfield Expansion	1	1A	-	-	-	-	-	NA	495	495	-
01	Greenfield Expansion	1	1A	-	-	-	-	-	NA	470	470	-
02	Rural Lifestyle	1	1A	-	-	-	-	-	NA	710	710	-
P1	Kural Litestyle	1	NA.		-	-		-	NA	55	55	
P2	Satellite Town	1	NA IA	-	480	480	-	-	NA	-	-	-
P3	Satellite Town	r N	A A	-	1,010	1,010			NA	-	-	-
P4	Satellite Town	r N	JΔ		5/0	5/0			NA			-
P6	Satellite Town	l.	NA		1.025	1.025		-	NA		-	
P7	Satellite Town	1	NA	-	2,495	2,495	-	-	NA	-	-	-
RH	Rural Lifestyle	1	١A	-	-	-	-	-	NA	110	110	-
TA	Greenfield Expansion	1	1A	-	-	-	-	-	NA	1,250	-	-
W1	Greenfield Expansion	1	1A	-	-	-	-	-	NA	50	-	-
WH1	Business/Industrial	1	NA	-	10 000		2 010	C 275	NA	-		-
L	scenario (otal			36,160	15,555	6,170	3,010	6,375		22,690	20,035	-

#### Table 4-2: Plan Enabled Growth in identified Growth Areas - Hastings

<sup>45</sup> If the capacity is compared against the operative plan, then both PC5 and Scenario 2 will deliver an increase in capacity.



BUSINESS AS USUAL									
Dian Enghlor	Conscitu (DEC)	Redevelop	ment (net)	Inf	ill	Vac	ant	Redev + Vacant	
Plan Enabled		Detached	Attached	Detached	Attached	Detached	Attached	Detached	Attached
FMC1	Flaxmere	160	590	20	70	10	40	170	630
FMC2	Flaxmere	410	1,620	60	220	10	20	420	1,640
FMCC	Flaxmere	-	-	-	-	-	-	-	-
HC1	Hastings	1,060	4,570	120	410	20	70	1,080	4,640
HC2	Hastings	510	2,070	70	210	-	-	510	2,070
нсз	Hastings	920	3,190	120	270	20	30	940	3,220
HC4	Hastings	670	2,800	90	310	10	20	680	2,820
HC5	Hastings	1,080	4,740	150	480	30	70	1,110	4,810
нсс	Hastings	-	1,740	-	230	-	-	-	1,740
HNC1	Havelock North	230	1,060	40	130	30	120	260	1,180
HNC2	Havelock North	80	360	10	30	-	-	80	360
HNC3	Havelock North	320	1,400	50	200	-	10	320	1,410
HNCC	Havelock North	-	290	-	50	-	10	-	300
Rest of District	Rest of Hastings	13,130	32,000	2,510	4,070	270	180	13,400	32,180
		18,570	56,430	3,240	6,680	400	570	18,970	57,000
			INTENSI	ICATION SC	ENARIO				
Plan Fnabler	Capacity (PFC)	Redevelop	ment (net)	Inf	ill	Vac	ant	Redev +	Vacant
	- capacity (: 20)	Detached	Attached	Detached	Attached	Dotachod			
		Detacheu	Attacheu	Detachea	Allacheu	Detacheu	Attached	Detached	Attached
FMC1	Flaxmere	160	590	20	70	10	Attached 40	Detached 170	Attached 630
FMC1 FMC2	Flaxmere Flaxmere	160 410	590 1,620	20 60	70 220	10 10	Attached 40 20	<b>Detached</b> 170 420	Attached 630 1,640
FMC1 FMC2 FMCC	Flaxmere Flaxmere Flaxmere	160 410 -	590 1,620 50	20 60 -	70 220 -	10 10 -	40 20	<b>Detached</b> 170 420 -	Attached 630 1,640 50
FMC1 FMC2 FMCC HC1	Flaxmere Flaxmere Flaxmere Hastings	160 410 - 1,220	590 1,620 50 6,250	20 60 - 140	70 220 - 480	10 10 - 30	Attached 40 20 - 100	Detached 170 420 - 1,250	Attached 630 1,640 50 6,350
FMC1 FMC2 FMCC HC1 HC2	Flaxmere Flaxmere Flaxmere Hastings Hastings	160 410 - 1,220 670	590 1,620 50 6,250 3,300	20 60 - 140 80	70 220 - 480 270	10 10 - 30 -	Attached 40 20 - 100 20	Detached 170 420 - 1,250 670	Attached 630 1,640 50 6,350 3,320
FMC1 FMC2 FMCC HC1 HC2 HC3	Flaxmere Flaxmere Flaxmere Hastings Hastings Hastings	160 410 - 1,220 670 1,300	590           1,620           50           6,250           3,300           5,930	20 60 - 140 80 150	70 220 - 480 270 490	10 10 - 30 - 20	Attached 40 20 - 100 20 60	Detached 170 420 - 1,250 670 1,320	Attached 630 1,640 50 6,350 3,320 5,990
FMC1 FMC2 FMCC HC1 HC2 HC3 HC4	Flaxmere Flaxmere Flaxmere Hastings Hastings Hastings Hastings	160 410 - 1,220 670 1,300 690	590           1,620           50           6,250           3,300           5,930           2,930	20 60 - 140 80 150 90	70 220 - 480 270 490 310	10 10 - 30 - 20 10	Attached 40 20 - 100 20 60 20	Detached           170           420           -           1,250           670           1,320           700	Attached 630 1,640 6,350 3,320 5,990 2,950
FMC1 FMC2 FMCC HC1 HC2 HC3 HC4 HC5	Flaxmere Flaxmere Flaxmere Hastings Hastings Hastings Hastings Hastings	160 410 - 1,220 670 1,300 690 1,320	590 1,620 50 6,250 3,300 5,930 2,930 6,580	20 60 - 140 80 150 90 180	70 220 - 480 270 490 310 650	10 10 - 30 - 20 10 30	Attached 40 20 - 100 20 60 20 120	Detached           170           420           -           1,250           670           1,320           700           1,350	Attached 630 1,640 50 6,350 3,320 5,990 2,950 6,700
FMC1 FMC2 FMCC HC1 HC2 HC3 HC4 HC4 HC5 HCC	Flaxmere Flaxmere Hastings Hastings Hastings Hastings Hastings Hastings Hastings	160 410 - 1,220 670 1,300 690 1,320 -	590 1,620 50 6,250 3,300 5,930 2,930 6,580 4,260	20 60 - 140 80 150 90 180 -	70 220 - 480 270 490 310 650 580	10 10 - 30 - 20 10 30 -	Attached           40           20           -           100           20           60           20           100           20           100           20           100           100           100           100	Detached 170 420 - 1,250 670 1,320 700 1,350 -	Attached 630 1,640 6,350 6,350 5,990 2,950 6,700 4,270
FMC1 FMC2 FMCC HC1 HC2 HC3 HC4 HC5 HC4 HC5 HCC HNC1	Flaxmere Flaxmere Flaxmere Hastings Hastings Hastings Hastings Hastings Hastings Hastings Hastings	160 410 - 1,220 670 1,300 690 1,320 - 230	590 1,620 50 6,250 3,300 5,930 2,930 6,580 4,260 1,060	20 60 - 140 80 150 90 180 - 40	70 220 - 480 270 490 310 650 580 130	10 10 - 30 - 20 10 30 - 30 - 30	Attached           40           20           -           100           20           60           20           100           20           100           20           100           100           100           100           120	Detached 170 420 - 1,250 670 1,320 700 1,350 - 260	Attached 630 1,640 6,350 3,320 5,990 2,950 6,700 4,270 1,180
FMC1 FMC2 FMCC HC1 HC2 HC3 HC4 HC5 HC4 HC5 HCC HNC1 HNC2	Flaxmere Flaxmere Flaxmere Hastings Hastings Hastings Hastings Hastings Hastings Havelock North Havelock North	160 410 - 1,220 670 1,300 690 1,320 - 230 80	Attached           590           1,620           50           6,250           3,300           5,930           2,930           6,580           4,260           1,060           360	20 60 - 140 80 150 90 180 - 40 10	700 220 - 480 270 490 310 650 580 130 30	10 10 - 30 - 20 10 30 - 30 - 30	Attached           40           20           -           100           20           60           20           120           10           120	Detached 170 420 - 1,250 670 1,320 700 1,350 - 260 80	Attached 630 1,640 50 6,350 3,320 5,990 2,950 6,700 4,270 1,180 360
FMC1 FMC2 FMCC HC1 HC2 HC3 HC4 HC5 HC4 HC5 HCC HNC1 HNC2 HNC3	Flaxmere Flaxmere Flaxmere Hastings Hastings Hastings Hastings Hastings Havelock North Havelock North	160 410 - 1,220 670 1,300 690 1,320 - 230 80 340	Attached           590           1,620           50           6,250           3,300           5,930           2,930           6,580           4,260           1,060           360           1,470	20 60 - 140 80 150 90 180 - 40 10 60	700 220 - 480 270 490 310 650 580 130 30 220	10 10 - 30 - 20 10 30 - 30 - 30 -	Attached 40 20 - 100 20 60 20 120 10 120 - 10 120 - 10	Detached 170 420 - 1,250 670 1,320 700 1,320 - 260 80 340	Attached 630 1,640 50 6,350 3,320 2,950 6,700 4,270 1,180 360 1,480
FMC1 FMC2 FMC2 HC1 HC2 HC3 HC4 HC5 HC6 HNC1 HNC1 HNC2 HNC3 HNCC	Flaxmere Flaxmere Flaxmere Hastings Hastings Hastings Hastings Hastings Hastings Havelock North Havelock North Havelock North	160 410 - 1,220 670 1,300 690 1,320 - 230 80 340 -	Attached           590           1,620           50           6,250           3,300           5,930           2,930           6,580           1,060           360           1,470           1,200	20 60 - 140 80 150 90 180 - 40 10 60 -	Attached           70           220           480           270           490           310           650           580           130           30           220           130	10 10 - 30 - 20 10 30 - 30 - - - - -	Attached 40 20 - 100 20 60 20 120 120 10 120 - 10 60	Detached 170 420 - 1,250 670 1,320 700 1,350 - 260 80 340 -	Attached 630 1,640 50 6,350 3,320 5,990 2,950 6,700 4,270 1,180 360 1,480 1,260
FMC1 FMC2 FMC2 HC1 HC2 HC3 HC4 HC5 HC4 HC5 HCC HNC1 HNC2 HNC2 HNC2 ROHD	Flaxmere Flaxmere Flaxmere Hastings Hastings Hastings Hastings Hastings Hastings Havelock North Havelock North Havelock North Havelock North Rest of Hastings	160 410 - 1,220 670 1,300 690 1,320 - 230 80 340 - 13,130	Attached           590           1,620           50           6,250           3,300           5,930           2,930           6,580           1,060           3600           1,470           1,200           32,000	20 60 - 140 80 150 90 180 - 40 10 60 - 2,510	Attached           70           220           -           480           270           490           310           650           580           130           220           130           4,070	10 10 - 30 - 20 10 30 - 30 - 30 - 270	Attached 40 20 - 100 20 60 20 120 120 120 120 120 120 120 120 120	Detached 170 420 - 1,250 670 1,320 700 1,350 - 260 80 340 - 13,400	Attached 630 1,640 5,50 3,320 2,950 6,700 4,270 1,180 360 1,480 1,260 32,180

### Table 4-3: Plan Enabled Capacity in Hastings District – BAU vs Intensification (Scenario 2)

## 4.1.2 Napier City

The structure of the following discussion mirrors the one used for Hastings i.e., the capacity situation is presented for the BAU (baseline) capacity as well as the capacity as estimated for the growth scenarios.

### Business As Usual (baseline)

The Napier PEC is presented using a several tables. Table 4-4 highlights the PEC for different development pathways and two main typologies as estimated using the PDP (baseline). The table reports the PEC on a 'per zone' basis, and Figure 4-2 shows the extent of the zones. Appendix 4 reports a more detailed spatial distribution of Napier's plan enabled capacity.



BUSINESS AS USUAL							
Plan Enabled Canacity (PEC)	Redevelop	ment (net)	Int	fill	Vacant		
Fian Enabled Capacity (FEC)	Detached	Attached	Detached	Attached	Detached	Attached	
General Residential	4,980	17,910	770	1,560	240	540	
Medium Density Residential	3,670	74,910	540	4,380	130	1,110	
High Density	580	25,660	60	1,030	10	270	
Napier Hill	120	1,040	70	170	30	100	
City Centre	-	4,100	-	710	-	-	
Town Centre	-	900	-	160	-	-	
Local Centre	-	1,120	-	320	-	-	
Neighbourhood Centre	-	10	-	-	-	-	
Mixed Use	-	8,240	-	1,560	-	210	
West Quay Waterfront	-	140	-	-	-	-	
Rural Lifestyle	50	-	40	-	30	-	
Settlement	20	-	10	-	-	-	
Jervoistown	40	-	30	-	20	-	
Total	9,460	134,030	1,520	9,890	460	2,230	

# Table 4-4: Plan Enabled Capacity in Napier City by Planning zone (BAU)

### Figure 4-2: Relevant Zones/Locations - Napier





The change in PEC, shifts the type and location of residential development potential. The commercial feasibility of the development options is considered in the next section.

# 4.2 Long-term Commercially Feasible Capacity Results

Commercially feasible capacity reflects the number of dwellings (development options) for which the estimated sales price exceeds the cost to develop and a developer's margin. Over time, a greater range of development options densities, typologies, and locations are expected to become feasible. This is relevant within the Napier-Hastings context where the proposed intensification provisions (PC5 and PDP) enable greater intensification than previously enabled. The market for these types of dwellings is currently not yet well established but will gradually become more established in response to affordability challenges and development pressures. This is consistent with observations in other, larger urban economies.

In terms of the feasible capacity, two approaches were used to estimate the relevant price points.

- Firstly, the feasible capacity is estimated assuming that development option with the maximum profit margin will be pursued (i.e., where the developer gets the maximum return).
- A second alternative is that the development community responds to demand shifts and instead use maximum yield (number of dwellings) to drive activity. This alternative is seen as a proxy for smaller housing products coming to the market, but it still reflects affordability and feasibility considerations. The results of the second approach are presented in the appendices. Hastings' results are presented first (Appendix 6), followed by Napier's results (Appendix 8).

# 4.2.1 Hastings District

The commercially feasible capacity results for the BAU and growth scenarios are summarised below.

### Business As Usual (baseline)

The commercially feasible capacity for Hastings is presented in Table 4-5 and the spatial resolution is at a zone level and this table shows the feasible capacity<sup>46</sup> for the different development pathways. Appendix 5 provides a more detailed breakdown, summarising the feasible capacity under the profit maximisation approach, by location (SA2) and value band. The feasible capacity is reported for the long term (30 years).

The results suggest that the redevelopment pathway for attached dwellings will deliver the most feasible capacity. This feasible capacity is concentrated in the General Residential Zone in Hastings. It is important to note that this concentration is a function of the higher densities that are enabled under PC5 and the associated walkable catchments. The infill approach sees comparatively fewer development options when compared against the redevelopment pathway. However, the feasible capacity is still substantial with 2,560 additional standalone dwellings or 5,390 attached dwellings. As would be expected, under the redevelopment pathway, attached capacity is concentrated within the General Residential zone (within the walkable catchment) in Hastings and Havelock North, and the Medium Density Residential zone.

<sup>&</sup>lt;sup>46</sup> The capacity figures in this table cannot be summed across the columns.



	Redevelop	ment (net)	Int	fill	Vacant	
reasible Capacity (rC)	Detached	Attached	Detached	Attached	Detached	Attached
Central Commercial	-	210	-	100	-	-
Clive-Whakatu Residential	10	-	10	-	10	-
Coastal Settlement	40	-	30	-	5	-
Flaxmere General Residential	990	160	210	130	10	50
Hastings Character Residential	-	-	-	-	-	-
Hastings General Residential	5,070	12,030	1,130	2,750	90	240
Haumoana - Te Awanga Residential	30	-	30	-	-	-
Havelock North Character Residential	10	-	10	-	5	-
Havelock North General Residential	1,680	4,970	380	970	50	200
Havelock North Rural Residential	130	-	30	-	5	-
Havelock North Village Centre Retail	-	10	-	-	-	-
Medium Density Residential	1,560	4,880	420	1,440	10	30
Plains Settlement	10	-	10	-	10	-
Rural Residential	410	-	70	-	5	-
Te Mata Special Character Area	-	-	-	-	-	-
Tuki Tuki Special Character Area	560	-	230	-	-	-
Waimarama Coastal Settlement	-	-	-	-	-	-
Total	10.500	22.260	2.560	5.390	200	520

### Table 4-5: Feasible Capacity in Hastings District by Planning zone – BAU

The relative price points of the development pathways and options are important because it is used to illustrate affordability considerations. Table 4-6 reports the commercially feasible capacity across the different typologies and value bands, under a BAU scenario.

Feasible Capacity - Max Profit							
Dwelling Values (\$)	Detached	Attached	Total				
<\$249k	0	0	0				
\$250k-\$449k	0	0	0				
\$450k-\$699k	0	0	0				
\$700k-\$949k	930	430	1,360				
\$950k-\$1,249k	1,060	3,540	4,600				
\$1.25m-\$1.499m	3,060	1,760	4,820				
\$1.5m-\$1.949m	2,730	110	2,840				
\$1.95m+	1,710	40	1,750				
Total	9,490	5,880	15,370				

### Table 4-6: Feasible Capacity by Typology and Value Band in Hastings - BAU

The table reports the feasible capacity using the profit maximisation approach. Recall that under this approach, all feasible options on a parcel are evaluated and the option with the highest return is selected. The alternative approach selects the option the delivers the most dwellings (yield; the results are presented in Appendix 6)

Some key observations about capacity under this approach are:

• The modelling suggests in total, 15,370 dwellings are commercially feasible under the BAU scenario, with most (62%) being detached homes and the remaining 38% attached dwellings.

- Compared to attached dwellings, detached dwellings generally become commercially viable at a higher price point. The modelling suggests more than half (60%) of attached dwellings are feasible within the \$950,000-\$1.25m value band, while detached dwellings in that band make up only 11% of feasible detached capacity.
- While the contrast in the shares of capacity in the next bracket (\$1.25m to \$1.5m) is not as stark, in absolute terms there are around three times as many detached dwellings in this band as there is attached capacity. The results show, 3,060 standalone homes are feasible in the \$1.25m to \$1.5m value band, compared with 1,760 attached dwellings.
- Across the higher dwelling value bands (\$1.5m+) feasible capacity decreases for attached dwellings compared to detached dwellings. Within the \$1.95m+ value band only 40 attached dwelling are commercially feasible compared to 1,710 detached dwellings.

### Scenario 2: Intensification

This sub-section presents the estimated feasible capacity associated with Scenario 2 i.e., it shows the patterns associated with the enabled intensification. The results are reported for the different growth areas within the urban boundary, classified as 'intensification areas' (also referred to as polygons). Table 4-7 compares the feasible capacity under the baseline scenario with feasible capacity estimated using Scenario 2.

The main observations relating to the intensification scenario are:

- The modelling suggests that relative to the baseline provisions, between 870 and 8,340 additional dwellings are feasible (over the long term) within these growth areas. This reflects redevelopment capacity only. If vacant capacity is included, between 900 and 8,520 additional dwellings are feasible.
- The increase is associated with the shifts around Hastings, areas HC1 through HC5 and HCC, as well as Havelock North, area HNC3 and HNCC. The other locations' capacity remains the same.
- The largest increases (in percentage terms) are in the central areas of Hastings (HCC) and Havelock North (HNCC). In these areas under Scenario 2, apartments (vertically attached dwellings) were modelled. The upward shifts reflect the increased height limits which were modelled for the intensification scenario, relative to BAU.

Table 4-8 reports the feasible capacity across different typologies and value bands, under Scenario 2. The capacity is much less weighted towards detached dwellings, than under the BAU scenario. Under Scenario 2, feasible capacity is almost evenly distributed, compared with 62%/38% detached/attached split under BAU. Feasible attached capacity increases to 10,560 (from 5,880) – 4,680 additional units. Meanwhile, feasible capacity for detached dwellings increases only slightly to 10,280 (from 9,490), an additional 790 dwellings.

Hastings

Hastings

Hastings

Havelock North

Havelock North

Havelock North

Havelock North



10

20

30

-

-

\_

10

70

120

10

10

	BUSINESS AS USUAL							
Feasible Capacity (FC)		Redeve	Redevelopment		Infill		Vacant	
		Detached	Attached	Detached	Attached	Detached	Attached	
FMC1	Flaxmere	50	20	20	-	10	30	
FMC2	Flaxmere	100	-	50	30	-	10	
FMCC	Flaxmere	-	-	-	-	-	-	
HC1	Hastings	620	1,810	120	390	20	70	
HC2	Hastings	370	1,290	70	200	-	-	
HC3	Hastings	540	1,030	100	260	10	30	

460

670

190

40

250

830

210

420

170

990

80

2,190

80

130

40

10

50

-

260

460

100

80

30

40

200

### Table 4-7: Feasible Capacity in Hastings District – BAU vs Intensification

Rest of District	Rest of Hastings	7,210	13,260	1,870	3,370	100	170	
		10,500	22,300	2,540	5,420	200	530	
INTENSIFICATION SCENARIO								
Feasible	Redevel	Redevelopment		fill	Vacant			
reasible		Detached	Attached	Detached	Attached	Detached	Attached	
FMC1	Flaxmere	50	20	20	-	10	30	
FMC2	Flaxmere	100	-	50	30	-	10	
FMCC	Flaxmere	-	-	-	-	-	-	
HC1	Hastings	750	2,800	140	460	30	100	
HC2	Hastings	510	2,350	80	260	-	20	
HC3	Hastings	930	2,480	150	480	20	50	
HC4	Hastings	470	860	80	260	10	10	
HC5	Hastings	850	3,460	180	630	30	120	
нсс	Hastings	-	3,150	-	580	-	10	
HNC1	Havelock North	190	420	40	80	30	120	
HNC2	Havelock North	40	170	10	30	-	-	
HNC3	Havelock North	270	1,070	60	220	-	10	
HNCC	Havelock North	-	600	-	130	-	60	
RoHD	<b>Rest of Hastings</b>	7,210	13,260	1,870	3,370	100	170	
		11,370	30,640	2,680	6,530	230	710	

### Table 4-8: Feasible Capacity by Typology and Value Band in Hastings – Scenario 2

Feasible Capacity - Profit maximisation							
Dwelling Values (\$)	Detached	Attached	Total				
<\$249k	0	0	0				
\$250k-\$449k	0	0	0				
\$450k-\$699k	0	0	0				
\$700k-\$949k	930	470	1,400				
\$950k-\$1,249k	1,170	8,020	9,190				
\$1.25m-\$1.499m	3,450	2,060	5,510				
\$1.5m-\$1.949m	2,960	10	2,970				
\$1.95m+	1,770	0	1,770				
Total	10,280	10,560	20,840				

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HC4

HC5

нсс

HNC1

HNC2

HNC3

HNCC



Other observations include:

- Under Scenario 2, the increase is associated with higher shares of attached dwellings becoming feasible within the \$950,000-\$1,25m value band. Conversely there is a decrease in the share of attached dwellings in the value band above (\$1.25m-\$1.5m) compared to the baseline scenario. For detached dwellings the distribution of feasible capacity by value band remains relatively stable.
- For attached typologies, 76% of feasible capacity is delivered within the \$950,000-\$1,25m dwelling value band (up from 60% under BAU). Of the attached capacity, 28% is feasible within the \$1.25m-\$1.5m value band. Combined, these dwelling value bands represent 95% of attached feasible capacity.
- One third (34%) of feasible detached dwellings fall into the \$1.25m-\$1.5m value band and a further 29% are within the \$1.5m-\$1.95m value band.

### 4.2.2 Napier City

The commercially feasible capacity results for the BAU and growth scenarios, in Napier, are summarised below.

### Business As Usual (baseline)

The feasible capacity for Napier City is estimated at between 2,940 detached dwellings and 80,180 attached dwellings, under a redevelopment pathway. This drops down markedly if the infill pathway is used – detached dwellings' feasible capacity drops to 850 and attached capacity drops to 8,120. Table 4-9 reports the relative distribution of the feasible capacity by zone.

Business As Usual								
Fascible Capacity (FC)	Redevelop	ment (net)	Int	fill	Vacant			
reasible Capacity (FC)	Detached	Attached	Detached	Attached	Detached	Attached		
General Residential	1,770	12,020	540	1,510	220	540		
Medium Density Residential	880	30,160	250	2,680	110	550		
High Density	280	23,380	40	1,020	10	270		
Napier Hill	10	430	20	160	20	90		
City Centre	-	4,050	-	710	-	-		
Town Centre	-	900	-	160	-	-		
Local Centre	-	1,120	-	320	-	-		
Neighbourhood Centre	-	10	-	-	-	-		
Mixed Use	-	7,970	-	1,560	-	210		
West Quay Waterfront	-	140	-	-	-	-		
Rural Lifestyle	-	-	-	-	-	-		
Settlement	-	-	-	-	-	-		
Jervoistown	-	-	-	-	-	-		
Total	2,940	80,180	850	8,120	360	1,660		

### Table 4-9: Feasible Capacity in Napier City by Planning zone (BAU)

The bulk of the feasible capacity is associated with the Medium Density Residential zone, followed by the High Density zone and the General Residential zone. The Mixed Use zone and the City Centre zone both make important contributions to the attached-redevelopment capacity. These are also key zones in terms of the enabled feasible capacity under the infill pathway.



Table 4-10 presents the feasible capacity in Napier across the different value bands, under the maximum profit approach. More detail about the spatial distribution of this capacity is presented in Appendix 7.

Table 4-10: Feasible	Capacity in	Napler City by	Typology and	value Band (BAU)	

Feasible Capacity - Max Profit								
Dwelling Values	Detached	Attached	Total					
<\$249k	0	0	0					
\$250k-\$449k	0	0	0					
\$450k-\$699k	0	0	0					
\$700k-\$949k	70	24,150	24,220					
\$950k-\$1,249k	420	11,760	12,180					
\$1.25m-\$1.499m	70	9,370	9,440					
\$1.5m-\$1.949m	0	1,880	1,880					
\$1.95m+	0	0	0					
Total	560	47,160	47,720					

Key observations:

- Under the BAU scenario nearly all (98.8%) of Napier's feasible capacity is attached, some 47,160 dwellings. Detached feasible capacity is only 560 dwellings.
- Attached feasible capacity is concentrated within the \$700,000-\$949,000 value band with more than half (51%) of attached dwellings in this value band. This is followed by one quarter of attached feasible capacity (11,760 dwellings) in the next value band (\$950,000-\$1,25m) and another 20% (9,370 dwellings) within \$1.25m-\$1.5m.
- Three quarters of detached feasible capacity is concentrated within the \$950,000-\$1,25m value band. The balance of detached dwellings is feasible either side of this dwelling band, split equally.

Under this approach, feasible capacity is concentrated in attached dwellings. Historically, however, demand for detached dwellings have outstripped demand for attached dwellings. While there has been a preference shift over time, it has been slow. To better reflect these patterns, the assessment structure was adjusted to include the assumption that detached dwellings would take preference if both typologies were feasible on the same property. Therefore, if both a detached and attached dwellings are feasible on the same parcel, the developer would opt for a standalone dwelling because of a potential belief that market demand is stronger for that typology.

Table 4-11 shows the feasible capacity under this approach and highlights the point that there is feasible capacity for detached dwellings – but the price points are higher than the attached options.

			· · · · · · · · · · · · · · · · · · ·
	Feasible Capacity - Max Profit De	tached Preferred	
Dwelling Values	Detached	Attached	Total
<\$249k	0	0	0
\$250k-\$449k	0	0	0
\$450k-\$699k	0	0	0
\$700k-\$949k	200	23,810	24,010
\$950k-\$1,249k	1,270	10,010	11,280
\$1.25m-\$1.499m	1,650	6,380	8,030
\$1.5m-\$1.949m	210	1,520	1,730
\$1.95m+	0	0	0
Total	3,330	41,720	45,050

Table 4-11: Feasible Capacity in Napier by Typology and Value Band BAU (Detached Preferred)



Like the pure profit maximisation approach, the feasible capacity is concentrated in attached dwellings, in the \$700,000-\$949,000 value band. Under this approach, detached FC increases to 3,330 dwellings (from 560). Half of the detached capacity is valued between \$1.25m and \$1.5m, with 38% in the \$950,000-\$1.25m band. Attached dwellings are concentrated in the \$700,000-\$949,000 value band.

In terms of spatial distribution (by planning zone) of the feasible capacity under the 'detached preferred' approach, the key points are:

- The detached capacity is concentrated in the GRZ (57%) and MDRZ (33%), which is as expected.
- The attached capacity is concentrated in the High Density zone (28%) and mainly apartments (vertically attached dwellings).
- There is also attached capacity within the GRZ and MDRZ, which accounts for 20% and 22% of attached feasible capacity, respectively.

Appendix 7, Appendix 8 and Appendix 9 provide spatial breakdowns of the feasible capacity by location and value bands under the three different approaches:

- profit maximisation,
- yield maximisation, and
- profit maximisation detached preferred.

The modelling shows, the profit maximisation approach delivers feasible capacity of 47,720 dwellings across both detached and attached typologies, with just over half (51%) of that in the \$700,000-\$949,000 value band. Like the spatial distribution of total feasible capacity, within this value band, capacity is concentrated in Napier Central and Nelson Park. The modelling indicates that Taradale South and Taradale Central exhibit large shares of feasible capacity for dwellings within the \$950,000-\$1.25m value band, as does Taradale Central within the \$1.25m-\$1.5m value band. Capacity with the highest value band (\$1.5m-\$1.949m) is dispersed across a few locations.

Under the yield maximization approach, there is estimated feasible capacity for 82,920 dwellings but nearly all of it (99%) is attached dwellings. Feasible capacity under this approach is considerably higher than the profit maximization approach, a 74% increase (attached and detached combined). A larger share (60%) of dwellings is concentrated within the \$700,000-\$949,000 value band, compared to 51% under profit maximation. The increase is associated with shifts in capacity across all locations (where capacity exists). The next value band (\$950,000-\$1.25m) exhibits a mix of both positive and negative shifts across locations.

The positive locational shifts outweigh any reductions in capacity, which sees an overall increase of 103% within this value band, relative to the profit maximation approach. The share and quantum of feasible capacity within the higher value bands (\$1.25m+) are reduced (-22% or -2,540 dwellings) under the yield maximation approach. Spatially, feasible attached capacity is concentrated in Nelson Park (11%) and Napier Central (9%) and detached capacity is distributed across various locations with no notably high concentrations anywhere. This is largely due to the low level of feasible detached capacity delivered under this approach.

Under the third approach, 'profit maximization detached preferred' approach, there is estimated feasible capacity for 45,045 dwellings of which 93% (41,720 units) is attached dwellings. While this approach delivers a lower level of total feasible capacity than the other two approaches, it delivers much greater numbers of detached capacity, 3,325 dwellings compared with 560 and 90. Similar to the other two approaches, capacity is concentrated in the \$700,000-\$949,000 value band (53%). In terms of spatial distribution, feasible capacity is concentrated in Napier Central (14%) and Nelson Park (13%) SA2s. Detached capacity under this approach is concentrated in Meeanee-Awatoto (12%) and Taradale Central (10%).



# 4.3 Potential Development Capacity

The penultimate step in assessing the sufficiency of the different scenarios is to translate the commercially feasible capacity into potential development capacity (PDC). PDC is equivalent to the realistically expected to be realised (RER) capacity but is slightly different because it reflects the uptake rates that are required to ensure that demand is met. RER reflects the probability that a development could occur, and PDC reflects what share of the feasible capacity should occur to accommodate the estimated demand.

The process assumes that a portion of the available (feasible) capacity that will be developed is influenced by demand. Several factors are considered, including:

- the potential level of demand in each price band,
- the value band distribution of the existing residential estate,
- development patterns, and
- location preferences.

Importantly, the PDC reports one possible future outcome, and it should not be equated as the only possible future. There are many possible outcomes that could eventuate. Crucially, the spatial distribution of these development opportunities which are taken up, is fluid and difficult to project – underlining uncertainty and complexity in urban development processes.

# 4.3.1 Hastings District

The PDC for Hastings is presented based on several considerations, including the value of the existing residential estate. The current estimate forms part of the housing market and can accommodate a portion of household preference through market churn i.e., as households move between shift between dwellings. Some of these shifts are to new dwellings (new builds) and some are between existing dwellings. As mentioned, when estimating PDC, several factors are considered, including the existing estate. Appendix 10 provides basic information about the existing estate, specifically the anticipated distribution of the estate over the long term. Using current<sup>47</sup> values (Capital Value), the weighted average value of the estate (per dwelling) is \$603,000. Over the long term, the values more than double and the future value of the current estate is estimated at \$1,3m (in nominal terms). Around half of dwellings (55%) are valued between \$600,000 and \$1.4m (in nominal terms).

As part of the PDC assessment, two potential future growth (demand) patterns within Hastings are tested – these are in line with the scenarios described earlier. Each pattern allocates a different share of demand to brownfield and greenfield areas. The total demand that is allocated remains the same across both scenarios. The tested patterns are:

- An **urban expansion** pattern which is largely consistent with historical development patterns, assumes that over the long-term (2022-2052):
  - $\circ$   $\,$  40% of demand is met within brownfield areas through intensification, and
  - o 60% is met within the identified greenfield areas.
  - $\circ$   $\;$  Historically  $^{48}$  , around 62% of growth occurred in greenfield areas.
- An **urban intensification** pattern, where a higher share of demand is allocated to the existing urban (brownfield) areas. This assumes that:
  - $\circ$  ~~ 60% of the total long-term demand (2022-2052) is met through intensification and

<sup>&</sup>lt;sup>47</sup> 2022-dollars

<sup>&</sup>lt;sup>48</sup> 25-year average



### o 40% within the greenfield areas.

This PDC reports the share of capacity that must be taken up within the existing urban environment to meet the projected urban area demand. This is not to say newly formed households will live in new houses, but the additional number of households (total) is used to assess whether the PDC across the district is sufficient to accommodate growth. The required capacity take-up (supply) is shown for both the urban expansion and urban intensification (demand) patterns, across the two modelled FDS scenarios (baseline and intensification). Table 4-12 presents the PDC under the BAU scenario and Table 4-13 shows the results for Scenario 2.

It is important to note that the PDC is informed by the assumed housing demand patterns. Commercial developers will not provide housing for which they cannot see anticipated demand. The total level of PDC is therefore similar across the BAU and growth scenarios, but fluctuates between the demand scenarios. Urban expansion results in lower levels of brownfield demand and subsequently, lower PDC. Conversely, the urban intensification scenario results in higher levels of brownfield demand, and thus higher levels of PDC.

# Table 4-12: Long-term Potential Development Capacity – Baseline Scenario (BAU) – Hastings Urban Expansion

Urban Expansion							
Dwelling Values	Share to	be realised	Potential	Development C	apacity		
	Detached	Attached	Detached	Attached	Total		
<\$249k	-	-	-	-	-		
\$250k-\$449k	-	-	-	-	-		
\$450k-\$699k	-	-	-	-	-		
\$700k-\$949k	90%	85%	840	370	1,210		
\$950k-\$1,249k	75%	10%	800	355	1,155		
\$1.25m-\$1.499m	25%	8%	765	135	900		
\$1.5m-\$1.949m	1%	1%	30	5	35		
\$1.95m+	1%	1%	20	0	20		
Sub-total			2,455	865	3,320		
Other potential capacity	Retirement Vil	lage Units			350		
	Non-market H	ousing			270		
Total Potential Capacity					3,940		
Brownfield Demand incl. Margin			2,770	1,070	3,840		
Difference (sufficient if >0)					100		
	Urt	oan Intensification					
Dwelling Values	Share to	be realised	Potential Development Capacity				
	Detached	Attached	Detached	Attached	Total		
<\$249k	-	-	-	-	-		
\$250k-\$449k	-	-	-	-	-		
\$450k-\$699k	-	-	-	-	-		
\$700k-\$949k	100%	80%	930	345	1,275		
\$950k-\$1,249k	85%	25%	905	885	1,790		
\$1.25m-\$1.499m	60%	10%	1,835	180	2,015		
\$1.5m-\$1.949m	3%	3%	85	5	90		
\$1.95m+	3%	3%	50	0	50		
Sub-total			3,805	1,415	5,220		
Other potential capacity	Retirement Vil	lage Units			350		
	Non-market H	ousing			270		
Total Potential Capacity					5,840		
Brownfield Demand incl. Margin			4,170	1,610	5,780		
Difference (sufficient if >0)					60		



Urban Expansion								
Dwelling Values	Share to l	be realised	Potent	tial Developm	nent Cap	acity		
	Detached	Attached	Detached	Attache	d	Total		
<\$249k	-	-	-	-		-		
\$250k-\$449k	-	-	-	-		-		
\$450k-\$699k	-	-	-	-		-		
\$700k-\$949k	90%	80%	840	375		1,215		
\$950k-\$1,249k	70%	5%	820	400		1,220		
\$1.25m-\$1.499m	20%	5%	690	105		795		
\$1.5m-\$1.949m	1%	1%	30	0		30		
\$1.95m+	1%	1%	20	0		20		
Sub-total			2,400	880		3,280		
Other potential capacity	Retireme	nt Village Units	-			350		
	Non-r	narket Housing				270		
Total Potential Capacity				3,900				
Brownfield Demand incl. Margin			2,770	1,070		3,840		
Difference (sufficient if >0)						60		
	Urban	Intensification	_			<u>.</u>		
Dwelling Values	Share to I	be realised	Potent	tial Developm	nent Cap	acity		
	Detached	Attached	Detached	Attache	d	lotal		
<\$249K	-	-	-	-		-		
\$250K-\$449K	-	-	-	-		-		
\$700k-\$949k	-	- 75%	- 700	- 250		-		
\$050k-\$345k	80%	1.20/	790	065		1,140		
\$1.25m_\$1.499m	50%	70/	1,000	1/1		2.045		
\$1.25m-\$1.455m	20/	1 0/	1,900	145		2,045		
\$1.5m	2%	10/	90	0		90		
\$1.95m+	3%	1%	55	1 4 6 0		55		
Sub-total			3,770	1,460		5,230		
Other potential capacity	Retireme	nt Village Units				350		
Total Datantial Canacity	Non-marl	ket Housing**				270		
Provinfield Demand incl. Margin				4 170	1 610	5,850		
Difference (sufficient if >0)				4,170	1,010	<b>5,760</b>		
						70		

### Table 4-13: Long-term Potential Development Capacity – Intensification (Scenario 2) - Hastings

\*\* Non-market housing is 10% of additional feasible capacity (in \$700k-\$949k value bands) in Hastings.

These tables show the shares of capacity across different value bands that are required to be taken up (by developers) to satisfy 'brownfield demand', i.e., the portion of urban demand which is expected to be satisfied through intensification (brownfield development). Because the total urban demand remains the same, the potential development capacity (total) remains similar.

There is an assumption that that the retirement village sector and social housing providers would also contribute to the housing market, and satisfy a portion of demand. A high-level discussion on the retirement sector is included in section 3.3.1. Between 2001 and 2022, on average, 35 retirement units were consented annually across Hastings district. It is acknowledged there was a recent lift in activity by this sector. However, as a conservative estimate, we assume that the retirement sector could provide 350 dwelling units (10 years'



worth of growth) over the next 30 years. Similarly, capacity provided by social housing providers are also included in the assessment.

Social housing providers generally do not require as high a profit margin as commercial developers. During the sensitivity testing, the modelling revealed that if the developer's margin was lowered to 5% (from 20%, to mimic the different margin requirements), an additional 45 to 2,675 dwellings, valued between \$700,000 and \$950,000 are considered feasible. The range reflects typology. It becomes apparent that even with a lower profit margin, dwellings are not feasible below \$700,000 (2052 nominal terms) – this highlights the affordability challenges that social housing providers face.

### Key observations:

- The demand scenarios suggest, between 3,840 and 5,780 additional dwellings will be needed over the long term to accommodate additional households in the existing urban area.
- As expected, slightly higher shares of feasible capacity will need to be taken up under the urban intensification demand scenario, than under the urban expansion scenario.
- Under a baseline capacity scenario (BAU) between 3,940 and 5,840 dwellings could be developed by the mainstream market over the next 30 years. A further 350 could delivered by the retirement village sector and around 270 units by social housing providers (and other non-mainstream providers).
- This provides sufficient capacity within the existing urban boundary to accommodate future growth. Keep in mind, the demand in the table includes a competitiveness margin as required under the NPS-UD. Excluding the margin suggests, between 3,290 and 4,930 dwellings are needed over the long term within the existing urban boundary.

Table 4-13 compares the two demand scenarios with potential development capacity under the Intensification growth scenario (Scenario 2). As previously, the modelling shows that under the urban intensification scenario, slightly higher shares of capacity would be needed to provide for future growth, when compared to an urban expansion demand scenario. The main points relating to Table 4-13 are:

- Between 3,310 and 5,215 dwellings could be provided by private developers, across different price bands. The modelling revealed that dwellings in the lower value bands are more likely to be developed in Flaxmere. This is largely because of lower land values, which results in higher levels of feasible capacity. Dwellings in higher value bands, are more likely in Havelock North. This mirrors current patterns.
- Because higher levels of FC (and PEC) are delivered under the Intensification scenario, lower shares of capacity are needed to deliver sufficient dwellings to meet future growth (demand). This is more notable in the attached typology because the uplift in PEC (and FC) is greater in attached typology under intensification, relative to the baseline scenario.
- Based on the demand projections, around 70% of the additional dwellings required, are standalone homes. Under all scenario combinations, it is possible for the market to satisfy demand by typology (attached and detached). This is subject to the non-market and retirement village segment delivering a portion of attached housing, to bridge the gap between what the mainstream market's potential development capacity, and demand. It is possible for factors such as accessibility, amenity and affordability to speed up the preference shift towards more attached dwellings, but even then, there is sufficient feasible capacity in attached typology to accommodate the additional demand. That is, the shares of FC required to meet demand presented here, is quite low.

The assessment shows that there are large numbers of plan enabled and associated feasible capacity across the existing urban environment under both BAU (baseline) and Intensification (Scenario 2), which provides for a wide range of densities in a wide range of locations. This indicates that there is large flexibility provided for



the market. Demand under both the urban expansion and urban intensification scenarios could be accommodated over the long term. The modelling results show that under the required uptake rates and including the capacity associated with the non-mainstream market, there would be sufficient capacity to meet long term demand (including a competitiveness margin), under all scenario combinations. It was beyond the scope of this report to assess the infrastructure's ability to accommodate the additional capacity and it is assumed that infrastructure capacity would enable development.

# 4.3.2 Napier City

The PDC for Napier is presented in Table 4-14 and is based on several considerations, including the value of the existing residential estate. Appendix 11 provides basic information about the existing estate, specifically the anticipated distribution of the estate over the long term. Based on the rating information, the current estate in Napier consists of 23,250 dwellings, which are mostly (88%) standalone homes. Using current values (Capital Value), the weighted average value of the estate (per dwelling) is \$620,000. Over the long term, the values nearly double and the future value (weighted average per dwelling) of the current estate is estimated at \$1,2m (in 2052-dollars).

Urban Expansion							
Dwelling Values	Share to	be realised	Potential	l Development Ca	pacity		
	Detached	Attached	Detached	Attached	Total		
<\$249k	-	-	-	-	-		
\$250k-\$449k	-	-	-	-	-		
\$450k-\$699k	-	-	-	-	-		
\$700k-\$949k	80%	1%	160	240	400		
\$950k-\$1,249k	55%	1%	700	100	800		
\$1.25m-\$1.499m	35%	1%	580	60	640		
\$1.5m-\$1.949m	35%	0.5%	70	10	80		
\$1.95m+	-	-	-	-	-		
Sub-total			1,510	410	1,920		
Other potential capacity	Retirement Village	Units			230		
	Non-market Housi	ng			620		
Total Potential Capacity					2,770		
Brownfield Demand incl. Margin			1,850	830	2,680		
Difference					90		
	Urb	an Intensification					
Dwelling Values	Share to	be realised	Potential Development Capacity				
	Detached	Attached	Detached	Attached	Total		
<\$249k	-	-	-	-	-		
\$250k-\$449k	-	-	-	-	-		
\$450k-\$699k	-	-	-	-	-		
\$700k-\$949k	95%	3%	190	710	900		
\$950k-\$1,249k	70%	2%	890	200	1,090		
\$1.25m-\$1.499m	60%	2%	990	130	1,120		
\$1.5m-\$1.949m	45%	1%	100	20	120		
\$1.95m+			-	-	-		
Sub-total			2,170	1,060	3,230		
Other potential capacity	Retirement Village	e Units			230		
	Non-market Housi	ing**			620		
Total Potential Capacity					4,080		
Brownfield Demand incl. Margin			2,740	1,280	4,020		
Difference					60		

### Table 4-14: Long-term Potential Development Capacity (BAU) – Napier

\*\*Non-market housing is 5% of additional feasible capacity (in \$700,000-\$949,000 value bands) in Napier.



Around half of the current estate is valued between 600,000 and 1.3m (in 2052 dollars), 13% below that and the balance (37%) more than 1.3m.

As in Hastings, two potential future growth demand patterns are tested as part of the PDC assessment. These patterns reflected different shares of demand accommodated via brownfield and greenfield areas. The tested patterns are:

- An **urban expansion** pattern which is generally consistent with historical patterns and assumes that over the long-term (2022-2052):
  - $\circ$   $\,$  40% of demand is met within brownfield areas through intensification, and
  - o 60% is met within the identified greenfield areas.
- An **urban intensification** pattern, where a higher share of demand is allocated to the existing urban (brownfield) areas. This assumes that:
  - o 60% of the total long-term demand (2022-2052) is met through intensification and
  - o 40% within the greenfield areas.

This PDC reports the share of capacity needed within the existing urban environment to meet the projected (as per the scenarios) urban demand. Importantly, *PDC is informed by demand for housing. A commercial developer is unlikely to undertake a new development if he/she does not see a realistic chance of selling the development (i.e., there has to be market demand for the product). The total level of PDC therefore varies between the demand scenarios. Urban expansion results in lower levels of brownfield demand and subsequently, lower PDC. Conversely, the urban intensification scenario results in higher levels of brownfield demand, and higher levels of PDC.* 

### Key observations:

- The feasible capacity that underpins the PDC in this table, was estimated using a market-led approach, i.e., opting for the development pathway that maximises profit but with a preference for detached dwellings (Table 4-11).
- Under the urban intensification scenario, a larger portion of the growth (additional households) are expected to be accommodated through intensification (brownfield development). Slightly higher shares of feasible capacity would therefore need to be developed (taken up by developers) in order to satisfy demand.
- The lack of PDC in lower value bands is a function of the absence of feasible capacity at these price points. While we recognize that developers could adapt their product to meet demand in lower brackets, there is a price floor that exists and there is little incentive to deliver low-margin products. It is unlikely that mainstream developers will be supplying homes in these lower brackets without external intervention (e.g., incentives or subsidies).
- It is expected that non-mainstream segments of the housing market, such as the retirement sector and social housing providers, will contribute to development capacity but this is not included in this assessment. Similar to Hastings, we took a conservative position by assuming that the retirement sector over the next 30 years, could provide 230 dwelling units, i.e., 10 years' worth of growth based on the 20-year annual average number of units.



# 5 Summary

With reference to Hasting, this assessment covered the baseline capacity (BAU) as enabled using the proposed PC5 planning provisions. To assist Council with preparing their FDS, B&A then designed several growth scenarios which would contribute towards future dwelling capacity to accommodate growth in the district. Only the intensification scenario (Scenario 2) was modelled for this report. Scenario 2 identifies specific growth areas within the existing urban area where additional capacity could be enabled through intensification. Scenario 2 capacity was estimated under intensification settings, using planning provisions (and assumptions) as provided by B&A for the different growth areas. Two demand scenarios were also tested, i.e., an urban expansion scenario which aligns with historical growth, and an urban intensification scenario, which aligns with the councils' aim to accommodate 60% of housing growth over the next three decades through intensification.

Table 5-1 summarises the capacity assessment under a BAU and intensification scenario, and compares it with demand under an urban intensification and urban expansion scenario.

			BAU (Ba	aseline)	FDS Scenario 2 (	Intensification)	
				Urban Intensification (40% greenfield)	Urban Expansion (60% greenfield)	Urban Intensification (40% greenfield)	Urban Expansion (60% greenfield)
	Urban Demand (ir	ncl margin)	2022-2052	9,620	9,620	9,620	9,620
IELD			Capacity (supply)	3,325	3,325	3,325	3,325
EENF			Demand (incl margin)	3,840	5,780	3,840	5,780
GRI			Shortage/Surplus	- 515	- 2,455	- 515	- 2,455
		Redevelopment	Detached	18,570	18,570	19,550	19,550
		(net additional)	Attached	56,430	56,430	67,600	67,600
_	Plan Enabled Capacity	Infill	Detached	3,240	3,240	3,340	3,340
wnfield			Attached	6,680	6,680	7,650	7,650
		Vacant	Detached	400	400	410	410
bro			Attached	570	570	760	760
ξEA		Max Profit	Total	15,370	15,370	20,840	20,840
N AF	Feasible Capacity		Detached	9,490	9,490	10,280	10,280
tBAI			Attached	5,880	5,880	10,560	10,560
3 UF			Total	5,220	3,320	5,230	3,280
Ň	PDC Capacity	Max Profit	Detached	3,805	2,455	3,770	2,400
SIX			Attached	1,415	865	1,460	880
_	Retirement Villages (10 years' average annual growth)			350	350	350	350
		Non-market ho	using (5% profit margin)	270	270	270	270
	Demand (incl margin)	2022-2052	EXISTING URBAN AREA	5,780	3,840	5,780	3,840
			Shortage/Surplus	60	100	70	60

#### Table 5-1: Summary of Capacity Assessment - Hastings District

The main difference between BAU and Scenario 2 is the increased height limits in central areas of Havelock North and Hastings. The intensification scenario lifts capacity as follows:

- Plan Enabled Capacity: Scenario 2 enables between 990 and 11,360 <u>additional</u> dwellings (redevelopment plus vacant capacity) relative to the baseline. The range reflects typology and shows that the additional capacity is either 990 additional standalone dwellings or 11,360 attached dwelling units, under Scenario 2 settings. In reality, a mixture of the typologies can be expected.
- Feasible Capacity: Under Scenario 2, between 900 and 8,520 additional dwellings (redevelopment plus vacant capacity) are feasible over the long term. Like PEC, the range reflects typology.



Looking beyond typologies and locations, understanding the price points at which capacity is feasible is an important consideration because of the link to affordability. Table 5-2 compares weighted average price points<sup>49</sup> of new capacity for each development pathway under BAU, with price points under Scenario 2.

Redevelopment (net additional)					Infill		_	Vacant	
\$	Detached	Attached	Attached	Detached	Attached	Attached	Detached	Attached	Attached
	Detachea	(horizontal)	(vertical)	Detached	(horizontal)	(vertical)	Detachea	(horizontal)	(vertical)
BAU	1,553,000	1,187,400	1,148,400	1,603,600	1,176,400	1,095,800	1,620,300	1,078,400	1,126,200
Scenario 2	1,545,000	1,149,500	1,142,500	1,593,200	1,123,600	1,101,300	1,575,700	1,065,100	1,120,800
Difference	-8,000	-37,900	-5,900	-10,400	-52,800	5,500	-44,600	-13,300	-5,400

### Table 5-2: Weighted Average Price Points (\$) – Hastings District

Under Scenario 2 there is a focus on intensification with higher density dwellings (apartments) in and around centres – this focus is responsible the uplift in capacity, relative to the baseline. The modelling suggests that under Scenario 2, between 870 and 8,340 additional dwellings would be feasible (over the long term) relative to the baseline. This reflects redevelopment capacity only. If vacant capacity is included, between 900 and 8,520 additional dwellings are feasible.

The analysis shows that across all development pathways, the **average price point decreases as a result of the enabled intensification**. More capacity becomes feasible but at lower price points because smaller dwellings (more intensive development) can be delivered. Put differently, the analysis shows that on average, the prices under Scenario 2 are between 0.5% and 4.5% lower than under BAU, with the exception of vertical attached infill capacity.

Further, this analysis supports the notion that enabling greater densities can provide a way for the market to deliver affordable dwellings by shifting the typologies. The results show that under both scenarios higher density options are on average 24% to 33% more affordable than detached dwelling.

Table 5-3 summarises the results of the capacity assessment for Napier under the baseline scenario. The BAU scenario (baseline) estimates capacity using the PDP planning provisions. The results compare the estimated capacity with demand under an urban intensification and urban expansion scenario. The key observations are:

- Under the urban expansion scenario, 60% of demand is expected to be met through greenfield capacity. Under this scenario, there would be insufficient greenfield capacity over the long term if no further greenfield capacity is made available.
- Conversely, under the urban intensification demand scenario, 40% of demand is expected to be met through greenfield capacity. In this scenario the greenfield capacity which have been identified, would be sufficient to accommodate growth over the next 30 years.
- Although plan enabled and feasible capacity do not vary between the two demand scenarios, potential development capacity is different because it is informed by demand. Under the urban expansion scenario, the demand to be accommodated within the existing urban boundaries is 2,680 dwellings. Under the urban intensification scenario, it is 4,020.
- The PDC within the existing urban boundary therefore, under urban intensification, is estimated to be around 3,220 and 1,915 under urban expansion. It is estimated that around 850 dwellings would be

<sup>&</sup>lt;sup>49</sup> These are averages and based on the type and size of dwellings which were modelled in this assessment and presented in 2052dollar terms.



delivered through retirement villages and non-market (social) housing providers. This would result in a situation where there is sufficient capacity to meet demand within the urban boundaries.

				BAU (Ba	iseline)
				Urban Intensification (40% greenfield)	Urban Expansion (60% greenfield)
	Urban Deman	d (incl margin)	2022-2052	6,700	6,700
Ð			Capacity (supply)	3,325	3,325
ENE			Demand (incl margin)	2,680	4,020
GRE			Shortage/Surplus	645	- 695
		Redevelopment (net	Detached	9,470	9,470
	Plan Enabled Capacity	additional)	Attached	134,040	134,040
		Infill Vacant	Detached	1,505	1,505
-			Attached	9,900	9,900
fielc			Detached	450	450
uwo			Attached	2,230	2,230
(prd)		Max Profit (detached preferred)	Total	45,045	45,045
REA	Feasible Capacity		Detached	3,325	3,325
ANA			Attached	41,720	41,720
URB		Max Profit (dotachod	Total	3,220	1,915
- 5N	PDC Capacity	preferred)	Detached	2,165	1,505
(ISTI			Attached	1,055	410
<u> </u>		Retirement Villages	(10 years' average annual growth)	230	230
		Non-r	narket housing (5% profit margin)	620	620
	Demand (incl margin)	2022-2052	EXISTING URBAN AREA	4,020	2,680
			Shortage/Surplus	50	85

#### Table 5-3: Summary of Capacity Assessment - Napier City

The analysis reveals that there is sufficient plan enabled and feasible capacity to meet the expected long-term demand for residential development in Hastings and Napier. In Hastings, the intensification scenario (Scenario 2) delivers slightly higher levels of plan enabled and feasible capacity, offering slightly more affordable housing options. In both Napier and Hastings, potential uptake rates would need to be higher under the urban intensification demand scenario than under urban expansion. It is worth noting that meeting intensification targets and transitioning to attached units in Napier and Hastings, may present a challenge, and will require considerable shifts in how local households interact with the real estate market and household's preferences for higher density typologies.


# 6 Appendices



## Appendix 1: Identified Growth Areas

## Hastings District





# <u>...</u>

## Appendix 2: Long-term Demand Outlook

Modium High Futuro		Current			Long Term		Chang	e between pe	eriods
Medium-righ Future		2022			2052			2022-2052	
Household Type	Detached	Attached	Total	Detached	Attached	Total	Detached	Attached	Total
One Person Hhld	4,210	1,860	6,070	5,070	2,980	8,050	860	1,120	1,990
Couple Hhld	6,710	880	7,590	8,590	1,520	10,100	1,880	640	2,520
2 Parents 1-2chn	5,250	520	5,770	6,560	590	7,150	1,300	80	1,380
2 Parents 3+chn	1,860	70	1,930	2,430	120	2,540	570	40	620
1 Parent Family	3,170	450	3,630	4,110	720	4,830	940	270	1,210
Multi-Family Hhld	770	40	810	970	70	1,040	200	30	230
Non-Family Hhld	910	130	1,040	1,080	240	1,320	170	110	280
TOTAL	22,870	3,950	26,820	28,810	6,230	35,040	5,930	2,280	8,220
Household Income									
Under \$30,000	3,820	1,560	5,380	4,900	2,610	7,510	1,080	1,060	2,130
\$30-50,000	3,680	890	4,570	4,880	1,510	6,390	1,200	610	1,820
\$50-70,000	3,550	530	4,080	4,510	870	5,380	960	340	1,300
\$70-100,000	4,310	380	4,700	5,430	580	6,010	1,120	200	1,320
\$100-120,000	2,390	170	2,560	3,050	280	3,320	660	100	760
\$120-150,000	2,100	150	2,250	2,720	240	2,950	620	90	710
\$150,000+	3,020	270	3,290	3,330	140	3,470	310	- 120	180
TOTAL	22,870	3,950	26,820	28,810	6,230	35,040	5,940	2,270	8,220
Share %									
One Person Hhld	16%	7%	23%	14%	9%	23%	11%	14%	24%
Couple Hhld	25%	3%	28%	25%	4%	29%	23%	8%	31%
2 Parents 1-2chn	20%	2%	22%	19%	2%	20%	16%	1%	17%
2 Parents 3+chn	7%	0%	7%	7%	0%	7%	7%	1%	8%
1 Parent Family	12%	2%	14%	12%	2%	14%	11%	3%	15%
Multi-Family Hhld	3%	0%	3%	3%	0%	3%	2%	0%	3%
Non-Family Hhld	3%	0%	4%	3%	1%	4%	2%	1%	3%
TOTAL	85%	15%	100%	82%	18%	100%	72%	28%	100%
Under \$30,000	14%	6%	20%	14%	7%	21%	13%	13%	26%
\$30-50,000	14%	3%	17%	14%	4%	18%	15%	7%	22%
\$50-70,000	13%	2%	15%	13%	2%	15%	12%	4%	16%
\$70-100,000	16%	1%	18%	16%	2%	17%	14%	2%	16%
\$100-120,000	9%	1%	10%	9%	1%	9%	8%	1%	9%
\$120-150,000	8%	1%	8%	8%	1%	8%	8%	1%	9%
\$150,000+	11%	1%	12%	9%	0%	10%	4%	-1%	2%
TOTAL	85%	15%	100%	82%	18%	100%	72%	28%	100%

## Hastings District Urban Demand Growth Outlook (2022-2052)

The information illustrates the breakdown of growth in terms of household types, dwelling demand (typology) and income levels within the urban area. These results are not discussed in this report, but is instead included to show the data informing the assessment.



Modium-High Future		Current			Long Term		Chang	e between p	eriods
Medium-mgn ruture		2022			2052			2022-2052	
Household Type	Detached	Attached	Total	Detached	Attached	Total	Detached	Attached	Total
One Person Hhld	4,730	2,210	6,940	5,530	3,220	8,750	800	1,010	1,810
Couple Hhld	7,110	940	8,050	8,530	1,450	9,980	1,420	510	1,930
2 Parents 1-2chn	4,810	410	5,220	5,520	410	5,930	710	-	710
2 Parents 3+chn	1,290	50	1,340	1,540	70	1,610	250	20	270
1 Parent Family	3,110	430	3,540	3,680	600	4,280	570	170	740
Multi-Family Hhld	570	40	610	640	50	690	70	10	80
Non-Family Hhld	1,120	80	1,200	1,210	130	1,340	90	50	140
TOTAL	22,740	4,160	26,900	26,650	5,930	32,580	3,910	1,770	5,680
Household Income									
Under \$30,000	4,270	1,800	6,070	5,160	2,720	7,880	890	920	1,810
\$30-50,000	4,070	890	4,960	5,100	1,350	6,450	1,030	460	1,490
\$50-70,000	3,440	550	3,990	4,090	800	4,890	650	250	900
\$70-100,000	4,070	370	4,440	4,690	500	5,190	620	130	750
\$100-120,000	2,300	170	2,470	2,720	220	2,940	420	50	470
\$120-150,000	2,010	130	2,140	2,370	180	2,550	360	50	410
\$150,000+	2,570	260	2,830	2,540	170	2,710	- 30	- 90	- 120
TOTAL	22,730	4,170	26,900	26,670	5,940	32,610	3,940	1,770	5,710
Share %							-		-
One Person Hhld	18%	8%	26%	17%	10%	27%	14%	18%	32%
Couple Hhld	26%	3%	30%	26%	4%	31%	25%	9%	34%
2 Parents 1-2chn	18%	2%	19%	17%	1%	18%	13%	0%	13%
2 Parents 3+chn	5%	0%	5%	5%	0%	5%	4%	0%	5%
1 Parent Family	12%	2%	13%	11%	2%	13%	10%	3%	13%
Multi-Family Hhld	2%	0%	2%	2%	0%	2%	1%	0%	1%
Non-Family Hhld	4%	0%	4%	4%	0%	4%	2%	1%	2%
TOTAL	85%	15%	100%	82%	18%	100%	69%	31%	100%
Under \$30,000	16%	7%	23%	16%	8%	24%	16%	16%	32%
\$30-50,000	15%	3%	18%	16%	4%	20%	18%	8%	26%
\$50-70 <i>,</i> 000	13%	2%	15%	13%	2%	15%	11%	4%	16%
\$70-100,000	15%	1%	17%	14%	2%	16%	11%	2%	13%
\$100-120,000	9%	1%	9%	8%	1%	9%	7%	1%	8%
\$120-150,000	7%	0%	8%	7%	1%	8%	6%	1%	7%
\$150,000+	10%	1%	11%	8%	1%	8%	-1%	-2%	-2%
TOTAL	85%	15%	100%	82%	18%	100%	69%	31%	100%

## Napier City Demand Growth Outlook (2022-2052)

The information illustrates the breakdown of growth in terms of household types, dwelling demand (typology) and income levels within the urban area. These results are not discussed in this report, but is instead included to show the data informing the assessment.



	Redevelopr	nent (net)	Infi	ill	Vaca	ant
	Detached	Attached*	Detached	Attached*	Detached	Attached*
SA2 Name						
Puketitiri-Tutira	20	-	15	-	30	-
Sherenden-Crownthorpe	-	-	-	-	-	-
Maraekakaho	-	-	-	-	-	-
Puketapu-Eskdale	610	-	125	-	30	-
Omahu-Pakowhai	60	-	10	-	-	-
Bridge Pa	15	-	10	-	5	-
Twyford	-	-	-	-	-	-
Poukawa	45	-	-	-	5	-
Flaxmere West	90	-	30	-	30	-
Omahu Strip	30	-	-	-	-	-
Lochain Park	310	1,155	50	145	-	-
Flaxmere Park	1,235	4,685	90	340	15	50
Flaxmere South	785	3,080	120	420	5	15
Irongate	5	-	-	-	-	-
Frimley	655	2.065	85	205	5	5
Camberley	490	935	115	110	5	20
Clive	25	-	15		5	
St Leonards	1 500	6 640	325	1 165	20	70
Mahora	635	1 320	110	115	5	
Raureka	965	2 400	110	225	20	50
Corpwall Park	1 1/15	2,400	170	475	15	20
Tomoana	1,145	4,475	170	475	15	20
Longlands Dukabu	- 10	-		-	- 10	-
	10	-	5	-	10	-
касемау Рагк	595	900	/5	55	10	-
	10	-	5	-	10	-
Hastings Central	40	1,900	-	240	-	-
Tomoana Crossing	965	3,670	150	420	10	15
Akina Park	1,045	3,870	150	420	15	30
Queens Square	940	4,075	95	305	10	35
Mayfair	1,145	3,745	240	530	10	25
Parkhaven	680	980	100	55	5	-
Parkvale	580	840	85	55	10	5
Mangateretere	595	-	210	-	-	-
Haumoana-Te Awanga	50	-	35	-	10	-
Lucknow	720	2,780	135	415	45	165
Karanema-St Hill	680	1,715	125	265	10	-
Havelock North-Central	335	1,665	50	195	-	20
Brookvale	-	-	5	-	-	-
Iona	540	2,390	105	315	10	25
Hereworth	270	1,145	25	80	-	5
Te Mata Hills	430	-	90	-	15	-
Havelock Hills	105	-	40	-	5	-
Kahuranaki	230	-	65	-	5	-
Total	18.585	56,430	3,230	6.650	385	555
*This can be either horizontal/	vertical attached	20, 100	0,200	0,000		

## Appendix 3: Plan Enabled Capacity in Hastings District by SA2 – Business As Usual (PC5 settings)



	Redevelop	ment (net)	In	fill	Vac	ant
SA2 Name	Detached	Attached*	Detached	Attached*	Detached	Attached*
Ahuriri	25	2,435	-	185	5	230
Napier Central	-	7,825	-	1,515	-	-
Bluff Hill	70	860	35	120	5	15
Marewa West	385	4,915	30	200	-	10
Marewa East	685	9,025	155	880	5	35
McLean Park	360	6,200	90	285	5	90
Greenmeadows West	590	1,760	75	135	10	15
Greenmeadows Central	405	4,300	80	465	15	40
Onekawa West	240	2,100	-	195	-	-
Tamatea North	200	3,600	10	295	-	-
Taradale South	470	8,200	65	575	5	5
Onekawa Central	355	7,020	25	230	10	90
Tareha Reserve	570	8,470	95	695	20	90
Meeanee-Awatoto	440	1,460	250	445	115	250
Omahu-Pakowhai	-	-	-	-	-	-
Taradale Central	630	6,845	55	450	10	65
Pirimai East	415	3,720	30	150	-	10
Onekawa South	485	4,630	40	140	-	15
Inlet Napier City	-	-	-	-	-	-
Poraiti Flat	45	1,140	-	-	40	90
Nelson Park	235	11,765	20	255	-	65
Hospital Hill	90	1,125	40	125	30	110
Oceanic Hawke's Bay Region	-	-	-	-	-	-
Pirimai West	330	4,500	25	115	-	20
Westshore	165	650	15	35	35	55
Bay View	25	260	20	55	10	-
Taradale West	290	2,055	35	165	5	20
Tamatea West	195	4,560	10	385	-	10
Greenmeadows South	295	3,480	25	145	10	25
Maraenui	615	9,715	185	1,300	80	685
Bledisloe Park	525	6,445	50	320	15	180
Onekawa East	200	1,580	15	40	5	10
Poraiti Hills	35	-	30	-	15	-
Puketapu-Eskdale	-	-	-	-	-	-
Tamatea East	100	3,400	-	-	-	-
Total	9,470	134,040	1,505	9,900	450	2,230
*This can be either horizontal/vertical	attached					

## Appendix 4: Plan Enabled Capacity in Napier City by SA2 – Business As Usual (PDP settings)



			FE/	SIBLE CAPAC	ITY - Max pro	ofit		
		\$250k-	\$450k-	\$700k-	\$950k-	\$1.25m-	\$1.5m-	
SA2 Name	<\$249k	\$449k	\$699k	\$949k	\$1,249k	\$1.499m	\$1.949m	\$1.95m+
Puketitiri-Tutira	-	-	-	-	-	-	-	-
Sherenden-Crownthorpe	-	-	-	-	-	-	-	-
Maraekakaho	-	-	-	-	-	-	-	-
Puketapu-Eskdale	-	-	-	-	-	-	4	405
Omahu-Pakowhai	-	-	-	-	-	-	-	-
Bridge Pa	-	-	-	-	-	-	-	-
Twyford	-	-	-	-	-	-	-	-
Poukawa	-	-	-	-	-	-	-	-
Flaxmere West	-	-	-	-	-	-	-	-
Omahu Strip	-	-	-	-	-	-	-	-
Lochain Park	-	-	-	252	10	-	-	-
Flaxmere Park	-	-	-	666	47	-	-	-
Flaxmere South	-	-	-	340	35	-	-	-
Irongate	-	-	-	-	-	-	-	-
Frimley	-	-	-	15	87	235	152	111
Camberley	-	-	-	18	46	86	49	38
Clive	-	-	-	-	-	-	-	14
St Leonards	-	-	-	24	658	523	417	-
Mahora	-	-	-	5	179	183	143	-
Raureka	-	-	-	4	268	331	150	-
Cornwall Park	-	-	-	-	539	416	179	-
Tomoana	-	-	-	-	-	-	-	-
Longlands-Pukahu	-	-	-	-	-	-	-	-
Raceway Park	-	-	-	-	76	99	26	-
Karamu	-	-	-	-	-	-	-	10
Hastings Central	-	-	-	4	39	136	86	-
Tomoana Crossing	-	-	-	20	456	312	248	-
Akina Park	-	-	-	4	440	298	232	-
Queens Square	-	-	-	9	414	305	186	-
Mayfair	-	-	-	-	563	308	268	75
Parkhaven	-	-	-	-	136	75	18	-
Parkvale	-	-	-	-	124	84	119	64
Mangateretere	-	-	-	-	-	-	-	-
Haumoana-Te Awanga	-	-	-	-	-	-	-	6
Lucknow	-	-	-	-	385	178	227	84
Karanema-St Hill	-	-	-	-	20	266	116	288
Havelock North-Central	-	-	-	-	24	213	86	128
Brookvale	-	-	-	-	-	-	-	3
lona	-	-	-	-	50	488	106	186
Hereworth	-	-	-	-	5	283	31	70
Te Mata Hills	-	-	-	-	-	-	-	90
Havelock Hills	-	-	-	-	-	-	-	42
Kahuranaki	-	-	-	-	-	-	-	135
Total	-	-	-	1,361	4,601	4,819	2,843	1,749
*This can be either horizontal/	vertical atta	ched		•				15,373

## Appendix 5: Feasible Capacity under Maximum Profit Approach - Hastings (BAU)



			FE4	ASIBLE CAPAC	ITY - Max Yie	eld		
		\$250k-	\$450k-	\$700k-	\$950k-	\$1.25m-	\$1.5m-	
SA2 Name	<\$249k	\$449k	\$699k	\$949k	\$1,249k	\$1.499m	\$1.949m	\$1.95m+
Puketitiri-Tutira	-	-	-	-	-	-	-	-
Sherenden-Crownthorpe	-	-	-	-	-	-	-	-
Maraekakaho	-	-	-	-	-	-	-	-
Puketapu-Eskdale	-	-	-	-	-	-	5	410
Omahu-Pakowhai	-	-	-	-	-	-	-	-
Bridge Pa	-	-	-	-	-	-	-	-
Twyford	-	-	-	-	-	-	-	-
Poukawa	-	-	-	-	-	-	-	-
Flaxmere West	-	-	-	-	-	-	-	-
Omahu Strip	-	-	-	-	-	-	-	-
Lochain Park	-	-	-	255	10	-	-	-
Flaxmere Park	-	-	-	665	50	-	-	-
Flaxmere South	-	-	-	340	40	-	-	-
Irongate	-	-	-	-	-	-	-	-
Frimley	-	-	-	15	120	715	485	200
Camberley	-	-	-	20	60	180	125	100
Clive	-	-	-	-	-	-	-	15
St Leonards	-	-	-	35	1,070	1,650	1,180	-
Mahora	-	-	-	5	315	350	280	-
Raureka	-	-	-	5	405	1,065	420	-
Cornwall Park	-	-	-	-	740	1,185	505	-
Tomoana	-	-	-	-	-	-	-	-
Longlands-Pukahu	-	-	-	-	-	-	-	-
Raceway Park	-	-	-	-	165	145	25	-
Karamu	-	-	-	-	-	-	-	10
Hastings Central	-	-	-	5	40	175	85	-
Tomoana Crossing	-	-	-	20	680	1,080	555	-
Akina Park	-	-	-	5	625	805	410	-
Queens Square	-	-	-	10	565	855	310	-
Mayfair	-	-	-	-	835	1,070	780	80
Parkhaven	-	-	-	-	155	75	20	-
Parkvale	-	-	-	-	145	220	165	70
Mangateretere	-	-	-	-	-	-	-	-
Haumoana-Te Awanga	-	-	-	-	-	-	-	5
Lucknow	-	-	-	-	490	445	430	300
Karanema-St Hill	-	-	-	-	20	440	455	565
Havelock North-Central	-	-	-	-	25	345	330	305
Brookvale	-	-	-	-	-	-	-	5
lona	-	-	-	-	50	900	520	575
Hereworth	-	-	-	-	5	355	160	175
Te Mata Hills	-	-	-	-	-	-	-	90
Havelock Hills	-	-	-	-	-	-	-	50
Kahuranaki	-	-	-	-	-	-	-	145
Total	-	-	-	1,380	6,610	12,055	7,245	3,100
*This can be either horizontal/	vertical attac	ched		•		•		30,390

## Appendix 6: Feasible Capacity under Maximum Yield Approach – Hastings (BAU)

an be either horizontal/vertical attache



## Appendix 7: Feasible Capacity under Maximum Profit Approach – Napier (BAU)

The results of the feasible capacity assessment for Napier are presented below under a maximum profit approach. The capacity is reported by value band across SA2s.

			FE/	SIBLE CAPAC	ITY - Max pro	ofit		
		\$250k-	\$450k-	\$700k-	\$950k-	\$1.25m-	\$1.5m-	
SA2 Name	<\$249k	\$449k	\$699k	\$949k	\$1,249k	\$1.499m	\$1.949m	\$1.95m+
Ahuriri	-	-	-	2,169	55	53	-	-
Napier Central	-	-	-	6,376	-	-	-	-
Bluff Hill	-	-	-	17	120	76	-	-
Marewa West	-	-	-	1,985	156	470	-	-
Marewa East	-	-	-	346	135	-	-	-
McLean Park	-	-	-	286	266	507	93	-
Greenmeadows West	-	-	-	-	80	849	195	-
Greenmeadows Central	-	-	-	-	837	585	240	-
Onekawa West	-	-	-	1,563	472	-	-	-
Tamatea North	-	-	-	282	551	149	-	-
Taradale South	-	-	-	36	2,173	602	308	-
Onekawa Central	-	-	-	654	57	650	-	-
Tareha Reserve	-	-	-	1,074	660	227	-	-
Meeanee-Awatoto	-	-	-	132	502	134	320	-
Omahu-Pakowhai	-	-	-	-	-	-	-	-
Taradale Central	-	-	-	-	1,763	1,113	365	-
Pirimai East	-	-	-	523	438	462	-	-
Onekawa South	-	-	-	720	126	302	-	-
Inlet Napier City	-	-	-	-	-	-	-	-
Poraiti Flat	-	-	-	-	293	595	192	-
Nelson Park	-	-	-	5,537	166	254	-	-
Hospital Hill	-	-	-	3	174	205	-	-
Oceanic Hawke's Bay Regi	-	-	-	-	-	-	-	-
Pirimai West	-	-	-	294	239	374	-	-
Westshore	-	-	-	14	37	199	4	-
Bay View	-	-	-	197	-	-	-	-
Taradale West	-	-	-	3	249	452	147	-
Tamatea West	-	-	-	405	605	354	20	-
Greenmeadows South	-	-	-	52	602	270	-	-
Maraenui	-	-	-	604	226	-	-	-
Bledisloe Park	-	-	-	691	565	220	-	-
Onekawa East	-	-	-	171	92	90	-	-
Poraiti Hills	-	-	-	-	-	-	-	-
Puketapu-Eskdale	-	-	-	-	-	-	-	-
Tamatea East	-	-	-	86	537	250	-	-
Total	-	-	-	24,220	12,176	9,442	1,884	-
								47,722



## Appendix 8: Feasible Capacity under Maximum Yield Approach – Napier (BAU)

The results of the feasible capacity assessment for Napier are presented below under a maximum yield approach. The capacity is reported by value band across SA2s.

			۶E	ASIBLE CAPAC	CITY - Max Yie	eld		
		\$250k-	\$450k-	\$700k-	\$950k-	\$1.25m-	\$1.5m-	
SA2 Name	<\$249k	\$449k	\$699k	\$949k	\$1,249k	\$1.499m	\$1.949m	\$1.95m+
Ahuriri	-	-	-	2,223	57	50	-	-
Napier Central	-	-	-	7,756	-	-	-	-
Bluff Hill	-	-	-	135	122	67	-	-
Marewa West	-	-	-	3,807	117	410	-	-
Marewa East	-	-	-	353	134	-	-	-
McLean Park	-	-	-	2,511	151	484	95	-
Greenmeadows West	-	-	-	-	130	1,133	182	-
Greenmeadows Central	-	-	-	-	3,485	367	122	-
Onekawa West	-	-	-	1,617	472	-	-	-
Tamatea North	-	-	-	877	542	131	-	-
Taradale South	-	-	-	205	7,091	282	163	-
Onekawa Central	-	-	-	4,972	19	136	-	-
Tareha Reserve	-	-	-	3,327	534	189	-	-
Meeanee-Awatoto	-	-	-	160	681	161	323	-
Omahu-Pakowhai	-	-	-	-	-	-	-	-
Taradale Central	-	-	-	-	5,508	852	262	-
Pirimai East	-	-	-	1,741	382	354	-	-
Onekawa South	-	-	-	2,241	103	109	-	-
Inlet Napier City	-	-	-	-	-	-	-	-
Poraiti Flat	-	-	-	-	293	585	222	-
Nelson Park	-	-	-	8,791	68	87	-	-
Hospital Hill	-	-	-	136	188	192	-	-
Oceanic Hawke's Bay Regic	-	-	-	-	-	-	-	-
Pirimai West	-	-	-	2,287	190	190	-	-
Westshore	-	-	-	14	26	202	25	-
Bay View	-	-	-	261	-	-	-	-
Taradale West	-	-	-	-	1,519	325	94	-
Tamatea West	-	-	-	982	1,032	301	7	-
Greenmeadows South	-	-	-	757	542	251	-	-
Maraenui	-	-	-	645	239	-	-	-
Bledisloe Park	-	-	-	2,607	431	172	-	-
Onekawa East	-	-	-	812	88	13	-	-
Poraiti Hills	-	-	-	-	-	-	-	-
Puketapu-Eskdale	-	-	-	-	-	-	-	-
Tamatea East	-	-	-	255	514	248	-	-
Total	-	-	-	49,472	24,658	7,291	1,495	-
								82,916



## Appendix 9: Feasible Capacity under Profit Maximisation Detached Preferred Approach – Napier (BAU)

The results of the feasible capacity assessment for Napier are presented below under a maximum profit approach with detached capacity given preference when both typologies are feasible on a parcel. The capacity is reported by value band across SA2s.

		FE	ASIBLE CAPA	CITY - Max p	rofit (Detach	ned Preferre	d)	
		\$250k-	\$450k-	\$700k-	\$950k-	\$1.25m-	\$1.5m-	
SA2 Name	<\$249k	\$449k	\$699k	\$949k	\$1,249k	\$1.499m	\$1.949m	\$1.95m+
Ahuriri	-	-	-	2,169	55	32	-	-
Napier Central	-	-	-	6,376	-	-	-	-
Bluff Hill	-	-	-	17	104	71	-	-
Marewa West	-	-	-	1,985	152	364	-	-
Marewa East	-	-	-	308	132	-	-	-
McLean Park	-	-	-	275	259	412	91	-
Greenmeadows West	-	-	-	-	80	743	182	-
Greenmeadows Central	-	-	-	-	836	438	205	-
Onekawa West	-	-	-	1,563	235	-	-	-
Tamatea North	-	-	-	282	545	136	-	-
Taradale South	-	-	-	36	2,158	509	275	-
Onekawa Central	-	-	-	654	46	545	-	-
Tareha Reserve	-	-	-	1,074	551	186	-	-
Meeanee-Awatoto	-	-	-	61	382	105	302	-
Omahu-Pakowhai	-	-	-	-	-	-	-	-
Taradale Central	-	-	-	-	1,725	888	324	-
Pirimai East	-	-	-	523	425	414	-	-
Onekawa South	-	-	-	718	124	277	-	-
Inlet Napier City	-	-	-	-	-	-	-	-
Poraiti Flat	-	-	-	-	291	569	191	-
Nelson Park	-	-	-	5,512	164	205	-	-
Hospital Hill	-	-	-	3	145	163	-	-
Oceanic Hawke's Bay Regi	-	-	-	-	-	-	-	-
Pirimai West	-	-	-	269	221	322	-	-
Westshore	-	-	-	14	32	161	4	-
Bay View	-	-	-	197	-	-	-	-
Taradale West	-	-	-	3	245	392	140	-
Tamatea West	-	-	-	405	590	340	18	-
Greenmeadows South	-	-	-	51	511	251	-	-
Maraenui	-	-	-	579	186	-	-	-
Bledisloe Park	-	-	-	690	465	180	-	-
Onekawa East	-	-	-	161	87	74	-	-
Poraiti Hills	-	-	-	-	-	-	-	-
Puketapu-Eskdale	-	-	-	-	-	-	-	-
Tamatea East	-	-	-	86	532	247	-	-
Total	-	-	-	24,011	11,278	8,024	1,732	-
								45,045



## Appendix 10: Existing estate – Hastings

The figure shows the size (dwelling count) and value of the current urban estate. This information is based on the available rating data. To make it comparable with the 'new' capacity, the values are provided in 2052-dollars. Based on the rating information, the current estate in Hastings consists of nearly 20,000 dwellings, which are mostly (95%) standalone homes.

Hastings Current Estate (2052-dollars)

According to Census 2018 information, the estate was close to 31,000 dwellings in 2018. It is not our intent to report on the reasons for the difference, but we acknowledge that Census information includes dwellings outside of the urban boundary, and there is some uncertainty about the way rating information record individual dwelling unit counts.

Detached Attached



## Appendix 11: Existing estate – Napier

The figure presents the existing estate in terms of size (dwelling count) and value, according to the available rating data. To make it comparable with the 'new' capacity, the values are provided in 2052-dollars.



## Napier Current Estate (2052-dollars)



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## **Report Prepared for:**

Hastings District Council Napier City Council Hawke's Bay Regional Council

Prepared by: Birman Consulting Limited (2023) Contact Person : Murray Tonks DDI: 06-834-4300 7 February 2023

## **Executive Summary**

The following report presents an analysis of forecast demand-growth for retirement village housing in the Napier-Hastings area over the next 30 years, to 2053. This is one of a number of sub-reports prepared in support of the current (2023) Future Development Strategy (FDS). The key findings of the report are:

- 1. The New Zealand / Hawke's Bay population is undergoing a fundamental compositional change as a growing percentage of the population passes into retirement age. Within the next 30 years the number of people aged 65+ will increase by 60%; those aged over 75 will double; and the number of people aged 90+ will more than treble. This trend will also continue and intensify beyond the 30-year projection period.
- As this happens, more people will be looking to move from their existing family home and into housing that is better suited to their ageing needs. This will be typically toward smaller, easier-care housing, suitable for one or two occupants, that is warm and secure and preferably among like-minded people. One of the options for doing so will be to move to a retirement village.
- 3. Most of the larger retirement villages currently have a minimum age limit of 70 but the majority of people entering these villages are over 75. We have therefore assumed that the future demand for retirement village housing will largely follow the growth-trend of the 75+ age demographic but have also factored in a 10% allowance for existing un-met demand and for the expectation of the likely growing popularity of this lifestyle choice, including among slightly younger retirees.
- 4. From these assumptions we predict a future demand for **2,450** more retirement village-based independent-living units (villas and apartments) between now and 2053. That will translate into a demand for about 80 units per annum and new entire retirement villages, averaging 200 units, being built at a rate of one every two-and-half years for the next 30 years.
- 5. Each of these future villages is liable to require at least 6 hectares and the total future land requirement will be between 60 and 98 hectares, depending on what housing-densities can be achieved. Current gross densities are typically around 25 units/ha but can get as high as 37/ha and we predict that 30/units will be a reasonable future target. If so then **82 hectares** will be the total required space.
- 6. Future retirement villages will generally (as now) seek to establish on greenfield sites. Villages typically require an area of about 6 hectares or more and so it is very difficult to find suitable sites within the existing urban boundary.
- 7. The requirement for greenfield space encounters issues in respect of the use of productive land. It is, however, also acknowledged that retirement villages will generally achieve housing densities that cannot be matched by conventional subdivision. These efficiencies are further enhanced where on-site care facilities are included. And by focusing on single and couple-only dwellings they are directly targeting future core housing demand (80% of which is predicted to be of this type).

- 8. There will also be an accelerating demand for village-based rest-home and hospital-level care facilities. Most (but not all) larger retirement villages have care facilities and there is currently an overall average of about 1 care-bed per 2 independent-living units. The growth in demand for care-beds will increase at an even faster rate than for regular dwellings due to the disproportionate growth of the even-older (85+) age bracket. To merely keep pace with this growth, at existing service levels, will require an estimated 2,257 more care-beds by 2053.
- 9. We expect, however, that most of the growth in demand for care-beds in future retirement villages (if provided for) will continue to be mainly accommodated in multi-level care facilities and that this particular growth component will not, therefore, substantially add to overall future land demand.
- 10. We have examined so-called 'lifestyle villages' but conclude that these are, in practice, essentially retirement villages by another name. The often-lower minimum age of entry for 'lifestyle' retirement villages will, however, have the potential to slightly widen the potential recruitment demographic and therefore further increase the number of people seeking this form of housing. It may also have the effect of projecting a 'younger' image more generally and therefore increase the willingness of people to consider retirement villages as an attractive lifestyle choice.

Page 4

## 1. Introduction

This report provides an assessment of forecast demand for retirement village development in the Napier/Hastings area over the next 30 years (to 2053). Results will be used to assist the current (2023) Future Development Strategy (FDS) which seeks to determine and plan for future growth demands in the Heretaunga Plains. The strategy is a combined project of the Napier City, Hastings District and Hawke's Bay Regional Councils.

This review arises from an awareness of the ageing of the New Zealand population and the likely effects that this will have, in future years, on housing needs and choices. It also separately examines the phenomenon of so-called 'lifestyle villages'.

The principal sources for the study have been interviews with existing local retirement village providers (those available for interview); on-line demographic information and analytical reports from Statistics New Zealand; along with findings from the draft Housing Development Capacity Assessment (M.E. Consulting, September 2021). The report supersedes and updates an earlier-produced (2016) report for the Heretaunga Plains Urban Development Strategy<sup>1</sup>.

## 2. An Ageing Population

The New Zealand population, like that of many other countries, is ageing. The population of the Heretaunga Plains area is no exception to that trend. On 'medium-high' projections<sup>2</sup>, the number of people aged 65 years and over in the study area is expected to increase by 18,750 (60%) between now and  $2048^3$  while the 75+ age group will double (increasing from 14,170 to 28,840) and the number of people aged 90+ will treble.

In the context of a projected *total population* increase of just 30,600 (19%) in the study area over the same period (again, based on 'medium-high' projections) this represents a significant compositional change. In essence, the increase in the number of people entering the age group of 65 years and above will be equivalent to more than half of the projected nett increase in the population as a whole.

The ageing trend is driven by the post-war 'baby boom' cohort now reaching retirement age – further compounded by declining birth rates and longer life expectancies. Therefore, not only are many more people coming through into retirement age, they are surviving for longer within the 65+ age group. In 1950 a New Zealander aged 65 could have expected to live on average for another 14 years. In 2023, at age 65, they can expect to live on average for another 23 years.

Nationally, by 2053 (i.e. in 30 years' time), Statistics NZ predict that around 24% of New Zealanders will be aged 65 and over, compared with just 17% in 2023. Another ten years beyond that, in 2063, this will have increased to 27% of the population<sup>4</sup>. Furthermore, within the 65+ age group, an ever-increasing proportion will be aged 85 and above. By 2063, about one in five people aged 65+ will be 85+, compared with one in nine now<sup>5</sup>.

<sup>&</sup>lt;sup>1</sup> Environmental Management Services Ltd (2016) *Retirement Sector Housing Demand Forecasts 2016 – 2045 : A Report for the Heretaunga Plains Urban Development Strategy.* 

<sup>&</sup>lt;sup>2</sup> In this report, for consistency with other FDS reports (notably the M.E. Consulting *Housing Development Capacity Assessment 2011*) we will generally use 'medium-high' population projections. 'Medium-high' is taken as the mid-point between the Statistics NZ medium and high projection scenarios.

<sup>&</sup>lt;sup>3</sup> Statistics NZ Dataset: Subnational population projections by age and sex 2018 (base) - 2048 (data supplied Nov 2022).

<sup>&</sup>lt;sup>4</sup> Statistics NZ Dataset: *National population projections by age and sex 2022 (base) - 2073* (data supplied Nov 2022).

<sup>&</sup>lt;sup>5</sup> Ibid.

Attachment 4

#### Retirement Sector Housing Study (February 2023)

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The changing structure of the population is illustrated in the two 'population pyramids' in Figures 1a and 1b, below. Figure 1a shows the age structure of the population as it is now. Figure 1b shows how the population structure is expected to look by 2055. The pyramid becomes more 'columnar' and top-heavy by 2055 as a greater percentage of the population enters the older age brackets.



### Figures 1a & 1b : NZ Population Pyramids for 2025 and 2055

Source: Population Pyramids of the World (PopulationPyramids.net)

The rate of growth in the older age groups, compared with that in the wider population (nation-wide), is further illustrated in Table 1, below. The table shows 'medium' projections for the overall New Zealand population and what this growth equates to as a percentage increase from 2023 onwards. Alongside are percentage growth figures for the 65+, 75+ and 90+ age groups. The table shows that, for example, by 2053, while the national population will have increased by a modest 20%, the 65+, 75+ and 90+ age groups will have increased by 70%, 125% and 262% respectively.

Year	NZ Total Population	Total Population %age increase from 2023	%age increase in 65+ age group	%age increase in 75+ age group	%age increase in 90+ age group
2023	5222400	0%	0%	0%	0%
2028	5460500	5%	18%	23%	16%
2033	5679000	9%	34%	48%	51%
2038	5876400	13%	49%	76%	105%
2043	6055800	16%	57%	98%	158%
2048	6215800	19%	64%	117%	214%
2053	6348000	20%	70%	125%	262%

Table 1: Comparison in Projected Growth Rates : 65+, 75+ & 90+ age groups vs Population as a Whole

It is relevant also to point out that the growth in these age-brackets does not stop in 2053 but rather carries on for at least another 20 years (as far out as the Stats NZ projections currently go). The longer term projections indicate that by 2073 the number of people aged 65+ in NZ will have more than doubled (a 113% increase) compared with now, the number of people over 75 will have nearly trebled (a 187%

increase) and people over the age of 90 will be nearly five times as numerous as now (a 379% increase). This is not, therefore, a short- or medium-term phenomenon limited only to the timeframe of the present study but rather an ageing trend that will continue for at least another 50 years beyond the present day.

## 3. Implications for Future Housing Demand

The projected demographic changes described above will have significant implications for future housing development – particularly as regards the *type* of housing that is likely to be in demand. Specifically, Statistics New Zealand predict that the ageing population will drive a trend toward smaller households<sup>6</sup>, with a significant on-going growth in the number of one-person households, and with three-quarters of that growth in one-person households involving people aged 55 years and over<sup>7</sup>. There has long been a trend toward increasing numbers of one-person (and couple-only) households but the ageing population will accelerate that trend.

To illustrate: At present in the combined FDS Study Area approximately 27% of households are singleoccupant (i.e. about 16,430 households)<sup>8</sup>. Between 2020 and 2050, under 'medium-high' projections, that number is projected to rise by nearly 45% with the addition of another 7,030 single-person households. Similarly, the number of couple-only households will increase by an estimated 6,860 (38%). The combined increase in single and couple-only households will therefore equate to approximately 13,890 over the long term projection period<sup>9</sup>.

Considering that the total projected household growth over this same period (2020 - 2050) is 17,200 new households<sup>10</sup>, this means that the market for one-person and couple-only households will, between them, represent the equivalent of about 80% of all total demand.

The implication is that, in future, there will be significantly more people looking for single-person and couple-only accommodation. It is reasonable to assume that this will mean a preference for smaller properties, including smaller lots. Furthermore, because the trend will be largely driven by people of retirement age who are often selling up a larger family home in order to down-size, there is likely to be a corresponding relative increase in the availability of larger old homes coming onto the market, versus that of smaller homes. This may reduce the demand and asking-price for larger homes at the same time as the demand for smaller single-person homes is increasing.

## 4. Retirement Villages as a Housing Option

One of the means of providing for smaller retirement housing will be through the development of retirement villages. There are already a number of retirement villages and retirement / elderly care housing complexes in the Study Area, which come in a variety of forms.

Some villages provide only villas and townhouses for 'independent living'. These are essentially collections of households – predominantly small to medium sized duplex units. In the larger modern up-market villages this housing is usually built around a community centre with various recreational facilities attached (e.g. pool, spa, gym, café, library).

<sup>&</sup>lt;sup>6</sup> Statistics NZ (April 2013) How will New Zealand's ageing population affect the property market? (p.9)
<sup>7</sup> Ibid. p.8.

<sup>&</sup>lt;sup>8</sup> ME Consulting (Sept 2021) Housing Development Capacity Assessment 2021, Tables 2-11 & 2-12, p.22 – 24.

<sup>&</sup>lt;sup>9</sup> Note that the M.E. Consulting projection period is 2020 – 2050 (rather than 2023 – 2053). This includes a 3 year period that is now historic but also excludes the 3 years after 2050. We have assumed that the two differences balance each other out.

<sup>&</sup>lt;sup>10</sup> M.E. Consulting report. Tables 2-9 & 2-10, p.22.

Other villages are simpler, with fewer facilities, and are correspondingly lower cost. Those at the lower price end of the market are likely to have minimal (if any) in-built community facilities other than the living units themselves.

The standard model of ownership for a dwelling in almost all of the larger corporate-owned retirement village is for residents to purchase a 'license to occupy'. This entitles the owner to stay in the dwelling for as long as they wish (or live), subject only to paying on-going management/maintenance fees and covering basic household outgoings such as electricity. All building and grounds maintenance is taken care of as well as very often (at the upper-end of the market) the organisation of weekly social and cultural activities for residents.

Upon selling the unit the license-holder or their estate gets back whatever money was paid to purchase the occupation license minus a pre-agreed 'deferred maintenance' fee. This is usually calculated as a percentage of the value of the initial purchase and typically set at 10% of the initial license fee per year for each of the first three years of occupation (i.e. up to a maximum of 30% of the initial purchase price of the license to occupy). For the license-holder there is no capital gain on the on-sale of the unit. Any capital gain (or loss) that does occur belongs to the operators of the village, as principal 'owners' of the facility.

The advantage of the 'license to occupy' model is that, with the village operator ultimately retaining ownership of all land and buildings, there is an incentive on the operator to ensure a uniformly high standard of maintenance (since any deterioration in the overall condition of the village affects the future re-sale value of the units). It also makes possible a more professional management of day-to-day social and cultural activities in the village. The main disadvantage, for license-holders, is that they do not get the benefit of any capital gain on the unit they occupy and after 3 years of occupation effectively lose 30% of their initial purchase price to deferred maintenance.

Most of the larger retirement villages also have residential care facilities attached. There can be up to four levels of care, depending on the village, namely: (i) rest home care, (ii) long term care hospital, (iii) dementia care and (iv) psycho-geriatric care. Care units are integrated into the village but usually segregated in some way from the independent living villas and townhouses. In these villages the 'license to occupy' model usually applies to independent living units while rest-home care units are on a daily rate – although there has been a trend toward selling licenses to occupy for rest home suites as well (on the same basis as independent living units).

The maximum standard fee for rest-home care in Napier-Hastings, as at 2022, is \$175/day<sup>11</sup> (\$1,225/week) but can be higher for 'premium' care (e.g. a more spacious unit with extra facilities). Those requiring care can apply for government assistance but will be means-tested for eligibility and will only be eligible for a basic care package. If on a weekly pension while receiving a care home subsidy the government retains most of the recipient's pension, leaving them with \$98/week (out of an original \$463/week). The subsidy increases as residents are moved to higher levels of care, meaning that, in theory, no-one is excluded from the increasing level of care they require due to affordability (although in practice an existing and worsening national shortage of care-beds means that simply finding an available standard care-bed can be a challenge, and the ability of an individual to pay extra, for a premium suite, may be the difference between securing a space or not).

The advantage of an attached care facility in a retirement village is that residents who are living independently in the village then have the option of transitioning into care within the village if their health deteriorates. This is also reassuring for family of the resident, who are often the driving force behind getting an elderly parent into a village, as they then know that if and when their parent's health and/or mobility declines to the point that they can no longer adequately look after themselves, the option will be

<sup>&</sup>lt;sup>11</sup> Maximum allowable fees vary by region and are set by government. The stated figure is from the NZ Government Gazette.

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there (meaning, by extension, that family will not have to take on that responsibility themselves). We are however informed that typically only 8 - 10% of 'independent living' residents do actually make this transition<sup>12</sup>. For the majority, at end-of-life, the deterioration in health happens more quickly whereby they transfer to, and ultimately die in, a general hospital.

On-site care facilities also present an attractive option for couples where one partner needs to go into care and the other is then able to move into a villa or townhouse in the same village – allowing them to continue to regularly see each other.

An alternative retirement village model (Frimley Retirement Village being the only currently-completed local example) is to establish freehold unit-titles whereby each retirement dwelling is fully owned by the occupant and village maintenance is taken care of by a body corp, funded by contributions from unit owners. The advantage of this model is that owners (or their estate) are able to take advantage of any capital gain on re-sale of the unit. This means that owners are also less financially tied to the village, should they ever want or need to move elsewhere, as the value of their asset will have been keeping pace with house-price inflation. The disadvantage is that management of the village relies on the successful functioning of a body corp, which is itself comprised of owners of multiple individual units, among whom there may be divergent ideas on how the village should be run, and to what standard (in respect of the upkeep of community facilities and grounds, and expenditure on social and cultural activities). There may also be differing ideas and degrees of concern for the standard of maintenance of individually-owned houses. Furthermore, these villages are unlikely to be able to offer care beds.

A further and final option for retirees is to take a pensioner flat in one of the 'rental' retirement villages. These tend to be in smaller (and generally older) complexes of 12 - 50 units, usually run by non-profit organisations, including Napier City, Hastings District Council and Masonic Trust<sup>13</sup>. They are offered on a weekly rental basis with rents typically set at a percentage of the government pension. The Hastings District Council rental units, for example, are currently priced at 25% of the pension which equates to around \$178/week, plus any accommodation supplement.

The Napier and Hastings<sup>14</sup> Councils are significant providers, with 373 and 220 pensioner flats respectively. The Masonic Trust is another major provider with 90 pensioner rental units in Napier, Hastings and Havelock North.

## 5. 'Lifestyle' Villages

In recent years New Zealand has also seen the emergence of so-called 'lifestyle villages'. The implied meaning in the description of these villages is that they are distinct from 'retirement villages', except that it is not unusual for lifestyle villages to market themselves as 'retirement communities' and for retirement villages to adopt the 'lifestyle' descriptor. So in practice there is a lot of cross-over and it is often a grey area as to whether a particular village is a 'retirement village' or 'lifestyle village'. No commonly-agreed definition exists and there are exceptions to virtually every rule. This raises the question of whether they really are that different at all, or just differently-marketed versions of the same thing.

One of the often-stated points of difference is that lifestyle villages tend to have a lower minimum age limit for entry. This is commonly set at 55 whereas most conventional 'retirement villages' are known to have a minimum entry age of 70.

<sup>&</sup>lt;sup>12</sup> Pers. comm. Retirement village management interview.

<sup>&</sup>lt;sup>13</sup> Anglican Care Waiapu were also previously providers but have now sold up all of their pensioner properties.

<sup>&</sup>lt;sup>14</sup> Hastings District Council have now contracted out the on-going running and maintenance of their units to Te Taiwhenua o Heretaunga.

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On this point it is, however, important not to confuse 'minimum age' with 'actual' age. Where the minimum age is 55, the average age across the community as a whole may well be closer to 70, or higher. So, whichever way we look at it, these are both still retirement demographics – they just occupy slightly different age-bands within that demographic. Certainly, even with self-described 'lifestyle villages', we inevitably find that the associated marketing material is primarily aimed at retirees.

It is useful also to understand why these age limits exist and what function they are intended to serve. Their primary purpose is to give assurance to intending entrants to a village that the buyer will be in a reasonably like-minded community among people with a 'mature' outlook – no rowdy children, no partying teens. This in turn has marketing value and a minimum age limit of 55, or thereabouts, can be considered a reasonable point at which to achieve that 'look-and-feel'.

This particular age limit (55) tends to be used most often in conjunction with villages that are run on a freehold unit-title model, or similar. In this model, as explained earlier, the residents own their own units and the village will tend to be run by some form of body corp. This means that the original developer has no on-going stake in the village, including to any future capital gains on re-sale of units, and so the purpose of the age limit is purely so that the village can be marketed as ensuring the sort of 'mature' like-minded retirement-focused community described above.

With the 70+ age limit there is a little more to it. This is usually associated with a license-to-occupy model. Here the intention is, again, to ensure a mutually-compatible community, as described, but the other reason is financial. Specifically: with villages that operate on a license-to-occupy model (which is most of the major villages) it is simply more profitable to set a higher entry age because older people are not likely to live as long and so, with a higher average age across the village as a whole, there will be a more frequent turn-over of residents and units. With each turn-over the village then gets to re-sell the unit, take any capital gain on it, and claim for deferred maintenance for up to a maximum of 3 years. Beyond three years there is no further deduction for deferred maintenance and so the incremental financial benefits for the village provider taper off after that.

It may be recalled that up until about 10 years ago most license-to-occupy retirement villages actually had a minimum age of entry of 65 (corresponding with the 'actual' age of retirement in NZ). The 70+ minimum age limit therefore has not always existed but rather was only introduced at around that time. This was, admittedly, a move that reflected an already-existing pattern of buyers generally being at least 70, and mostly over 75, before moving to a village. But the underlying economic reasoning and business-model should be clear. In essence, there is more than enough demand within the 70+ age bracket (which is also the more profitable demographic) that existing providers do not really need to market to anyone younger.

There are still license-to-occupy villages that do have a 65+ age limit but, again, this needs to be seen in the context of marketing and business models. For some minor providers it will suit to differentiate themselves from the larger corporates and age-of-entry will be one of the ways to do that (and potentially charge a premium on their units, accordingly).

Our point is that the different minimum ages of entry can be a distraction from the fact that all of these providers – however they may choose to describe themselves – are essentially in the retirement village business. It would be a different matter if they had no age limit at all, or if the minimum age limit was, say, 30. And that may eventually come, but it is not the case here or now. Whether the age limit is 55, 65 or 70, these are all essentially targeting a retirement demographic, and this is clearly illustrated in the associated promotion and marketing material for all of these villages.

The same applies to other potential differences that we have examined. We have considered, for example, if retirement villages can be distinguished from lifestyle villages by having on-site rest-home and/or hospital level care facilities. We find, however, that there are some 'retirement villages' with a 70+ age limit

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(including locally) that do not have such facilities and we know of some self-described 'lifestyle villages' or 'country clubs' (at least outside of the region) that do.

Another possibility is that lifestyle villages may be described as more 'spacious' than retirement villages. That is, with a lower density of dwellings and greater amounts of land set aside for green space and community facilities. We have been unable to comprehensively test this but, if true, that still does not alter the fact that they are fundamentally retirement communities – just with a potentially more generous use of land.

We conclude, therefore, that in reality there is little or nothing to distinguish a 'retirement village' from a 'lifestyle village' and that in practice they can be regarded as one and the same. This will change only if and when the minimum age of entry to 'lifestyle villages' is reduced to somewhere significantly below the age of 55. At present all that we are seeing is differences in marketing and business models within the various bands of what is still essentially a retirement demographic.

This may, however, still have implications for the future growth of retirement villages insofar as the potential for villages with even slightly lower age limits will then broaden the overall prospective age-band and therefore the number of people who are eligible and may then choose this style of living. By projecting a younger image, 'lifestyle villages' may also, over time, have the effect of bringing about a greater general acceptance of retirement village living as a desirable lifestyle choice. The image of retirement villages continues to be adversely affected in some quarters by a perception that they are only for 'worn out old-people'. These perceptions are already changing but the introduction of 'lifestyle' retirement villages, with somewhat lower entry-ages and younger projected image, may hasten the trend.

## 6. Historical Development of Retirement Villages

The older retirement villages in the Study Area date from the 1950's and 1960's. Many of these are relatively small villages of between 12 and 50 units, often surrounded by other residential housing, in some cases because the other housing has grown up around them, and in other cases because they just happen to have been originally built on spare pieces of urban land (for example, surplus church land, in the case of some former Anglican Care properties). These villages were typically built by non-profit organisations, such as church-based organisations, Masonic Trusts or local Councils to serve a social housing need for the elderly. Government subsidies for these kinds of developments were available around this time.

The newer and generally larger retirement villages constructed in the last 20 - 30 years tend to have been built on a more commercial model. These are mostly located on the outskirts of the urban areas, in the new suburbs, where sufficiently large parcels of land can be found. The greater commercial focus steers these villages toward the upper end of the retirement housing market. Intending buyers will need to have reasonable savings and/or the proceeds from the sale of a moderately high value mortgage-free family home in order to purchase a license to occupy.

These larger, more recent villages will typically have 150 - 250 dwellings. The single largest village is Mary Doyle in Havelock North, established in 1997, and now with 272 independent living villas and apartments (in addition to 158 care beds). Larger villages have the advantage of an economy of scale, with enough units to support a full-time on-site office, community centre, recreational facilities and permanent full-time grounds maintenance staff. This contrasts with the smaller, older villages, with 12 - 50 units, where management and maintenance services usually have to be shared between villages and has to be mobile.

Frimley Village in Hastings is, as yet, still the only completed example of a village built on the unit-title / body corp model. This development commenced in 2013 and now comprises around 66 units. The unit-title system is presented as an alternative to the 'license to occupy' model offered by the larger retirement

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village companies and has the advantage that those buying into the village are able to retain any capital gains on their dwelling and are not charged for depreciation. The disadvantage, as discussed earlier, is that there is not usually a centralised professional management of unit-title villages, which are instead run on a day-to-day basis by a body corp. There are, therefore, trade-offs either way.

Frimley is the one example locally that does not explicitly refer to itself as a 'retirement village' and has a 55+ minimum age limit and which therefore might be regarded as a 'lifestyle' village rather than a retirement village. The village describes itself as a 'Lifestyle Village' and elsewhere as a 'Village Lifestyle Community' and pitches to people over the age of 55 who are either "*still working, facing retirement, active in retirement or settling into retired life*". It is therefore open to interpretation but we would suggest that it is still primarily a retirement village, as the marketing implies, and as discussed in the preceding section. Our understanding from interviews is that only about 4 of the existing 66 units have residents below the age of 60 and that the average age is estimated to be between 70 and 75.

## 7. Motivations for Shifting to a Retirement Village

For most people the decision to buy into a retirement village does not happen immediately upon reaching the age of 65. According to interviews with village providers the 'typical' age at which people move is between 75 and 85. The major retirement village companies no longer even accept people into their villages below the age of 70 - although, as we have explained earlier, the tendency for people to delay until 75 or older pre-dates even this policy.

When defining the 'retirement village demographic', therefore, the 65 - 70 age group is generally not relevant for most existing analysis. Even the 70 - 75 age group has relatively low numbers of people in the majority of retirement villages. The primary retirement village demographic is 75 years and over.

The decision to move may come as a result of a health scare, or with a gradual run-down in health and mobility, or the loss of a spouse. Prior to this, in the period after turning 65, most retirees are likely to be relatively healthy and perfectly comfortable remaining in the family home. They may not have even retired (and indeed, with the likelihood of future rises in the minimum age of entitlement to NZ superannuation – currently 65 – the need and expectation of remaining in work beyond this age is only likely to increase).

For people on lower incomes the choice is more limited. If they have no family home to sell, and few if any savings, they will not be able to afford to buy a unit in any of the retirement villages but may be successful in finding affordable pensioner rental accommodation in one of the purely rental villages such as those provided by Napier City and Hastings District Council. The motivations for moving may also be partly a financial imperative – for example where a spouse dies, leaving the income from just one pension to cover the rent of a larger home.

Women are more likely to move than men and make up an average of two-thirds (or more) of residents in a typical retirement village. This is in part because women simply live longer. It is also because, with the death of a husband, women may feel vulnerable and unsafe living alone in the family home, and/or find that they have difficulty ensuring proper maintenance and care with tasks such as lawn-mowing and repairwork that are traditionally done by men. Women are possibly also more willing than men to acknowledge the need for company and social interaction, which retirement villages offer, and which can be missing for an older person living alone at home (accentuated by limited mobility and, with advancing age, a shrinking pool of friends).

Another common scenario is for a couple to move to a retirement village once one or other partner needs to go into full-time care, if there is a care facility attached, thereby allowing the couple to remain together

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and visit each other easily on a daily basis. Or they may begin to foresee the need for one or other to go into care and therefore move to a village that has these services if and when required.

Others simply move to a retirement village as an attractive 'lifestyle choice'. Modern villages, in particular, are configured to provide comfortable living and plenty of social contact (both organised and informal) with an active social scene. Those moving into a village will often have friends who are already there. The major retirement village companies actively encourage visitors, which allows outsiders to better understand what villages are really like, and to see for themselves what the lifestyle has to offer.

This changing and far more positive perception of what villages are like, in contrast to stereotypical images of the past, will only be likely to further increase the level of interest in retirement villages as a choice for older people – potentially also leading to more and comparatively younger people aspiring to this way of living as a lifestyle option. We are aware, for example, that in one of the newest villages, still under construction in Napier, the current average age is reported to be 73 years old. That compares with an average age of around 83 in most other existing retirement villages in the region. The age difference will be at least partly explained by the fact that this is a new cohort coming into a new village (with that cohort then expected to age together over time) but it is also conceivable that more people of younger retirement age are seeing the possibility of the lifestyle. The village in question has extensive facilities (including an indoor pool, cinema, social clubs etc) and would probably work well for people of any age who want to live in this type of community where all maintenance is taken care of and where they can, if they wish to travel, just 'lock and leave'.

What this suggests is that even though we already know that we have a large and rapidly-growing target demographic in the 75+ age group, the age range and therefore the ultimate size of that demographic could potentially enlarge even further into the future. In our discussion of so-called 'lifestyle villages' we have also referred to this and indeed the somewhat younger image of lifestyle villages may prove to be yet another factor in changing broader perceptions. Therefore, although the projections and predictions in this report are primarily based on forecasts for people over the age of 75, we need to be aware that such projections could be under-estimates of future growth in the demand for retirement village living as these changes of perception and a growing popularity and acceptance of this form of living becomes factored in.

## 8. Existing Supply and Occupancy of Retirement Village Housing

The existing supply of retirement village housing in the Heretaunga Plains area currently comprises an estimated 2,530 villas, apartments and rental flats, of which approximately 1,847 are independent-living villas and apartments (mainly in licence-to-occupy tenure) and the remaining 683 are lower-end rental flats.

Most of the larger villages also provide rest-home and hospital-level care as another form of accommodation and there are currently around 1,063 such care beds of various kind attached to retirement villages within the study area. These are generally single-room hospital-style units within purpose-built care facilities.

A detailed table summary for all of these figures is attached as Appendix A.

The rate of occupation of villas and apartments averages around 1.4 people per dwelling<sup>15</sup> and for the mostly Council-run pensioner rental flats the rate is estimated to be more like 1.2 people per flat. The occupation rate for care-beds is 1.0.

<sup>&</sup>lt;sup>15</sup> Based on a sample of retirement villages for which resident numbers are known.

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From these numbers we can estimate that altogether there are likely to be around 4,500 people in some form of retirement village accommodation in the study area at present, including village-based care beds. This includes approximately 2,585 people in villas and apartments; 820 in rental pensioner-flats; and the remaining 1,063 in various levels of care.

If, according to Statistics NZ data, the local (Napier/Hastings) 75+ population is presently around 14,050 people then, from the figures above, that means about 32% of those people are likely to be in some form of retirement village accommodation (including rentals and care facilities). Those living in independent villas and apartments in the larger corporate retirement villages or in unit-title developments will account for 18% of that demographic.

New villas and apartments are currently being sold more-or-less as soon as they come available and may therefore be considered to be fully-utilised. The same applies to rental units and care-beds, which are both over-subscribed with long waiting lists.

## 9. Future Growth Projections

As discussed in earlier sections: over the coming 30 years we will see a significant increase in the number of people (and percentage of the overall population) entering retirement age. In that period the number of people in the study area aged 65 and over will increase by around 60%; the number aged over 75 will more than double (increasing by 104%); and the number aged 90 and above will treble.

Many of these people will be looking to down-size, particularly when, as now, they get beyond the age of 75. Based on existing patterns we would expect about that one-in-three people aged 75 years and over will be wanting or needing to move from their existing home and into some form of retirement village accommodation, if they have the means and ability to do so. As the size of this age-demographic increases between now and 2053, and beyond, there will be a corresponding increase in the demand and supply of such housing.

We believe that the demand will, however, only translate into the further development of certain forms of retirement village. Specifically, we anticipate that there will continue to be a strong demand and growth among corporate-run villages built on the license-to-occupy model and, to a lesser-extent, villages designed around a unit-title system of tenure. But we foresee that there will be little or no further increase in the number of villages that are built on the historic pensioner-rental model.

Rent-based villages presently account for about 27% of all retirement village accommodation in the Napier-Hastings area and the units within them are in high demand with long waiting lists. But the problem with this form of village is not the level of demand from end-users but rather the economics of building and running them. Hence the reason that there have been practically no new rent-based retirement villages built in the area for nearly 40 years and why we do not expect any significant change in that situation as we look forward. The existing stock of rentals is a legacy of earlier times and economic circumstances and will continue to be in high demand among those needing this type of housing but we cannot see any significant number of new entire villages of this type being constructed.

This is not to say that pensioner rentals will no longer be built. It is likely that Kainga Ora, for example, will continue to provide this type of low-cost housing. But if so, it is more likely that this will in future occur as dispersed developments of individual or clustered units, wherever suitable space happens to be available, rather than as 'villages' per se. This suggests that the future growth of low-income pensioner housing will be more in the nature of 'general' housing and will not necessarily require the acquisition of large singular greenfield sites. For the purpose of the following projections, therefore, insofar as our focus is exclusively on the future growth of retirement villages, we are disregarding this village form.

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A consequence of this assumption is that (compared with our 2016 projections) we are now confining our growth projections to a narrower range of village types and therefore a smaller starting-base of 1,957 units (versus 2,640 units if rentals were included). We are assuming also that, because the rental and non-rental villages are essentially two different and un-connected markets, none of the on-going un-met demand for pensioner rental housing will be transferred to the license-to-occupy and/or unit-title forms.

From this starting point we have used the forecast rate of growth of the 75+ age-demographic (as supplied by Statistics NZ) to project forward the corresponding number of retirement village units (villas and apartments) that will be required to maintain the existing balance of supply-and-demand for such units as exist at the present time. The results (using medium-high projections) are as presented in Table 2, below.

Year	Retirement village villas & apartments (only) required in future to maintain existing balance of supply and demand	Nett Increase in Number of Villas & Apartments required (post-2023)	
2023	1957	0	
2028	2391	434	
2033	2782	825	
2038	3259	1302	
2043	3526	1569	
2048	3983	2026	
2053 <sup>16</sup>	4182	2225	

Table 2 : Forward-projected demand for Retirement Village Villas & Apartments (based on med-high projections)

What the results show is that over the next 30 years, to 2053, if all other things remain equal, we can expect there to be demand for approximately 2,225 more retirement villas and apartments to be built within new and existing retirement villages. If so, this will equate to the building of an average of 74 units per year or roughly 13% of all future projected housing development in the Heretaunga Plains area over the next 30 years<sup>17</sup>).

This prediction is, however, likely to be conservative insofar as it assumes that the proportion of the population that chooses to move to a retirement village will remain constant over time. In this case we have assumed that these will generally be people in the 75+ age group and that, within this demographic, about 18% of people (the same as now) will typically make the move. But as retirement villages continue to improve in terms of, for example, the range of facilities they have to offer, and as the community at large becomes increasingly aware of the potential attractions of the lifestyle – away from past stereotypes – then it is entirely conceivable that an ever-growing percentage of people over the age of 75, as well as younger retirees (70 to 75), will begin to look on this as a desirable lifestyle choice. The emergence of so-called 'lifestyle villages', with potentially lower minimum ages of entry (and slightly younger image), could expand that demographic even further.

Note also that these projections also do not explicitly take account of any existing un-met demand for retirement village housing. This is hard to estimate but what we do know is that presently all retirement village units are being taken up more-or-less as quickly as they are being built and that even in the current housing down-turn there is a continuing high interest from intending buyers.

<sup>&</sup>lt;sup>16</sup> The figures for 2053 have been extrapolated from nation-wide trends. Statistics NZ regional level data projects no further forward than 2048 whereas national trend projections extend as far forward as 2073. We have therefore assumed, for the last 5 years of the projection in this table that the regional (Napier/Hastings) trend follows the national trend.
<sup>17</sup> Assuming a total future increase of 17,200 more residential units over the same period, as predicted in the M.E. Consulting

<sup>&</sup>lt;sup>17</sup> Assuming a total future increase of 17,200 more residential units over the same period, as predicted in the M.E. Consulting report: *Housing Development Capacity Assessment 2021*.

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Allowing for these two factors (namely: anticipation of a growing general interest in retirement village living over time and existing un-met demand) we believe that another 10% could easily be added to these projections. If so then the total future demand over the next 30 years would fall more in the region of **2,450** future villas and apartments – equating to the construction of roughly 80 new retirement village units per annum over that period.

A potential constraint on this growth, other than land availability, may be the ability of people to sell their existing family home in order to free up funds to buy into a village. We have mentioned earlier in this report that it is likely that the difference in price between a large older home and a smaller (but newer) retirement village unit will probably narrow over time. This will eventually mean that people who are intending to move to a retirement village won't necessarily have as much money left over from the sale of their existing home. For some, this may then influence whether they can afford to move at all.

## 10. Care Beds

Although this report is primarily focused on the future demand for retirement village housing, in the form of villas and apartments, we think it is also useful to consider what the future demand for care-beds will look like. There are, as explained in Section 4 of this report, various levels of rest-home care and it is common for retirement villages to offer these services in addition to independent living-units. This too has implications for village space requirements – both current and future. At present, across all of the retirement villages in the Napier-Hastings area, there are approximately 1,063 such care-beds.

The demand for this type of accommodation and care, like that of villas and apartments, is also certain to grow as the population ages. In fact, because the likelihood of needing rest-home level care increases with advancing age, and because the 'average' age even among the retired age-group is trending upward, the need for such care will rise disproportionately over time.

At the very least we can expect the demand for care-beds to follow the same pattern of increase as that for the over-75's (i.e. more or less doubling between now and 2053). That would keep the number of villagebased care-beds in about the same proportion to the number of regular housing units as exists now. But in all probability it will grow faster than this as we see even greater increases in the older age brackets (for example a trebling in the number of people aged 90+). It is in these still-older age-groups that the main demand for care-beds actually occurs.

The larger uncertainty is that ultimately it will be up to the retirement villages themselves to decide just how far they want to go into the provision of care-beds in the future. Even at present there are significant differences from village to village in the number of care beds that they maintain – both numerically and in proportion to the number of regular independent-living units. At least one major village in the local area has no care beds at all. Problems with finding and retaining qualified nursing staff is also currently impacting on existing services and may similarly be factored into future plans and provisioning.

If we put these uncertainties aside, however, we can at least get an idea of what the future demand for these services and associated care-beds will look like. To do this we have taken the number of existing beds and projected forward in line with the growing demographic. But for this exercise we have assumed a growth trajectory that mirrors that of the 85+ (rather than 75+) age group. This is on the basis that rest-home level care is more likely to be relevant to people in the slightly older bracket. The results are as presented in Table 3, below:

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Year	No. of Care Beds (all types) required in future to maintain existing balance of supply and demand	Nett Increase in Number of Care Beds Required (post-2023)				
2023	1063	0				
2028	1314	251				
2033	1734	671				
2038	2158	1095				
2043	2497	1434				
2048	2991	1928				
2053 <sup>18</sup>	3320	2257				

#### Table 3 : Forward-projected demand for on-site care-beds (based on medium-high projections)

What the table shows is that in order to just maintain the existing balance of supply and demand for village-based care beds there will be a need for about another 2,257 care beds over the next 30 years. This this would equate to a tripling (specifically a 212% increase) in the number care-beds of compared with the number of beds in retirement villages in the study area at the present time. Interestingly, this projected total demand is similar to that for conventional units (where we have predicted a demand for 2,225 – 2,450 more villas and apartments), despite starting from a smaller base.

What is revealed here is the extent to which the aging-within-aging of the population affects these results. The figures in Table 3, above, are derived from growth projection trends for the over-85 population. Had the trend merely followed the forecast pattern of growth in the 75+ population the calculated total future demand for care-beds would be about half this amount (approximately 1,209). This illustrates the compounding issues of elderly care over the next 30 years and beyond.

As we have said: we cannot be certain that retirement villages of the future in the Heretaunga Plains area will actually provide this number of care-beds. That will be, for them, a business decision. But what the figures clearly illustrate is that this will be an area of growing need.

Fortunately, in terms of land requirements, most of the modern retirement villages tend to accommodate rest-home and hospital-level units within multi-level buildings where the different levels of the building can also provide space for apartment living and often a community centre on the ground floor.

The overall ground footprint and land requirement therefore may not be substantially changed by greater or lesser provision for care-beds. It does, however, illustrate that villages of the future will be looking to build up as well as out. We have assumed that this will be the case and that the growing demand for carebeds (if indeed that demand is actually met by retirement village providers) will not, therefore, impact on overall land requirement projections.

<sup>&</sup>lt;sup>18</sup> The figures for 2053 have been extrapolated from nation-wide trends. Statistics NZ regional level data projects no further forward than 2048 whereas national trend projections extend as far forward as 2073. We have therefore assumed, for the last 5 years of the projection in this table that the regional (Napier/Hastings) trend follows the national trend.

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## **11. Future Land Requirements**

From the preceding analysis we have concluded that between now and 2053 there will be demand for at least another 2,225, and more likely 2,450, retirement village units in the form of villas and apartments. There will also be significant growth in the demand for on-site care-beds but we assume that these will be largely accommodated within multi-level buildings that are shared with apartments and general community facilities (i.e. building up instead of out).

The average building density for these types of villages in the local area is currently around 25 units per hectare although 'actual' densities vary and can reach up to 37 units per hectare with closer placement of villas and a greater use of apartments. These stated densities are inclusive of associated offices, care-units, community facilities such as common-rooms, pools etc, care-facilities and internal roads.

If the current average density of 25 units/ha is assumed for all future development then that implies that between 90 and 98 hectares of land will be needed to accommodate the future growth in demand for retirement village housing in the Heretaunga Plains area. If, however, densities of around 37 units/ha are able to be achieved then the total land requirement would drop to between 60 and 66 hectares.

Each future village is likely to contain between 150 and 250 villas and apartments. These numbers correspond with the range of sizes of recently-built retirement villages and/or currently under construction. We assume, however, that the finished size of any given village will to a large extent depend on what land is available at a given site. Villages of 150 units (plus care-beds) are probably now about the minimum size for the larger corporate providers while villages of 250 or so units are probably considered 'optimal'.

If so, what this means is that over the 30 year projection period we can expect between 9 and 16 (median of 12) new retirement villages to appear in the Heretaunga Plains area and that this will equate, on average, to one new retirement village being built about once every two-and-half years. Each of these villages will require a single parcel (or combined adjoining parcels) of between 6 and 10 hectares. This is, again, consistent with recent developments but will vary depending on what land is physically available.

The efficiencies that are achieved in the use of this land will, as mentioned, depend on the extent to which retirement villages of the future are able to increase overall housing densities without unduly compromising on the quality of the village environment – particularly through the use of apartments – and it is interesting in this respect to look back on the way in which apartments have indeed become a more and more accepted part of the make-up of retirement villages in the local area. Earlier villages had no apartments whatsoever. The latest Ryman village in Havelock North (James Wattie Village), once completed, will have 103 villas and a total of 122 either regular or serviced apartments (in addition to care beds). This number and relative proportion of apartments would not have been conceivable for the Napier-Hastings area ten or twenty years ago.

We are yet to see 'apartment-only' retirement villages in this region, as there are in Auckland and other larger centres, but that may be just a matter of time. The most recent developments and the overall trends meanwhile suggest that people are becoming more accustomed to this form of living and that it is likely to become an enduring feature for future villages in the local scene.

Allowing for the continuation of this trend we predict that the 'most likely' future demand for land for retirement villages will fall somewhere in the middle of the estimated range, at approximately **82 hectares**. This will equate to an average future density of around 30 units (villas and apartments) per hectare, or roughly one unit per 333m2 of land, inclusive of internal roading and associated facilities. Compared with conventional housing subdivisions, this will continue to be a relatively efficient use of land.

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## **12. Siting Requirements & Preferences**

The first siting requirement for any future retirement village will simply be the availability of a sufficiently large continuous block of land that is either already suitably zoned or able to be re-zoned or consented.

To illustrate: the table below shows the land areas for the main private retirement villages mainly built within the last 30 years (or still under construction). Note that most of these villages – all except Summerset in the Orchard – also include some form of care facility.

	No. of villas /	No. of Care	
Village	apartments	Beds	Land Area (Ha)
Atawhai (Oceania, Taradale)	46	82	3.25
Princess Alexandra (Ryman, Ahuriri)	72	110	2.4
Summerset in the Bay (Greenmeadows)	118	68	5.5
Summerset in the Orchard (Ada Street)	151	0	6.5
Gracelands Village (Oceania) Pakowhai Rd	69	92	5.6
Summerset in the Vines (Te Mata Road)	190	42	5.2
Summerset Palms (Te Awa)	241	100	9.0
BUPA Willowbank Village (Napier)	166	56	5.0
Ryman James Wattie Village, H Nth	225	90	6.01
Mary Doyle, Karanema Drive, H Nth	272	158	13.9

Table 4: Number of villas/apartments, care beds & land area for the larger 'new' retirement villages<sup>19</sup>

The site area for these villages varies between 2.4 and 13.9 hectares, with an average of 6.2 ha (or 5.4 ha if the exceptionally large land area for Mary Doyle is excluded).

Properties of this size are most likely to be found in greenfield areas where land purchase requires dealing (ideally) with only one or two existing landowners and where there are relatively few pre-existing buildings. Existing houses are unlikely to be utilised (unlike in a conventional residential subdivision). Rather, they will simply add to the cost of purchase of the land and would need to be moved off to create a clear site. Brownfield sites are therefore 'possible' but unlikely to provide the total amount of space required for a village, at reasonable cost, and without having to first clear the site of existing buildings.

Brownfield development may, however, become more of an option in the future as people learn to accept and embrace multi-level apartment living. We are still some way from this in terms of local acceptance but the trend toward a greater use of apartments in existing villages and the example of what has been achieved in other larger urban centres may eventually point the way. Such apartment complexes would, however, need to be somewhere of social/cultural interest, where there are 'things going on', where they will fit into an existing urban landscape that is compatible with multi-storey housing, and where there is access to nearby open space.

Retirement village developers are likely to prefer a site that is close to an existing population of people of retirement age who are not yet well serviced with retirement village options. This is on the basis that people who move to a retirement village tend to be predominantly from the local area. As a general rule,

<sup>&</sup>lt;sup>19</sup> Summerset Palms, BUPA Willowbank and Ryman James Wattie are all still under construction. The stated numbers of units and care-beds for each of these villages are the numbers that will exist on completion.

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in the experience of retirement village providers, about 90% of residents in any given retirement village are likely to have originated from within 15 to 20 kilometres of the village. Hence, in the FDS study area, people from Napier, Hastings and Havelock North tend to gravitate to a retirement village within their home town, and often (if the choice is available) within their home suburb. The reason is that this is where their friends are; their familiar shops and medical services are, and often where extended family live. They don't want to move from the area. They just want housing that is better suited to their changing needs, with company around them.

Other considerations will include the actual or perceived security of an area. Security is often cited as a high priority for older people and one of the main motivations, especially for women, in moving to a retirement village. Retirement village developers will therefore strive to ensure that they can provide such an environment and are likely to avoid places of perceived risk.

A site that is reasonably quiet will also be preferred – although this is not to suggest that complete silence is necessary, or even desirable. Retirement villages next door to pre-schools or primary schools, for example, can make for a compatible match. In some overseas retirement villages there have been instances of deliberate co-siting with pre-schools (even building a pre-school within the village)<sup>20</sup>. This brings a little more life into a village and, for the pre-school, often provides a ready supply of willing volunteer helpers. Therefore, although retirement villages ideally want peace and quiet, they also recognise the value of activity going on around the village that residents can be part of.

Sites on level ground are usually preferred, for ease of mobility, although examples exist of retirement villages elsewhere in the country (notably Wellington) where it has been shown that, with some thought, hill developments can still be done.

Other features that may be looked for in siting a village include proximity to bus routes and shopping, although the requirement for a large land area to site a village (generally only found on the urban periphery) will in many cases preclude walking access to shops in the suburban shopping areas or inner city. This is not usually a major impediment as many residents are likely to still have their own cars, or be able to catch a bus or taxi, or make use of a village shuttle-van, but nevertheless having shops or a café in the vicinity can provide reason and opportunity for a walked outing.

Incompatible neighbouring activities would be anything involving loud banging (industrial-type) noises or anything that is perceived as compromising security for elderly people. That includes personal security when immediately outside the village, on the street (for example, in walking to the shops, or for exercise). In all other respects siting requirements will mostly be no different from conventional residential subdivision.

<sup>&</sup>lt;sup>20</sup> *Pers. comm.* From interview with retirement village provider.

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## **13.** Implications for Future Land-use Planning

In this report we are predicting a future demand for at least 2,225 (and more likely 2,450) new retirement village dwelling units (villas and/or apartments) and potentially 2,257 more village-based care-beds over the next 30 years. This will equate to about 80 new villas and apartments per annum and/or one entire new village of 200 dwelling-units occupying at least 6 hectares being constructed every two-and-half years.

This on-going growth in the demand for retirement villages will present some challenges. In particular, villages by their nature require relatively large continuous land-holdings and suitable properties of this size (6 hectares or greater) are almost certainly going to require the development of greenfield sites. This in turn raises issues in respect of the use of productive agricultural land as well as potential limitations of existing infrastructure servicing.

There are, however, also some positives. The most significant among these is that modern retirement villages are generally able to achieve particularly high housing densities. Existing village developments typically have gross densities of around 25 units to the hectare and more recent developments are achieving densities of up to 37 units per hectare, inclusive of internal roading, care centres and other facilities – with good results. These densities would be hard to match with conventional subdivision and therefore represent a comparatively efficient use of greenfield space.

Retirement villages are also providing precisely the type of housing that will be mostly in demand in the Heretaunga Plains area over the projection period. The 2021 *Housing Development Capacity Assessment* predicts that during this time period one-person and couple-only households will, between them, represent the equivalent of about 80% of all future demand.

The other positive is that, in most cases, retirement villages are also effectively providing housing for people in rest-home or hospital-level care. Ratios vary, but across all of the local major retirement villages as a whole there is the equivalent of about one person in an on-site care facility for every two independent living units. Even though these people are not living in conventional 'housing' they are nevertheless being accommodated and potentially freeing-up living-spaces elsewhere, such as existing family homes.

The further advantage is that retirement villages are generally professionally planned and laid-out and landscaped to achieve pleasant living environments, notwithstanding the relatively high housing densities. They also tend to have a high level of on-going care and maintenance.

Overall, therefore, while catering to the growing future demand for retirement villages would necessitate the development of greenfield space, and with that the loss of productive land, it must also be acknowledged that developments of this nature represent one of the more efficient uses of such space in situations where, to accommodate future urban expansion more generally, greenfield development must necessarily occur.

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## 14. Comparison with Previous (2016) Findings

The findings of this report differ from the results of the earlier (2016) retirement village housing study prepared for the Heretaunga Plains Urban Development Strategy in some key areas. In particular, both the total predicted number of future retirement housing units and the total future land area requirement have been reduced.

Specifically: In 2016 we predicted that there would be a demand for 3,340 more retirement village units over the 30-year projection period, requiring 100 - 150 ha, whereas in the current report we are predicting 2,450 units on an estimated 60 - 98 (assume 82) hectares of land.

These differences mostly stem from the fact that in the present study we are no longer assuming that there will be any material growth in the number of rent-based retirement villages and that all future growth will instead be largely confined to villages built on the license-to-occupy and unit-title models. Rentals make up about 27% of the existing retirement village housing stock but we have observed that, because of the unfavourable economics of building and maintaining this type of housing, there have been virtually no 'new' rent-based villages built in nearly 40 years. We do not see that situation changing, despite the high demand from end-users, and conclude that any future pensioner rental housing will instead be built as dispersed developments in the nature of general housing rather than necessarily in 'village' form.

This does not mean that the end-user demand for rent-based villages goes away. It is just that current economics do not enable these types of villages to be readily built. This contrasts with villages built on the financially-successful license-to-occupy or unit-title system where end-users actually buy their unit or a lifetime occupation right.

The effect of excluding rent-based villages from our projections has been to reduce by nearly a third our overall forecast for the growth in retirement villages compared with if rental villages were included and assumed to follow the same building trend.

Another influence on our projections has been evidence of a shift toward higher housing densities, particularly through the greater use of apartments and the greater buyer-acceptance of apartments, in the some of the more recent villages. Therefore, although we still regard 25 units/hectare as a typical average density, the newer villages, with a greater percentage of apartments, are achieving up to 37 units/hectare and we believe that there is scope for this pattern to continue.

Our results have also been influenced in part by slightly different statistics packages from Stats NZ. For the 2016 study we mainly relied on nation-wide age-demographic projection data for trend patterns because the national-level data tends to cover longer projection periods. For the current study we have used a combination of national and district-level data. We find in doing so that the Napier-Hastings population has a slightly younger age profile compared with that of the NZ population as a whole. The future aging trend, while still significant, is therefore not quite as rapid as that obtained from projections based on the national level figures.

Finally, it will be observed that in the current versus 2016 reports there are differences in the predicted extent to which retirement village housing will constitute a percentage of all future housing over the next 30 years. In the 2016 report this was expected to account for up to 30 - 40% of all future housing whereas in the current report we have revised this to 13%. The differences stem from an increase in the projected level of total housing (10,610 in 2016 versus 17,200 now, in the 2022 M.E. Consulting report) combined with the now-revised retirement village housing projection figures described above.

Appendix A : Summary Tables
	Villas & apartments	Care beds	Rentals	Land Area (ha)	Density per ha (incl care beds)	Density (excluding care beds)
Napier						
Atawhai (Oceania, Taradale)	46	82		3.25	39	14
Princess Alexandra (Ryman, Ahuriri)	72	110		2.4	76	30
Summerset in the Bay (Merlot Place, Greenmeadows)	118	68		5.5	34	21
Summerset Palms	240	100		9	38	27
BUPA Willowbank Village	166	56		8	28	21
Riversdale Village (formerly Anglican Care)	57			2	29	29
St Luke's Village (formerly Anglican Care) now Heritage Lifecare	13			0.33	39	39
Masonic Trust (Taradale Village, Devonshire						
Place)	18	68		2.4	36	8
Masonic Trust (70 Kensington Drive) Masonic Trust (Mission View : 190 Avondale	35			1.6	22	22
Rd)	26			0.97	27	27
Masonic Trust (Knightsbridge, 17 Balmoral St)	36			1.55	23	23
Masonic Trust (Scinde: McVay Street)	15			1.6	9	9
Masonic Trust (Waiohiki : 37 Meeanee Road)	10			0.25	40	40
Masonic Trust (Elborne St Flats, 6 Elborne St)	5			0.1	50	50
Mason Trust Elmwood House (44 Nelson Cres)	0	39		0.26	150	0
Masonic Trust (Morris Spence)			51	0.86	59	59
Masonic Trust (7 Holyrood St, Greenmeadows			15	0.16	94	94
Napier City Council (for 60+ and low income only)						
Hastings/Munro St retirement village (465 Hastings St)			4	0.13	31	31
Henry Charles retirement village (Henry Charles Cres)			80	3.3	24	24
Oriel Place Village (20 Oriel Place)			20	0.37	54	54
Otatara Retirement Village (14 Peddie St)			12	0.4	30	30
Centennial Retirement Village (11 Oxford St)			40	1.51	26	26
Rangi Marie Retirement Village (26 Puketapu Rd)			16	0.4	40	40
Arthur Richards Village (22a Lancaster St)			50	1.24	40	40
Coventry Avenue Village (55 Coventry Ave)			31	0.64	48	48
Greenmeadows East Village (83 Tait Drive)			50	1.93	26	26
Wellesley Place (37 Wellesley Road)			28	0.61	46	46
Other NCC			42			

### Summary of Existing Retirement Village Accommodation in the FDS Study Area

	Villas &				Density per ha	Density (excluding care
	apartments	Care beds	Rentals	Land Area (ha)	(incl care beds)	beds)
Hastings						
Summerset in the Orchard (Ada Street)	151	0		6.5	23	23
Road	69	92		5.6	29	12
Eversley Village (Oceania) 400 Cornwall Road	4	50		0.85	64	5
Frimley Retirement Village	66			2.8	21	21
Masonic Trust Raureka Village (Gordon Road)	35			1.43	24	24
Masonic Trust Mayfair Flats (249 Mayfair Ave)			8	0.24	33	33
Masonic Trust Lumsden Court (119 Lumsden Rd)	18		8	0.6	43	43
Masonic Trust Windsor Villas (Symon St)	13			0.42	31	31
Masonic Trust Willowpark (1005 Willowpark Rd)	12			0.43	28	28
Hastings District Council (for 55 yrs and over)						
Cambridge Court (710a Jervois St)			23	0.71	32	32
Cameron Court (605 Frederick St)			10	0.18	56	56
Elm Grove (505 Southampton St)			25	0.58	43	43
Kereru Heights (304 Takapu Rd)			25	0.62	40	40
Oakleigh Downs (612 Grove Rd)			16	0.48	33	33
Parkhaven Village (510 Park Road South)			29	0.53	55	55
Swansea Village (17 Swansea Rd, Flaxmere)			64	1.42	45	45
Tui Vale (312 Tui Place)			22	0.43	51	51
Havelock North						
Summerset in the Vines (249 Te Mata Road)	190	42		5.2	45	37
Ryman James Wattie Village	225	90		6.01	52	37
Mary Doyle, Karanema Drive	272	158		13.9	31	20
Waiapu House, 10 Danvers Street (formerly Anglican Care)	33	42		1.97	38	17
St Luke's Close, Te Mata Road (formerly Anglican Care)	12			0.34	35	35
Duart House (Oceania) 36 Duart Road		66		0.76	87	0
Masonic Trust (Allan Graham) 30 Te Aute Road			8	0.21	38	38
Hastings District Council (for 55 years & older)						
Anderson Park Close (26 Lipscombe Cres)			6	0.14	43	43
Totals & Averages	1957	1063	683	103 11	36	26

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# Business Land Capacity Assessment

Urban environments: Hastings District and Napier City

September 2022



## Prepared for



### **FINAL**

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# **Executive Summary**

Napier and Hastings are the two main economic centres of the Hawke's Bay region. Under the National Policy Statement for Urban Development (NPS-UD), the Councils have to assess the availability of business land to ensure that there is sufficient capacity to support, and enable economic functioning. The Councils have engaged Market Economics (M.E.) to assist them with the Business Capacity Assessment (BCA). M.E. have developed modelling capability that is used by Councils to understand the economic growth outlook, and this informs the business capacity assessments, and the business land planning elements. The business land assessment is based on different growth scenarios that form the building blocks of the business land assessment. The outlook (scenarios) report high-level projection for the two Council's over the short (2021-2024), medium (2024-2031), and long term (2031-2051). The scenarios show the economic growth in Value Added and employment terms. In turn, the change in employment is then linked to changes in business land use requirements. As with all models, there are several limitations and caveats that should be kept in mind when using the results.

### Economic Situation and Outlook

### Napier

The base economic outlook for Napier suggests that the employment will change as follows:

- Short term (3 year), 1,520 MECs<sup>1</sup>,
  Medium term (next 7 years), 3,270 MECs,
  Long term (next 20 years), 9,480 MECs, and
- Total shift (over 30 years)
   14,270 MECs.

The sectoral distribution of employment is expected to remain stable over the next 30 years. However,

there are core trends to consider as part of the land and capacity planning process. Sectors that will see the most employment growth in absolute terms over the long term are:

•	Professional services	2,140 MECs,
•	Retail trade	1,610 MECs, and
•	Health care and social assistance	1,610 MECs.

The base scenario takes a conservative position, and high(er) growth pathway is included to show the upper threshold of stronger growth. The stronger growth pathway reflects higher population projections, as well as improved export performance with a performance premium across all exports. The modelling suggests that the difference between two scenarios is 1,320 MECs over the assessment period.

### Hastings

Looking forward, the shift in employment in Hastings is estimated as follows:

• Short term (3 year), 2,200 MECs,

 $<sup>^{1}</sup>$  MEC or modified employee count is a measure of employment and it includes a headcount of employees, as well as working proprietors.



•	Medium term (next 7 years),	4,5

Long term (next 20 years),

Total shift (over 30 years)

4,530 MECs, 11,340 MECs, and **18,070 MECs.** 

The primary sector (which includes agriculture) is the largest employer, engaging 10,710 MECs (2021), equal to one fifth of total employment. This reflects the high quality of local soils, and the favourable climate which supports horticulture activities. The district also shows high proportions of employment in:

- Professional services 6,630 MECs (13%),
- Manufacturing
   6,460 MECs (12%), and
- Health care and social assistance 6,180 MECs (12%).

In terms of the growth trends, the local economies saw flat employment over the decade to 2006-2016. However, the past 5 years or so have seen strong growth. These cyclical movements add complexity to estimating outlook because recent trends have been very strong, and the Covid-pandemic and the recent tightening of the business cycle add are resulting in unique growth conditions. From a planning perspective, the uncertainties mean that the actual development trends and land uptake will need to be carefully monitored.

The growth outlook integrates information and insights received during engagements with a selection of local businesspeople, and the local economic development practitioners. The insights were combined with recent economic commentary around the state of the economy. Broad indications are that the economic outlook in both Napier and Hastings remain positive, but there are growth challenges. Some challenges are existing, and others are emerging.

### LAND AND FLOORSPACE DEMAND

Land demand is a function of economic growth. At the core, the approach starts with employment estimates, and then translates these into land and floorspace requirements. Three core categories were defined:

- **Industrial**: This covers heavy and light industrial activities, with the type and nature of emissions into the wider environment normally driving the difference.
- Commercial: The commercial spaces generally relate to office activities and public administration.
- **Retail**: This captures all forms of retail activity and retail-based services such as repairs and maintenance of household goods, hairdressing, and other personal services plus categories of commercial activity including real estate agencies, dentists, and optometrists.

The categories are discussed individually.

### Industrial - Demand

In Napier, demand for industrial land, over the long term (in total) is estimated at 47.0ha. Most of the industrial land demand is expected to be in the Main Industrial zone, with this zone accounting for 70% of



demand. Importantly the distribution of demand across the zones is a function of currently occupied land by different economic sectors.<sup>2</sup>

As outlined in the NPSUD Part 3 (in 3.26), Councils are required to include a competitiveness margin. Adding the competitiveness margin across the different timeframes lifts the additional area to include in the assessment by between 7.9ha and 9.3ha over the assessment period.

Based on historical building consent information, the annual average demand levels in Napier have been relatively stable (between 1.3ha and 1.8ha). However, 2021 was an exceptionally strong year in terms of industrial building activity.

Zone	3Y	7Y	20Y	SUM
Main Industrial	3.4	7.8	22.0	33.2
Business Park Zone	0.4	0.8	1.9	3.1
Airport Zone	0.4	1.0	2.8	4.2
Deferred Airport Zone	0.0	0.0	0.1	0.1
Suburban Industrial Zone	0.1	0.3	0.8	1.2
Mixed Use and West Quay Waterfront Zones	0.5	1.1	3.0	4.6
Port and Marine Zones	0.0	0.0	0.2	0.2
Wastewater Treatment Zone	0.0	0.1	0.2	0.4
SUM	4.9	11.1	31.0	47.0
Average per year (sum divided by number of years)	1.6	1.6	1.6	

#### Napier: Industrial Land Demand - (ha)

Hastings: Industrial Land Demand - (ha)

Zone	3Y	7Y	20Y	SUM
General Industrial	10.9	25.7	58.2	94.8
Tomoana Food Industry	0.2	0.5	1.3	2.0
Havelock North Village: Industrial and Business	0.2	0.5	1.0	1.6
Light Industrial	0.7	1.6	3.9	6.2
Whirinaki Industrial	2.1	4.5	9.4	16.1
Deferred General Industrial	-	-	-	-
SUM	14.1	32.7	73.9	120.7
Annual Average	4.7	4.7	3.7	

Over the long term (30 years) the total demand for industrial land across Hastings, is estimated at 120.7 hectares. More than three quarters (79%) of this is expected within the General Industrial zone, with this share remaining fairly stable over the different timeframes, but this is subject to the availability of land as well as the supporting infrastructure. Adding the competitiveness margin, lifts demand by between 20.4ha and 25.4ha over the assessment period.

Historic building consent data shows average annual demand for industrial floor space. The analysis revealed that industrial land required across Hastings industrial zones over the past 16 years, ranges from 4.5 to 6.0 hectares, but there are large variations and sensitivities.

<sup>&</sup>lt;sup>2</sup> The Councils classified the local businesses to economic sectors (ANZSIC)



#### **Commercial and Retail**

Demand for retail and commercial floor is reported individually, and at a total level by using Gross Floor Area (GFA) as metric. These two categories (sector groups) cover large parts of the services economy, but there is an 'other' category that is also report. The different categories are combined, because the planning provisions, and local spatial patterns, suggest a high degree of spatial integration. The following tables highlight the demand outlook of Napier and Hastings.

In Napier, the combined demand (over the assessment period) for commercial, retail and other floor space across is estimated at 21.4ha. In Hastings, the demand is estimated at approximately 13ha to accommodate employment growth typically located in retail and commercial zones.

### Floor Space Demand in Napier (excl. Industrial) - Medium Outlook (ha)

		ŀ	la	
	Commercial	Retail	Other	SUM
3 YEARS				
SUM	1.1	0.4	1.0	2.5
Annual Average	0.4	0.1	0.3	0.8
7 YEARS				
SUM	2.5	0.9	2.1	5.5
Annual Average	0.4	0.1	0.3	0.8
20 YEARS				
SUM	6.1	1.9	5.4	13.4
Annual Average	0.3	0.1	0.3	0.7

### Additional Floor Space Demand (excl. Industrial) in Hastings - Medium Outlook (ha)

	Commercial	Retail	Other	SUM
3 YEARS		F	la	
SUM	0.7	0.3	0.7	1.7
Annual Average	0.2	0.1	0.2	0.6
7 YEARS				
SUM	1.5	0.5	1.5	3.5
Annual Average	0.2	0.1	0.2	0.5
20 YEARS				
SUM	3.4	0.8	3.9	8.0
Annual Average	0.2	0.0	0.2	0.4

### PLAN ENABLED CAPACITY

Using Council information, the analysis suggests that available industrial capacity across the two areas (and in the urban areas, so excluding the rural areas) is:



- **Napier** 62ha currently available and another 10ha becoming available over the medium term, followed by a further 30ha over the long term.
- **Hastings** District 207ha currently available, with another 50ha available to accommodate future growth (especially around the Tomoana food hub location) over the long term.

In Napier, the capacity is concentrated in the Deferred Airport Zone (42ha) and, the main industrial zone across Pandora, Awatoto and Onekawa account for a quarter of the available capacity. In Hastings, the industrial capacity is spread over Irongate, Omahu Road, and Whakatu. Combined, these three areas have 195ha area.

Plan enabled capacity for retail and commercial areas is more nuanced, because a vertical element applies. PEC for the commercial and retail zones is reported in terms of floor space, segmented by:

- Vacant Capacity refers to bare land in the relevant zones.
- *Net additional Redevelopment Capacity* refers to the additional capacity that can theoretically be added to the existing floor space by redeveloping the parcel up to the maximum under plan provisions.
- Unoccupied Capacity refers to the floor space reported by the property review as being unoccupied at the time of the survey<sup>3</sup>.

The modelling suggests that in **Napier**, 127ha of floor space could be developed within the provisions of the operative City Plan, across the commercial and retail zones. The net additional redevelopment capacity accounts for almost three quarters (84%) of the plan enabled capacity. Excluding this component, leaves approximately 20ha of floor space to accommodate growth.

The analysis suggests that across **Hastings**, around 87.2ha GFA could be developed within the provisions of the ODP. In Hastings, zones with the greatest estimated GFA capacity are:

- Central Commercial 45.8ha,
- Commercial Service 12.6ha, and
- Large Format Retail 10.9ha.

The net additional redevelopment capacity (82.5ha) account for nearly all (95%) of plan enabled capacity in Hastings. Excluding this, suggests that only 4.6ha of floor space is available to accommodate future growth in these zones.

### Infrastructure Ready Capacity

The NPSUD requires the available capacity to be assessed in terms of infrastructure readiness, and infrastructure availability (to support development). Water infrastructure as well as the availability of water for use are known issues in the Napier and Hastings contexts. The team engaged with the councils' infrastructure teams to ascertain the degree to which additional development could be accommodated in industrial areas. Similar information was not available across the commercial and retail zones. Additional work is needed to develop a firm understanding of the infrastructure availability and/or deficits.

<sup>&</sup>lt;sup>3</sup> This information was only available for Hastings urban area and was provided by Logan Stone Ltd.



#### Sufficiency Assessment

The sufficiency assessment integrates the demand outlook and the supply (capacity assessments). It includes the competitiveness margin as stipulated by the NPSUD. The forward-looking demand is based on broad, trend-growth continuing and that the recent (very) strong lift in activity over the recent past will be tempered over the short and medium term. For the short-term outlook, the growth is expected to be tempered by rising interest rates, supply chain constraints, declining confidence levels and global geopolitical uncertainties. These uncertainties are factored into the assessment and the short-term outlook, and growth pathway over the next 3-5 years. Based on historic trends, a rebound could be expected after a slowdown, and we strongly advise the Councils to continue to monitor development activity over the short-medium timeframe.

The sufficiency assessment revealed that:

- Napier
  - At a city-wide level, there is sufficient industrial (plan enabled) capacity to accommodate the growth (demand). This allows for a transfer/relocation of demand from zones without capacity to other zones with capacity. A critical assumption is that the Deferred Airport zone will be available for development<sup>4</sup>. The sufficiency assessment returns materially different outcomes if this piece of land is excluded.
  - In terms of the commercial and retail capacity, if only the vacant land is considered, then capacity constraints emerge over the long term. However there is considerable redevelopment capacity (vertical development) that could assist in addressing shortfalls. If around 10% of the redevelopment capacity is taken up, then there would be sufficient capacity to accommodate the growth.
  - Importantly, around 60% of vacant capacity is in the Large Format Retail zone. Considering the nature of this land use, its location and the relationship with other activities (e.g. commercial and retail), means that this zone's vacant capacity is masking the true available capacity. Excluding this vacant capacity (i.e., retaining it for LFR-type development) shows that 21% of redevelopment capacity needs to be taken up otherwise there will be adverse effects on the commercial and retail environments (the spatial distribution of growth patterns will also need to factor into the monitoring).

#### Hastings

- At a district-wide, level there is sufficient industrial (plan enabled) capacity to accommodate the employment growth (demand) even if higher than expected growth eventuates. However, this would need to be viewed against infrastructure readiness as well as other considerations like water availability (ability to secure consents).
- At a finer zone level, there are capacity constraints. The short to medium growth patterns and uptake of land demand would need to be monitored to ensure that above trend growth is identified. The analysis suggests that above trend growth over the short term will put pressure on the land supply over medium and long term.

<sup>&</sup>lt;sup>4</sup> Based on capacity information supplied by Napier City Council.



- There is sufficient commercial and retail plan enabled GFA (vacant capacity) over the short term (including the competitiveness margin), but shortfalls emerge over the medium and long term.
- Sensitivity testing showed, ~21% of redevelopment capacity would need to be developed in order to ensure sufficient commercial and retail GFA over the long term (including the competitiveness margin).

The modelling suggests that the Councils have sufficient plan enabled business land capacity to meet the 10-year growth requirements. However, some localised insufficiencies (at a zone level) will appear, and it will be important to monitor the uptake of land to ensure that the subsegments (of demand) are not displaced. The limited information about infrastructure capacity across the different locations, and potential ability to accommodate growth from an infrastructure capacity perspective will need to be addressed through additional work.



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# 1 Introduction

Napier and Hastings are the two major urban areas in Hawke's Bay, located on the east coast of the North Island. These centres have been identified as tier 2 urban environments and are required to complete a Housing and Business Development Capacity Assessment (HBA) according to the 2020 National Policy Statement for Urban Development<sup>5</sup> (NPS-UD). The two Councils (with assistance from Hawke's Bay Regional Council) recently completed the Housing Capacity Assessment (a separate process and report) and this report presents the Business Capacity Assessment (BCA).

Business land is an important part of the local economic landscape, and sufficient and well-located business land is needed to support economic functioning. Business land includes a range of different land uses, but is normally associated with commercial/office, retail and industrial uses. Market Economics (M.E) has been commissioned to assist the Councils with the Business Capacity Assessment (BCA), including:

- the demand analysis,
- the supply analysis, and
- interpreting the results and then drawing conclusions about sufficiency.

This BCA focuses on the development capacity within the urban environments of each council, as required by the NPS-UD.

## 1.1 Objectives and Aim

The National Policy Statement on Urban Development (NPSUD) requires local authorities to ensure there is sufficient housing and business land to meet expected demands over a thirty-year planning horizon. Ensuring that there is sufficient land capacity will support the local market to deliver the required business space. This is key because it contributes to community wellbeing through enabling employment. Assessing sufficiency, i.e., identifying a surplus or deficiency of land capacity is subject to understanding the local growth drivers and dynamics in the local economy. Estimating the supply of, and demand for, business land is completed using a staged assessment process. The process delivers a fine-grained understanding of the economic influences on capacity and demand, and in turn this can contribute to improved planning for growth.

Understanding the local growth drivers, and how the changes manifest in the urban environment is key. The drivers include population trends as well as economic growth. The NPS-UD requires a focus on the urban environment, meaning that the nearby peri-urban and rural areas are not a focus. However, the economic modelling integrates the linkages between the urban and rural economies.

Within the urban environment, business land also reflects the urban structures of town centres, the role of an efficient transport and infrastructure planning, and how changes could support sustainable growth.

The aim of the BCA is to assist the Councils to achieve compliance with the NPS-UD (see Appendix 1 for a summary of the policy framework). With respect to business land, it requires that local authorities provide (at

 $http://www.mfe.govt.nz/sites/default/files/media/Towns\%20 and \%20 cities/National_Policy_Statement_on_Urban_Development_Capacity_2016-final.pdf$ 



least) sufficient development capacity, to meet expected demand for business land over the short term, medium term, and long term. Therefore, the project seeks to estimate the business land capacity in terms of the NPS-UD requirements i.e. expressed in hectares or floor area with a competitiveness margin added. The capacity analysis must show the development capacity that is:

- plan-enabled; and
- plan-enabled and infrastructure-ready; and
- plan-enabled, infrastructure-ready, and suitable for each business sector.

As tier 2 urban areas, the Councils are required to complete a business<sup>6</sup> capacity assessment every three years. The Housing Assessment (HA) was completed in 2021 with assistance from Barker and Associates and M.E. It is important to note that the BCA is linked to economic performance and outlook, which in turn is influenced by national and international factors. In addition, economic linkages, and the dynamics between sectors must be reflected. Other factors, like the growth drivers and export trends are also key.

Drawing from the request for service (22 December 2021), the following project objectives guided the work programme:

- To develop a model to estimate the demand, supply, and sufficiency of business land over the short, medium, and long terms, and to summarise the findings in a way that would assist the Councils to monitor available capacity (e.g. uptake of capacity), and
- To prepare a concise BCA report, summarising the key aspects of the process, and reporting the results i.e.,
  - o the projected demand for business land,
  - the projected supply of business land in Napier and Hastings.

The BCA draws on existing studies and earlier assessments.

This report does not repeat the policy requirements outlined in the BCA (Subpart 3 clause 3.10, Subpart 5 clause 3.19), together with a range of requirements in the Policies<sup>7</sup>. The different parts all need sound analysis and good supporting information to demonstrate compliance.

### 1.2 Data Sources

The BCA modelling draws on a range of datasets. Some of these were supplied to M.E by the councils, and others are publicly available<sup>8</sup>, and official information<sup>9</sup>. The key sources used in the assessment include:

- Rating databases containing information relating to land uses, development patterns (e.g. floorspace), and value (Capital Value, Improvement Value, Land Value),
- 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 and reports were also incorporated into the modelling, including:
    - o LINZ Primary Parcels<sup>10</sup> capacities were modelled at the LINZ Primary Parcel level
    - District Plan Zoning provided by each council, including overlays, subzones, and natural hazards

<sup>&</sup>lt;sup>6</sup> The housing capacity assessments were completed by M.E and Barkers and Associates in 2021.

<sup>&</sup>lt;sup>7</sup> Available for download from https://environment.govt.nz/assets/Publications/Files/AA-Gazetted-NPSUD-17.07.2020-pdf.pdf

<sup>&</sup>lt;sup>8</sup> Such as media reports and reports commissioned and published by the councils.

<sup>&</sup>lt;sup>9</sup> Like data from StatsNZ

<sup>&</sup>lt;sup>10</sup> https://data.linz.govt.nz/layer/50772-nz-primary-parcels/



- Work completed for the Councils to assess developers and landowners' intentions over the short and medium term,
- Land vacancy register work completed by Councils assessing the potential development capacity and the vacant land that could be developed for business use activities.
- Datasets from StatsNZ and MBIE. These include datasets like the Business Demography Survey which
  outlines the spatial distribution of employment, by sector over time, and population projections, as
  well as regional (Territorial Authority) Gross Domestic Product (GDP) as well as price deflators and
  productivity growth information.
- With reference to the economic outlook (forward looking), Market Economics' in-house models were used to show the potential growth pathways. M.E's Economic Futures Model (EFM) was the primary tool used for this part of the analysis and it was calibrated to recent economic data released by the likes of MBIE and StatsNZ. Appendix 2 introduces the EFM.
- The project process included a high-level survey and industry engagement. A small sample was used (with the respondents identified by the councils) and these businesses were invited to complete the survey. A by-product of using local businesspeople to inform the process is that it gives insight into the local dynamics and perspectives that are then factored into the assessment.
- The councils provided information about the vacant capacity for industrial and commercial areas. This information also included information regarding the greenfield capacity and the associated timing. Work completed for Councils regarding landowners' development intentions (for Hastings) was also considered.

## 1.3 Approach

The BCA was completed using a staged approach (see Figure 1-1) and the different steps are summarised below.

**Step 1: Inception and spatial frameworks:** During the initial project step, the project was set-up and the available information was collected. The spatial frameworks, and other decisions about the projects were made during this stage. The councils have suggested a spatial framework, and this has been used in the overall assessment, with refinements to reflect practical considerations. The planning zones formed the basis for the spatial frameworks.

**Step 2: Economic Outlook:** The second step delivered the economic outlook and described it in terms of the Value Added (like GDP) and employment outlook over time. A scenario approach is used to reflect different growth rates, which are in turn associated with uncertainty. The outlook reports the short, medium and long term development pathways and reports the economic outlook over 30-years, across 48 sectors and in terms of Value Added (like GDP) as well as employment after accounting for productivity.

**Step 3: Business Demand:** The third step dealt with the demand side, using the employment projections developed in Step 2 (Economic Outlook), and associating it with land use patterns based on the current revealed patterns. The spatial distribution of employment, the urban-rural splits and co-location patterns are estimated. While the focus is on the urban environment, this step provides important ratios informing the distribution of growth. Current employment levels (for 2021) were linked to existing zones (and spatial areas) to reflect the existing patterns. The identified spatial framework is applied to reflect the spatial patterns. Local and NZ-wide land-density ratios are applied to convert the estimated employment growth into demand (for land and floor area). The step included an allowance for the competitiveness margins as per the NPS-UD.





**Step 4: Business Capacity (Supply):** The next step related to estimating the business capacity. The approach is designed as a total economy model and considers all sectors concurrently. The NPS-UD indicates that business demand and capacity needs to be evaluated at the location level, so the spatial framework is applicable. The BCA needs to assess whether business zoning (or planned in a PDP or FDS) is sufficient to at least meet long-term demand, when assessed as an integrated whole (i.e., has the plan got the balance broadly right in terms of the allocation of land). The sufficiency is qualified insofar as the capacity needs to be "suitable" (at a minimum include suitability in terms of location and site size. This step delivers the capacity (supply) assessment, in terms of:

- Plan enabled capacity,
- Infrastructure ready capacity, and
- Suitable/feasible capacity (using a multi-criteria assessment structure, MCA).

The results of the sector (developer) engagement are integrated into the capacity assessment as well as the MCA element.

**Step 5: Sufficiency:** The penultimate step covered the sufficiency testing. It compared combinations of different growth outlooks, reported different metrics (land area and floor area), and expressed the demand relative to vacant areas over the short, medium, and long term. Shortfalls and surpluses are identified and highlighted.

**Step 6:** Finalisation and reporting: The project process concluded with documenting the findings and completing the report. Supporting information is included in the appendices.



## 1.4 Limitations and Caveats

As with all models, there are several limitations and caveats that should be kept in mind when using the results and these are outlined below:

- The employment projections cover a long timeframe and there are a number of factors that will change them going forward. They are not 'predictions' but show one potential outcome. It will be necessary to continually refine and update the information (i.e. the base figures and the growth rates) as new information becomes available. This is especially the case for the industrial activities where the post-Covid environment has seen above trend growth and the more recent lift in the economic risks facing NZ. There is considerable uncertainty around the short-term growth pathway.
- The modelling builds on, and uses, existing research and we did not audit, or peer review the existing research.
- The employment projections (and allocation) are based on information about the timing and scale (ha area) of greenfield locations. Changing the time or scale will affect the spatial patterns of employment.
- The modelling incorporates local information sourced from the Council and we have relied on this information on an 'as is basis'.
- A part of the NPSUD compliance requires an assessment of the infrastructure readiness and ability to accommodate growth. Only high-level information about infrastructure capacity, and the ability to accommodate growth was available at the time of this assessment. We understand that the Councils are evaluating/assessing the infrastructure capacity.
- Climate change and the flow-on effects will impact Napier and Hastings. The potential impacts will manifest through extreme weather events (droughts and flooding) that will also impact the local business base. The modelling does not specifically integrate these matters. Councils' potential responses and ways of dealing with the risks/consequences will need to be integrated into future assessments.
- The assessment relies on the information and data received from the Councils. The information includes the rating data, which is a snapshot in time. The economic environment is fluid and the work was delivered over an extended timeframe (due to Covid-related delays and capacity constraints). Therefore, this is potential for some key variables (e.g. land use, improvement values, built floor area, etc.) to be marginally out of date. M.E did not verify the data accuracy.
- With reference to the redevelopment capacity in commercial and retail-type zones, the analysis does not integrate this aspect and additional research is needed to understand the potential implications of the parking requirements on available capacity. In general, if parking is to be provided on-site then there will be a trade-off between the area used for parking and that used as business space (i.e., GFA).



## 1.5 Spatial areas

Napier	Hastings
Main Industrial     Business Park Zone     Airport Zone     Deferred Airport Zone     Suburban Industrial Zone     Mixed Use and West Quay Wa     Port and Marine Zones     Wastewater Treatment Zone     Art Deco Quarter     Fringe Commercial     Suburban Commercial     Foreshore Commercial     Large Format Retail     Mixed Use	
Inner city commercial	Waimarama Suburban Commercial

The following business zones were included in the capacity assessment for Napier and Hastings, respectively (see Figure 1-2).

## 1.6 Report structure

The report is structured as follows:

- Section 2 presents the current economic situation and outlook for the two areas. Summary data is presented for the sectoral outlook. A high growth outlook is also included.
- Section 3 deals with the land and floor space demand and the short, medium and long term outlooks are presented for retail, industrial and commercial sectors.
- Section 4 presents the capacity across the different sectors and commentary regarding the suitability of the zones/locations are included.
- Section 5 combines the previous parts, to estimate the relative sufficiency of capacity. The competitiveness margins are included where appropriate.
- Section 6 concludes the report.



Figure 1-2: Location of zones







# 2 Economic Situation and Outlook

In this section a broad overview of Napier City and Hastings District economy is provided. The structure and make-up of the current economy and broad trends are discussed separately for the two areas, Napier City and Hastings District. The economic outlook, and anticipated sectoral shifts are key building blocks of the business land assessment. The purpose is to provide high level commentary about the recent employment shifts, and to highlight the growth outlook. The uncertainty associated with the Covid-19 recovery pathway and the potential effects of the current inflationary environment are highlighted.

The section deals with Napier and Hastings separately, but it is acknowledged that these two urban areas have economic linkages and form the main economic centres of the Hawke's Bay region. The main trends and movements in the economy over the past two decades are highlighted and the historic patterns inform the growth outlook. It is however important to look through the volatility associated with the Covid-period (i.e., lockdowns and the above-normal activity in the immediate aftermath of the lockdowns).

The NPS-UD requires Councils to understand the growth pressures they are likely to face over the:

- short (2021-2024),
- medium (2024-2031), and
- long term (2031-2051).

The economic growth scenarios are used to estimate Value Added and employment levels, over time. In turn these are translated into Gross Floor Area (GFA) or land area requirements to accommodate the growth (the translation process is presented in the next section).

We have relied on M.E's proprietary model, the Economic Futures Model (EFM)<sup>11</sup>, to generate the economic metrics. Two economic models were developed, one for the Hastings economy, and another for the Napier economy. For both areas the base scenario reflects the medium-high population and a range of assumptions around export, capital formation and productivity growth rates. These assumptions are informed by official and unofficial data. A high growth scenario has included in the assessment (again one for each Council area) to provide an indication of the potential sensitivities (spread of outcomes) with a focus on the long term. The high scenarios use the high population projections for the household aspects (which determine the labour force size). Additionally, the high scenario also increases overall economic activity (e.g., through lifting exports) to reflect a higher growth pathway with the view of showing upside risks. The diverse natures of the two economies were considered in the higher growth pathways and how these were framed. For example, the Hastings economy has as large rural component, and these linkages are integrated by considering the relationships with suppliers, like services to agriculture<sup>12</sup> and higher export performance. The high scenarios necessitated a relaxation of economic constraints around labour availability.

Each area is discussed under separate headings with three sub-sections. These subsections show the current situation and recent trends, the growth outlook, and the variation in outcomes under the higher growth pathway. Employment is used as a core metric and is based on modified employee counts (MEC).<sup>13</sup> The link

<sup>&</sup>lt;sup>11</sup> Introduced in Section 1.

<sup>&</sup>lt;sup>12</sup> These relationships are embedded

<sup>&</sup>lt;sup>13</sup> A Modified Employee Count (MEC) is a headcount of employees and included working proprietors.



between employment levels and land use (or GFA) requirements is well established and is normally used to translate economic growth into land requirements because it is highly transparent process.

## 2.1 Napier City

Napier City is one part of the local economy, and important regional economic assets are located within the City's boundaries. These include Napier Port and the Hawke's Bay Airport. The employment trends and shifts across the different sectors are outlined below. The analysis included a long timeframe overview of the past two decades (to 2001), and different timeframes are used to reveal how different sectors have performed over the business cycle.

### 2.1.1 Current situation and recent trends

Napier City has a workforce of 30,790 MECs in 2021 (Table 2-1). The sectoral distribution is fairly diverse but highlights the role of Napier as an urban centre and its role as a service hub for the wider Hawke's Bay. Since 2001, the workforce of Napier City has grown by 6,100 MECs or 25%. Over half this growth occurred over the last five years with an increase in employment of 3,340 MECs. This was preceded by a 10-year period of flat economic performance (2006-2016), with some sectors declining, and shedding employment. Although, the five years between 2001 and 2006 experienced growth at a level similar to the most recent five years.

Sector	MECs							
Sector	2001	2006	2011	2016	2021			
Primary Sector	1,490	1,710	1,630	1,350	1,560			
Mining and Quarry	-	10	10	20	10			
Manufacturing	3,270	3,160	2,680	2,670	3,000			
Utilities	60	20	200	70	90			
Construction	1,790	2,550	2,310	1,970	2,740			
Wholesale trade	1,120	1,030	930	1,070	970			
Retail Trade	3,210	3,690	3,620	3,110	3,390			
Accommodation and food services	2,070	2,520	2,410	2,370	2,590			
Road transport	1,420	1,400	1,370	1,480	1,720			
Information media and teleco	230	200	160	240	190			
Finance	190	280	320	260	200			
Insurance and funds	260	230	210	180	180			
Rental, hiring and real estate services	710	770	700	610	840			
Professional Services	2,500	2,620	3,370	3,470	3,800			
Government Admin (local and central)	1,160	1,450	1,260	1,540	1,910			
Education and training	1,930	2,060	2,430	2,400	2,620			
Health care and social assistance	1,950	2,190	2,460	2,990	3,260			
Arts, Rec., Personal & Other services	1,330	1,760	1,690	1,640	1,740			
Total	24,690	27,660	27,740	27,450	30,790			

### Table 2-1: Napier City Employment (MECs), 2001-2021

Professional services engage 3,800 MECs (12% of total employment within Napier City). This is the largest concentration of employment (per sector) and is followed by:

- Retail with 3,390 MECs (11%),
- Health care and social assistance with 3,260 MECs (11%),



• Manufacturing with 3,000 MECs (10%).

Combined, these four sectors account for 44% of the City's employment base. Other noteworthy sectors i.e., sectors with more than 8% of the employment, include:

- Construction (2,740 MECs),
- Education and training (2,620), and
- Accommodation and food services (2,590).

These concentrations underscores Napier's urban centre role and meeting the needs of the wider population across the Hawke's Bay and beyond. The concentration in professional services highlight the service-nature of the economy, but the role of manufacturing and population driven activities are also key. The growth in employment confirms this important role. Table 2-2 shows the change in MECs over different timeframes.

Contor	Change in MECs								
Sector	2001-06		2006-11		2011-16	2	2016-21	2001-2021	
Primary Sector	220	-	80	-	280		210	70	
Mining and Quarry	10		-		10	-	10	10	
Manufacturing	- 110	-	490	-	10		330	- 280	
Utilities	- 40		170	-	130		20	30	
Construction	760	-	250	-	330		770	950	
Wholesale trade	- 90	-	90		140	-	100	- 150	
Retail Trade	480	-	70	-	510		280	180	
Accommodation and food services	450	-	110	-	40		220	520	
Road transport	- 20	-	30		110		240	310	
Information media and teleco	- 30	-	40		80	-	50	- 50	
Finance	80		50	-	60	-	60	-	
Insurance and funds	- 20	-	30	-	30		-	- 80	
Rental, hiring and real estate services	60	-	70	-	90		240	130	
Professional Services	120		750		100		330	1,300	
Government Admin (local and central)	300	-	200		290		360	750	
Education and training	140		360	-	20		210	690	
Health care and social assistance	240		270		530		260	1,310	
Arts, Rec., Personal & Other services	430	-	80	-	50		100	410	
Total	2,970		80	-	290		3,340	6,100	

#### Table 2-2: Napier City Employment Changes (MECs), 2001-2021

Health care and social assistance (+1,310 MECs), Professional services (+1,300), and Construction (+950) have seen the largest increases in actual employment since 2001. These three sectors represent 59% of employment growth. Similarly, the sectors that have seen the largest positive percentage change in employment (>50%) are:

٠	Health care and social assistance	+67%,
•	Government admin	+65%,
•	Construction	+53% and,
•	Professional services	+52%.

However, some parts of the economy did not see continued upward momentum and have shed employment. Over the long term (2001-2021) these sectors include manufacturing (-280 MECs), wholesale trade (-150 MECs) as well as insurance (-80 MECs), and information media and telecommunications (-50 MECs). These long-term trends are however influenced by large movements in during the Global Financial Crisis and the



sectors have recovered/seen solid expansion in the short term (past 5 years). Manufacturing has rebounded adding 330 MECs. Other sectors that have seen declining, or flat, trends following the trend of employment in several industries declining between 2006 and 2016 before picking back up in the years since 2016. The biggest percentage declines in employment have been in Insurance and funds (-31%), Information media and telecommunications (-20%) and Wholesale trade (-13%).

The data suggests that the economy has experienced three distinct phases, with strong employment growth between the 2001-2006 period, followed by a decade with reasonably flat employment movements. This decade included the GFC period and covers the 2006-2016 timeframe. The third timeframe is the post 2016-period during which strong employment growth was recorded. This growth was generally broad-based, across the economy. The implication of these three timeframes is that the local economy appears to be cyclical, with surge periods driving substantial change. These patterns make planning for the future difficult, because the development pathway is unlikely to be smooth, but will be uneven.

### 2.1.1 Outlook – 48 Sectors Employment

The economic outlook for Napier is based on the base scenario as modelled using the EFM. The EFM models the outlook across 48 sectors, and the results are summarised to 1-Digit ANZSIC sectors. With reference to Value Added shifts, the economy is expected to grow linearly, increasing:

- 2021-2024 1.7%,
- 2024-2031 1.5%,
- 2031-2051 1.3%.

These compound growth rates are based on the economy growing from \$2.5bn to approaching \$3.8bn by 2051. A conservative position is maintained in the scenario modelling and a slightly higher (less conservative) growth pathway is presented in section 2.1.2. Table 2-3 summarises the outlook across the different sectors, and presents the employment outlook over the short, medium and long term.

Table 2-3: Napier City Employment Growth (MECs), 2	2021-2051
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Sector	Projected MECs					Growth			
Sector	2021	2024	2031	2051	2021-2024	2024-2031	2031-2051		
Primary Sector	1,560	1,670	1,930	2,740	110	260	810		
Mining and Quarry	10	10	10	30	-	-	10		
Manufacturing	3,000	3,120	3,400	4,300	120	280	900		
Utilities	90	90	100	120	-	10	20		
Construction	2,740	2,900	3,250	4,170	160	340	930		
Wholesale trade	970	1,020	1,110	1,410	50	100	300		
Retail Trade	3,390	3,570	3,950	5,000	180	380	1,050		
Accommodation and food services	2,590	2,690	2,880	3,390	90	200	510		
Road transport	1,720	1,810	2,010	2,700	90	200	690		
Information media and teleco	190	200	220	280	10	20	60		
Finance	200	210	230	300	10	20	60		
Insurance and funds	180	190	210	260	10	20	60		
Rental, hiring and real estate services	840	890	1,000	1,280	50	110	290		
Professional Services	3,800	4,010	4,480	5,940	210	470	1,460		
Government Admin (local and central)	1,910	2,000	2,210	2,750	100	210	540		
Education and training	2,620	2,670	2,730	2,980	60	60	250		
Health care and social assistance	3,260	3,450	3,850	4,870	190	410	1,020		
Arts, Rec., Personal & Other services	1,740	1,820	2,010	2,540	90	190	530		
Total	30,790	32,310	35,580	45.050	1.520	3.270	9,480		



The base scenario suggests that, over the short term, the overall growth will remain reasonably muted. This reflects economic uncertainties around the Covid-recovery, rising interest rates (and inflation) as well as the global geo-political environment and supply chain issues. Total employment levels are expected to slow from 2.3% p.a. between 2016-2021 to 1.6% p.a. from 2021-2024. This declines further to 1.4% p.a. from 2024-3021 and again to 1.2% from 2031-2051. The difference between the Value Added (VA) and employment growth rates are due to improvements in labour productivity<sup>14</sup>.

These projected annual growth rates, albeit lower than experienced in the last five years, are an improvement from the period between 2006-2011 when the economy underwent negative (-0.1% p.a.) growth. This long-term growth decline is in line with national trends and reflect dynamics like aging populations and the impacts of technology.

Overall, the shift in employment in Napier is estimated as follows:

- In the short term, 1,520 MECs,
- Medium term 3,270 MECs,
- Long term 9,480 MECs, and
- Total shift 14,270 MECs.

The sectoral distribution of employment is expected to remain relatively stable over the next 30 years. However, there are some core trends to consider as part of the land and capacity planning process. Sectors that will see the most employment growth in absolute terms over the long term are:

- Professional services (+2,140 MECs),
- Retail trade (+1,610 MECs), and
- Health care and social assistance (+1,610 MECs).

In percentage terms, the highest growth occurs in the Primary sector (+76%), Professional services (+56%), and Road transport (+57%). Other key observations are:

- For all sectors employment growth is positive over the next 30 years. This is consistent with a growing economy. However, some sectors will only see employment levels approaching those seen during the early 2000s (pre-GFC) towards the end of the analysis period.
- Employment growth within Education and training is expected to remain around the existing levels, with only marginal shifts.
- The bulk (62%) of the growth expected to occur in the Primary sector is within the agriculture, forestry, and fishing support services. Structural shifts and how the primary sector is structured (e.g. more specialist contracting services being procured) are driving this shift.
- The effects of COVID-19 are expected to dampen growth over the short term.
- The data indicates Utilities will experience minimal (< 5 MECs) growth in the short term. However, the overall trend is upward, and the sectors will see some growth over the long term.

<sup>&</sup>lt;sup>14</sup> The shifts in labour productivity are accounted for when estimating the land requirements. However, some caution is needed because growing labour productivity reduces the employment that is needed. If that reduced employment is then used (unadjusted) to estimate the land requirements, then it could understate the land requirements.

The distribution of employment anticipated in the future is consistent with the current structure and continues to highlight Napier as an urban centre and its role as a service hub for the wider Hawke's Bay.

### 2.1.2 Variation – High outlook

The base scenario takes a conservative position, and less conservative growth pathway is included to show the potential effects of stronger growth. The stronger growth pathway reflects the high population projections (as per StatsNZ) as well as improved export performance with a performance premium applied across all exports. Table 2-4 presents employment projections for the high growth scenario for Napier City.

Sector		Projecte	d MECs	Growth			
Sector	2021	2024	2031	2051	2021-2024	2024-2031	2031-2051
Primary Sector	1,560	1,680	1,940	2,770	120	260	840
Mining and Quarry	10	10	10	30	-	-	10
Manufacturing	3,000	3,120	3,410	4,340	120	290	930
Utilities	90	90	100	130	-	10	30
Construction	2,740	2,910	3,260	4,210	170	350	950
Wholesale trade	970	1,020	1,120	1,440	50	100	310
Retail Trade	3,390	3,590	4,010	5,190	200	420	1,180
Accommodation and food services	2,590	2,700	2,920	3,510	110	220	590
Road transport	1,720	1,820	2,020	2,730	90	200	710
Information media and teleco	190	200	220	280	10	20	60
Finance	200	210	240	310	10	20	70
Insurance and funds	180	190	210	270	10	20	60
Rental, hiring and real estate services	840	890	1,010	1,310	50	110	300
Professional Services	3,800	4,020	4,510	6,030	220	490	1,520
Government Admin (local and central)	1,910	2,020	2,250	2,880	110	240	630
Education and training	2,620	2,700	2,810	3,170	80	110	360
Health care and social assistance	3,260	3,480	3,940	5,150	220	470	1,210
Arts, Rec., Personal & Other services	1,740	1,830	2,040	2,650	100	210	610
Total	30,790	32,460	36,020	46,370	1,670	3,560	10,360

### Table 2-4: Napier City Employment Growth (MECs) - High, 2021-2051

Compared against the base scenario, the change compounds over the longer term, and the difference from the total employment estimated for the base scenario are:

- Short term 150,
- Medium term 290, and
- Long term 880.

The data suggests that the total difference between two scenarios is 1,320 over the assessment period. The overall growth profile aligns with the base scenario, but the scale of change is larger. In the short term 1,670 additional MECs are projected, 3,560 MECs in the medium term and 10,360 MECs in the long term. Projected annual employment growth for the short term is 1.8% p.a., declining to 1.5% p.a. from 2024-2031 and again to 1.3% p.a. from 2031-2051. The data indicates Professional services will see the largest growth in employment with an increase of 2,230 MECs. Other key growth sectors are Health care and social assistance (1,890 MECs), Retail trade (+1,800 MECs) and Construction (+1,470 MECs). Similarly, the primary sector will see large positive percentage change that is estimated at +78%.

Sectors that are likely to experience minimal growth are Education and training (+21%) and Accommodation and food services (+35%) with an increase of 550 and 920 MECs from 2021-2051, respectively.



The key points are as follows:

- In the short-term growth is dampened by the effects of COVID-19, and the higher growth pathway (population and export driven) shows some improvement (vs the base scenario) over the short term.
- Employment in professional services increases the most from 3,800 MECs in 2021 to 6,030 MECs in 2051.
- Excluding Mining and quarrying, the largest percentage growth is within the primary sector (+78%), but this is driven by external factors (i.e., those that are beyond Napier).
- A higher population growth rates drives demand and thus employment in sectors associated with household spending (retail and entertainment), as well as sectors relating to demographic shifts (health spending).
- Under the high scenario, all sectors except Education and training and Accommodation and food services see materially larger growth. These two sectors show marginal shifts with employment.
- The biggest additional growth in actual employment, compared to the medium scenario, is anticipated in Health care and social assistance (+280 MECs), Education and training (+190 MECs) and Retail trade (+190 MECs). The additional growth in these sectors highlights the role of Napier City as a service hub under a high population scenario.

## 2.2 Hastings District

The Hastings economy is discussed below. The district's economic base has a different functional focus, with a large rural component that is linked to local processors. Local households are serviced and provide labour to local businesses. The recent trends and the outlook for the economy are presented below using the same structure as used for Napier.

### 2.2.1 Current situation and recent trends

StatsNZ data suggest that the Hastings District has a workforce of 52,370 employees<sup>15</sup> and the employment base is spread across several sectors. The data shows that Hastings service the local households and provides important services to the primary (rural/agriculture) sector.

Table 2-5 reports the employment levels across aggregate sectors. The Primary sector is the largest employer, engaging 10,710 MECs (2021), equal to one fifth of total employment. This reflects the availability of highly productive land used in agriculture and horticulture which supports significant employment. The district also shows high proportions of employment in:

•	Professional services	6,630 MECs (13%),
	rioressional services	0,000 111200 (10,00),

- Manufacturing 6,460 MECs (12%), and
  - Health care and social assistance 6,180 MECs (12%).

As a whole, the Hastings District workforce has grown by 14,160 MECs since 2001, an increase of 37% (Table 2-5). Professional services have seen the largest growth in employment, with an increase of 3,200 MECs since 2001. Health care and social assistance, and Construction, have also grown significantly, increasing by 2,560 and 2,220 MECs, respectively. These three sectors account for 56% of total employment growth since 2001

<sup>&</sup>lt;sup>15</sup> The employment data is based on the NZ business demography statistics (BDS). The BDS is an annual snapshot (as at February) of the structure and characteristics of businesses.



for the district. Most of the other industries have also experienced employment growth at lower levels, however, employment has fallen in:

- information media and telecommunications (-170 MECs, -49%) and
- manufacturing (-90 MECs, -1%).

The stagnation of employment growth over the 10-year period from 2006-2016, as observed for Napier City, is also observed in the data for Hasting District. Over this period, the total district's employment increased by only 800 MECs, an average annual growth rate of 0.2%.

These cyclical movements add complexity to estimating outlook, but the potential implications of the swings on land use planning need to be considered. It is important to look through short term movements (impacted by one, or two large developments).

### Table 2-5: Hastings District Employment (MECs), 2001-2021

Contor	MECs								
Sector	2001	2006	2011	2016	2021				
Primary Sector	9,160	9,360	10,010	9,470	10,710				
Mining and Quarry	20	20	20	30	20				
Manufacturing	6,550	6,740	5,870	6,190	6,460				
Utilities	170	220	250	330	510				
Construction	1,840	2,740	2,870	2,960	4,060				
Wholesale trade	1,090	1,340	1,270	1,410	1,600				
Retail Trade	3,290	3,820	3,370	3,360	3,560				
Accommodation and food services	1,540	2,010	1,950	2,000	2,560				
Road transport	1,200	1,200	1,330	1,200	1,400				
Information media and teleco	350	370	350	270	190				
Finance	250	380	410	430	540				
Insurance and funds	160	200	200	200	240				
Rental, hiring and real estate services	680	750	710	660	750				
Professional Services	3,440	4,520	4,100	5,150	6,630				
Government Admin (local and central)	1,000	1,220	1,430	1,290	1,790				
Education and training	2,500	3,100	3,270	2,880	3,170				
Health care and social assistance	3,620	4,350	5,000	5,180	6,180				
Arts, Rec., Personal & Other services	1,350	1,610	1,790	1,740	2,010				
Total	38,210	43,950	44,220	44,750	52,370				

### Table 2-6: Hastings District Employment Changes (MECs), 2001-2021

Contor	Change in MECs								
Sector	2001-06	2006-11	2011-16	2016-21	2001-2021				
Primary Sector	200	650	- 540	1,240	1,550				
Mining and Quarry	-	-	10	- 10	-				
Manufacturing	190	- 870	310	270	- 90				
Utilities	50	30	90	180	350				
Construction	890	140	90	1,090	2,220				
Wholesale trade	250	- 70	150	180	500				
Retail Trade	530	- 450	- 20	200	270				
Accommodation and food services	470	- 60	50	560	1,020				
Road transport	-	130	- 130	200	200				
Information media and teleco	10	- 20	- 80	- 90	- 170				
Finance	130	40	20	110	290				
Insurance and funds	40	-	-	40	70				
Rental, hiring and real estate services	80	- 40	- 50	90	80				
Professional Services	1,090	- 420	1,050	1,480	3,200				
Government Admin (local and central)	220	210	- 150	500	780				
Education and training	600	170	- 400	290	670				
Health care and social assistance	730	650	180	1,010	2,560				
Arts, Rec., Personal & Other services	260	170	- 50	270	650				
Total	5,740	270	530	7,620	14,160				



### 2.2.2 Outlook – 48 Sectors Employment

The projected employment for Hastings District over the short, medium and long term is presented in Table 2-7 below. Overall, the shift in employment in Hastings is estimated as follows:

- In the short term, 2,200 MECs,
- Medium term 4,530 MECs,
- Long term 11,340 MECs, and
- Total shift 18,070 MECs.

The table reports the employment outlook across the aggregated sectors, and shows the estimates per year, and the change between different timeframes.

Sector		Projecte	d MECs	Growth			
Sector	2021	2024	2031	2051	2021-2024	2024-2031	2031-2051
Primary Sector	10,710	11,180	12,150	14,710	470	970	2,560
Mining and Quarry	20	20	30	40	-	-	10
Manufacturing	6,460	6,770	7,460	9,200	310	690	1,740
Utilities	510	540	590	700	20	50	120
Construction	4,060	4,310	4,860	6,550	250	550	1,680
Wholesale trade	1,600	1,660	1,790	2,110	60	130	320
Retail Trade	3,560	3,650	3,820	4,040	90	170	220
Accommodation and food services	2,560	2,640	2,800	3,150	80	160	340
Road transport	1,400	1,470	1,620	2,010	70	150	390
Information media and teleco	190	190	200	210	-	10	10
Finance	540	560	600	660	20	40	60
Insurance and funds	240	250	270	300	10	20	30
Rental, hiring and real estate services	750	760	770	930	10	10	160
Professional Services	6,630	6,950	7,640	9,530	320	690	1,890
Government Admin (local and central)	1,790	1,870	2,030	2,390	80	160	360
Education and training	3,170	3,210	3,260	3,450	40	50	190
Health care and social assistance	6,180	6,450	6,980	7,860	270	530	880
Arts, Rec., Personal & Other services	2,010	2,080	2,250	2,610	80	160	370
Total	52.370	54.570	59.100	70.440	2.200	4.530	11.340

### Table 2-7: Hastings District Employment Growth (MECs), 2021-2051

In total, the District's workforce is expected to grow to 70,440 MECs by 2051, an increase of 35%. The size of the employment growth is constrained by the ageing population and the size of the 'potentially active economic population'<sup>16</sup> but labour productivity growth suggests that the VA (GDP) growth would be higher.

The shift in employment is based on economic growth (based on VA). In terms of the employment levels, the base scenario suggests that the total employment will continue to grow over the short, medium, and long terms. Annual growth (compound) is estimated at 1.4% p.a. between 2021-2024. This then declines to 1.1% p.a. from 2024-3021 and again 0.9% from 2031-51. The anticipated growth rates are between historically recorded rates between 2001-2021. During these longer timeframes, compound growth rates varied between 0.1% and 3.4% (depending on which period is considered). A drop off in projected medium- and long-term annual growth rates is anticipated for Hastings. However, the rate of change trends down and reflects the linear growth (vs exponential growth).

<sup>&</sup>lt;sup>16</sup> This is the working age population and is generally referred to as those between 19 and 65 years old. However, the upper limit has been shifting upwards as individuals work longer.



Overall, the distribution of employment is stable over the long term. The primary sector's role in the economy is expected to remain a key feature of the local economy. In fact it will see strong growth over the next 30 years (+4,000 MECs or an increase of 37%). Industries within the Primary sector that will see the largest increase in employment are agriculture, forestry, and fishing support services (+1,870 MECs) and horticulture and fruit growing (+1,800 MECs). Other sectors anticipated to experience significant growth are:

- Professional services 2,900 MECs,
- Manufacturing 2,740 MECs,
   Construction 2,490 MECs, and
- Health care and social assistance 1

1,680 MECs.

Two sectors experience minimal growth over the next 30 years, Mining (+20 MECs) and Information media and telecommunications (+20 MECs). A reason for the small shifts relates to increased application of technology. In turn, this causes a shift of employment to other sectors, including those that service the technologies that are used.

Other key observations are:

- Growth for all sectors is positive over the next 30 years.
- The effects of COVID-19 are expected to dampen growth over the short term for accommodation and food services. How the opening of the international borders translate into local visitor spending will affect the scale and size of the employment outlook for sectors associated with the visitor economy.
- Short term projected annual growth is strong (1.4% p.a.) but the uncertainty, tightening interest cycles and supply chain issues are likely to constrain growth going forward.
- Primary sector and professional services growth accounts for almost two fifths (38%) of total growth over the period 2021-2051.
- For Manufacturing, the key increases in employment are anticipated in beverage and tobacco product manufacturing (+740 MECs) and other food manufacturing (+600 MECs). These shifts mean that the existing manufacturing capabilities and strengths are expected to remain embedded in the local economy.
- The importance of people-centric sectors, like health care and education is seen in the continued growth of employment in these sectors.

### 2.2.3 Variation – High outlook

A high growth scenario, reflecting higher population estimates and higher export performance, is included in the assessment. This reflects the upside potential and forms the upper threshold for the business land modelling. Under the high scenario, the district's workforce is expected to increase to 76,430 MECs (Table 2-8). The data indicates that in the short term an additional 2,680 MECs are projected, 5,670 MECs in the medium term and 15,290 MECs in the long term.

Projected annual growth for the short term is 1.7% p.a. (compounded), declining to 1.4% p.a. between 2024-2031, before levelling off at 1.2% p.a. between 2031-2051. To put this in context, the short term growth rate is just above the long term (2001-2021) compound growth rate of 1.6% while the medium and long term growth rates are slightly below it. The growth rates for the outlook are well above the 0.1% and 0.2% recorded between 2006-2011 and 2011-2016, the periods reflecting the low growth periods. On a per average (year-on-year and then averaged), between 2001 and 2021, employment moved 1.3% with a large range – between -2.9% and up to 1.4%.



In terms of the sectoral patterns, the relative change aligns with that observed for the base scenario. The largest growth is anticipated to occur in the Primary sector with an addition 5,000 MECs over the next 30 years. The data indicates Professional services (+3,600 MECs), Manufacturing (+3,570 MECs), Construction (+2,660 MECs) and Health care and social assistance (+2,360 MECs) are also expected to experience significant growth over this period. The largest growth in percentage terms occurs in the following sectors:

- Mining +100% (albeit off a low base),
- Construction
- +65%, +56%, and

Manufacturing

Road transport

+55%.

### Table 2-8: Hastings District Employment Growth (MECs) - High, 2021-2051

Sector	Projected MECs				Growth		
	2021	2024	2031	2051	2021-2024	2024-2031	2031-2051
Primary Sector	10,770	11,330	12,500	15,770	550	1,170	3,270
Mining and Quarry	20	20	30	40	-	-	10
Manufacturing	6,550	6,930	7,780	10,120	380	850	2,340
Utilities	510	540	600	760	30	60	160
Construction	4,070	4,330	4,920	6,730	270	590	1,810
Wholesale trade	1,610	1,680	1,850	2,280	80	160	430
Retail Trade	3,610	3,740	3,990	4,480	130	250	490
Accommodation and food services	2,580	2,690	2,910	3,490	110	220	570
Road transport	1,410	1,500	1,680	2,200	90	180	520
Information media and teleco	190	200	210	240	10	10	30
Finance	540	570	620	720	20	50	100
Insurance and funds	240	260	280	340	10	30	60
Rental, hiring and real estate services	760	780	800	1,020	10	20	220
Professional Services	6,660	7,040	7,860	10,260	380	820	2,400
Government Admin (local and central)	1,810	1,900	2,110	2,650	100	210	530
Education and training	3,220	3,310	3,480	3,910	90	170	440
Health care and social assistance	6,220	6,550	7,220	8,580	330	670	1,360
Arts, Rec., Personal & Other services	2,020	2,120	2,330	2,870	100	210	540
Total	52,800	55,480	61,150	76,430	2,680	5,670	15,290

Other observations include:

- For all sectors growth is positive over the next 30 years under a high growth outlook.
- Employment in mining doubles from 20 MECs in 2021 to 40 MECs in 2051.
- Employment growth in the Primary sector, Professional services and Manufacturing accounts for just over half (52%) of total growth over the period 2021-2051.
- In the short-term growth is largely unaffected by the effects of COVID-19. Growth tapers off in the medium and long term as the growth takes a linear pathway (i.e. not exponential).
- A higher population growth is driving demand and thus growth in employment in some sectors of the economy, and the higher population growth assumptions will underpin this growth.
- Total projected employment in 2051 is 76,430 MECs.
- Under the high growth scenario, the data indicates additional growth on top of the medium scenario outlook projections for all sectors (except Mining).
- Hasting District's key employment sectors continue to experience growth and the additional growth in these sectors highlights the competitive advantages of the District in these sectors i.e. availability of highly productive land for horticulture and fruit growing.

Compared to the base scenario, a high growth pathway will see higher overall employment. The differences are as follows:

- By 2024 +910,
- By 2031 +2,050, and



By 2051 +5,990.

The biggest additional growth in employment, compared to the medium scenario, is anticipated in:

- Primary sector +1,000 MECs,
- Manufacturing +830 MECs and
- Professional services +700 MECs.

### 2.3 Points from the engagement and wider context

The growth outlook as framed in the preceding section integrates information and insights received during engagements with a selection of local businesspeople, and economic development practitioners. The engagements were confidential and therefore the specific individuals involved are not listed. The local insights were combined with recent economic commentary around the state of the economy. It is very important to consider the economic outlook in the context of the rapidly changing economic landscape. Inflation is currently very high, and interest rates are shifting higher. Supply chain disruptions and global geopolitical issues are clouding the economic outlook. It would be inappropriate to ignore these factors, especially when looking at the short-term outlook. The key points from the engagement are summarised first, before the changing economic landscape (and the implications) are presented.

### 2.3.1 Key points from the engagement

Broad indications are that the economic outlook in both Napier and Hastings remain positive, but there are growth challenges. Some challenges are existing, and others are emerging. The engagements were used to get locally grounded inputs and perspectives from the respective councils' economic development arms. The information gathered during these engagements informed the modelling calibration process. The key points and observations made during the engagements are summarised below, first for Hastings and then Napier. Note, that these views are high-level and not comprehensive indicators of the region's economic future. Where possible, the points were triangulated against other reports and sources.

### **Hastings**

Hastings is seen as the agricultural and industrial hub of the area. One of the central challenges for the Hastings economy, is the supply of labour – this is a known issues and is expected to remain acute for the foreseeable future. For example, horticulture makes up a large share of the district's economy, with this sector heavily reliant on migrant labour (e.g., backpackers, RSE workers). The closing of New Zealand's borders as a result of the Covid-19 pandemic, is widely reported as having a detrimental impact on the sector in Hastings ('fruit are left on the ground to rot', 'never seen it this tough').

Despite the re-opening of borders, the labour shortage has remained. The respondent commented that this was a constraint for this sector in Hawke's Bay even before the pandemic. The sector is tackling the issue in different ways:

• Some corporate fruit growers are taking a long-term view and replanting orchards in a way that will eventually enable automated picking.<sup>17</sup>

<sup>17</sup> <u>https://www.nzherald.co.nz/hawkes-bay-today/news/apple-picking-robot-could-be-a-game-changer-for-the-industry/GVWTBAKPU5WZPIZVHT46P555DM/</u>



- Other businesses are taking on permanent staff and training staff to be able to reduce seasonal requirements i.e., using staff across multiple business processes during different times of the year (pruning, picking, etc.). This has been shown to attract labour, providing more stable employment for people in the area.
- Food manufacturing firms, linked to the horticulture sector, have been investing in automation as a way of mitigating the labour shortage.
- The construction sector is addressing the labour pressures by partnering with local businesses and collaborating. The supply chain constraints resulting from the Covid pandemic are placing large strains on this sector's ability to deliver work.

Arguably, a more pressing issue that would limit future growth is supply water and three waters considerations. The Regional Council has proposed new limits for water quality and water quantity in rivers, lakes, streams and aquifers in the Tutaekuri, Ahuriri, Ngaruroro and Karamu River catchments.<sup>18</sup> Those limits are one of several constraints on the ability of new wet industries to establish in the district, or for current businesses to transition from industries requiring a lower water to those with a higher water. We understand that this is a significant issue.

During the discussions, the growth potential for some primary sector sub-sectors (e.g. pip fruit) was highlighted. We understand that this sector's potential is being presented in a very positive light. However many of the available literature (and anecdotal evidence) is three to four years old i.e., pre-Covid. Recent sectoral growth outlook reports like the MPI Situation Outlook for Primary Industries (June 2022) present a more balanced view of the challenges and issues facing the sector. The challenges are mostly related to global factors (Russia-Ukraine conflict), supply chain issues and the flow on effects on key commodity prices (including agricultural inputs such as fuel and fertiliser that are rising sharply). The tightening economic conditions in key export markets (for pip fruit), like China (17% of apple and pear exports) and EU (excluding UK; with 12% of exports) are likely to see difficult trading conditions over the short term. This uncertainty is reflected in MPI growth outlook that slowing in export growth – down from +13% between 2018/19 to -6% in 2020/21.

The MPI sector outlook asserts that the sectoral outlook is influenced by:

- Increasing costs of production,
- ongoing shortages of skilled and unskilled labour, and
- the likelihood that shipping disruptions will continue until 2023/24.

These factors will put pressure on growers' profit margins in the short to medium term and growers are expected to continue removing poorer-performing orchard blocks and varieties. In fact, the MPI report states that some growers may choose not to replant and to change land use or to sell their properties. For these reasons, forecasts of little or no increase in the total planted area of apples and pears over a two-year period are maintained. Changes in production volumes are likely to be associated with recent plantings maturing and productivity gains.

<sup>&</sup>lt;sup>18</sup> These freshwater limits are part of Proposed Plan Change 9 ('TANK Catchments') to the Hawke's Bay Regional Resource Management Plan. On 9 September 2022, decisions on submissions on that proposed plan change were issued by a panel of five independent commissioners. At time of writing, some of those decisions may yet be appealed to the Environment Court as per RMA processes. Plan Change 9 is part of the Regional Council's work programme to implement the National Policy Statement for Freshwater Management.



The medium-term outlook for exports is positive and the high-quality nature of the horticulture produce will continue to support activity. But the near term is uncertain with acute pressures on the sector. This means that for the land demand estimates, a more bearish approach is appropriate.

#### <u>Napier</u>

Napier is viewed as the tourist and retail centre of the wider region. Looking forward, the respondent is of the view that professional services (tech sector) and logistics will be the main sectors driving the Napier economy. The respondents highlighted that the local retail sector has held up well despite the effects of the pandemic, with business locations seeing high occupancy rates (low vacancy rates).

Identified areas of strengths include Napier's attractive built environment, art deco buildings, sea front and vibrant centres. These attributes attract people, which is why retail and tourism are expected to remain strong and the post Covid travel environment (with border restrictions being relaxed) will support the visitor economy. It is acknowledged it will take time for tourism to recover from the effects of Covid-19.

Important economic assets for the city include the sea and airport. It is the view of the respondent that enabling expansion of the access to these ports, will unlock and enable growth. Accessibility to the ports is an important aspect that would need constant protection and enhancements.

The greatest constraint to growth in the city is understood to be infrastructure. The respondents highlighted a significant infrastructure deficit of around \$1bn (this could not be verified). This suggests a large deficit in infrastructure for both residential and non-residential activities. The historic relationships with mana whenua and the Councils were pointed out as weaknesses for the city, and it is taking time to rebuild the trust and collaboration needed for strong economic performance.

In terms of the commercial sector, the demand for office space remains strong and the local business community expects this to remain the case. Buildings with flexibility (e.g. hot desking/shared office space) are performing the best. Ahuriri is facing strong demand, seen as a 'vibey' place to locate. Especially popular with the tech sector. The respondents did highlight caveats and uncertainty around the short-term economic outlook (and the effects of the interest rate increases).

### Commentary on the overall economic outlook

The NZ economy is changing direction as it emerges for the immediate shocks associated with the Covidlockdowns and response. Several measures were implemented during the Covid-pandemic to support the economy and protect jobs. With the economy moving beyond Covid (even though some risks remain), means that the stimulatory effects of those support measures are coming to an end. At the same time inflation and capacity constraints are requiring policy tightening to reduce economic pressures. The inflationary environment is a clear manifestation of these pressures. Rising interest rates are expected to shift economic activity down.

Rising interest rates change the cost of capital, affecting decisions about how capital is applicated, and the risk profiles associated with the allocation. Rising interest rates have a cooling economic effect, lowering investment activities, and slowing asset price appreciation. The effects of recent interest rate increases are noticeable in the housing market and investment intentions. For example, house prices are down 5% vs the peak in November 2021 and the outlook is for house prices to continue contracting over the next 12-24 months (the size of the price change varies depending on the economic commentary, but the direction of change is



consistent). The investment outlook is also trending more negative and high interest rates are expected to dampen demand.

The inflation outlook is expected to remain above the Reserve Bank's inflation target (mid-point of 2%) until 2025. This suggests that the slowing economy is likely to remain depressed for the short term. The NZIER consensus forecasts highlighting pull backs in GDP and private consumption over the rest of 2022 and slowing through 2023/24 before picking up again in 2024/25. The continued lift in interest rates to get inflation under control will slow economic activity. The upward trend in interest rates is highlighted across all economic commentaries (e.g. the banks).

In addition, confidence levels are falling and suggest that the economic pressures are limiting growth opportunities. Labour and capacity constraints are inhibiting activity and investment intentions. In fact, some economic commentary suggests that there could be some quarters with negative growth. The Q1-2022 GDP data confirmed that the economy took a hit from Omicron and the associated labour, and supply chain effects. Economic activity was weak, with a 0.2% quarter-on-quarter contraction. Some volatility in GDP indicators is expected over the short term as global activity slows, supply chain constraints are resolved and as interest rates move. This volatility is evident in the anticipated GDP figures for Q2-2022 – some commentary suggests that the economy (GDP figures) are likely to bounce around. However, the volatility should not be seen suggesting that a slowdown is not anticipated. Rising interest rates as way to combat inflation is likely to result in a broader downcycle. This downcycle will impact local investment activity and the demand for business land.


# 3 Land and floorspace demand

Economic activities and businesses operate from specific locations. These locations are managed through the planning structures. This section describes the anticipated demand for business land and floorspace, over time.

The demand of land is a function of economic growth. Shifts in the economic structure, and the relative change in employment levels across different sectors, occur at different rates. At the core, the approach starts with employment estimates, and then translates these into land and floorspace requirements. This is based on the logic that for businesses to carry out their business activities, they need to accommodate their workforce, plant and equipment, and allow for on-site transport requirements (e.g., loading bays). The future land and floor space requirements are estimated using the employment outlooks.

The section starts with an overview of the approach and the main assumptions, before presenting the demand outlook for Napier City and Hastings District.

# 3.1 Spatial relationships

The demand outlook is based on the expected employment growth with the employment growth summarised in the preceding section. The employment projections have been translated into the estimated floorspace and land use requirements using the different space-employment relationships as observed across different dataset around other economies around NZ. These ratios were adjusted to align with the observed local growth patterns and using Council information about sector-based land area occupied by zone. Importantly, a range of different sources were used in reviewing the ratios and the expected outcomes. Table 3-1 reports the ratios used.

These averages are derived from current data relating to employment and land use/space types. These ratios show the revealed patterns and the spread across different locations, and areas. An important reason for the diversity is that businesses have a large degree of variation of how they use space. The assessment started with the average values and then adjusted these to match recently observed patterns, and other information. In addition, the ratios were compared against the rating data. We have relied on our previous experience in similar analyses as well as information from commercial entities<sup>19</sup> as cross-checks.

The ratios are kept constant over time. This means that the analysis does not reflect improved capital/labour to land (building) use ratios that may occur going forward. This means that the ratios, and the demand patterns derived using them, are towards the lower end of the spectrum. In the context of the BCA, this approach is appropriate, because it would not lower/reduce the land requirements or floor area. If capacity then exceeds demand (or demand + margin), then there is a reasonable degree of certainty that the demand is/will be catered for.

Several broad categories (with sub-categories) were defined as the ratios are estimated accordingly. These categories are based of the (general) similarity of activities carried out by employees. For example, commercial office space may be occupied by a wide range of businesses and organisations across several sectors (e.g. accountants, lawyers as well as government departments and community services).

<sup>&</sup>lt;sup>19</sup> For example Colliers and JLL



Land	Area per Emp	loyee (sqm per	employee)				
Use type	Min	Max	Mean	Napier	Hastings		
OfficeCommercial	13	100	38	20	20		
OfficeRetail	20	100	69	45	20		
ShopsCommercial	10	100	31	50	70		
ShopsRetail	15	200	101	85	70		
Accommodation	15	400	275	200	125		
Warehouse	100	600	358	350	365		
Factory	80	500	278	270	300		
YardCommercial	100	350	283	200	100		
YardIndustrial	100	350	181	140	100		
Other BuiltCommercial	20	500	195	120	120		
Other BuiltIndustrial	20	500	122	125	120		
Education	50	500	233	167	100		
OutdoorCommercial	10	1000	72	50	50		
OutdoorIndustrial	10	1000	-	75	50		
OutdoorRural	10	1000	588	50	50		
G	FA per Employ	ee (sqm per en	nployee)				
Use type	Min	Max	Mean	Napier	Hastings		
OfficeCommercial	13	100	19	20	20		
OfficeRetail	20	100	19	27	27		
ShopsCommercial	10	100	27	27	27		
ShopsRetail	15	100	27	47	47		
Accommodation	15	200	50	100	100		
Warehouse	100	200	167	167	167		
Factory	80	200	138	138	138		
YardCommercial	50	150	100	85	85		
YardIndustrial	50	150	100	100	100		
Other BuiltCommercial	20	120	60	60	60		
Other BuiltIndustrial	20	120	60	60	60		
Education	30	100	50	60	60		
OutdoorCommercial	10	100	20	20	20		
OutdoorIndustrial	10	100	20	20	20		
OutdoorRural	10	100	30	30	30		
Note, the minimums and maximum	values as rep	orted do not ne	ecessarily relat	e to the same	observation.		
The minimum and maximums (and mean) are across the datasets and should therefore not be combined.							

#### Table 3-1: Employment to floorspace and land ratios (sqm per employee per space type)

The following three core categories were defined:

• Industrial: This covers both heavy and light industry with the type and nature of emissions into the wider environment driving the difference. 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 NPSUD. These include, yard-based storage, transport and distribution, construction, utilities, and wholesaling. However, caution is needed when considering construction because a share of this sector's employment relates to trade activities. These businesses are often registered outside industrial locations (i.e., in residential areas) because the builders are not location-bound.

- **Commercial**: The commercial spaces generally relate to 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. For this category, care is needed because education includes schools which are often located close to the communities they service and not in core business locations.
- **Retail**: This captures all forms of retail activity and 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.

In terms of approach, the employment projections (base scenario) were translated into land and floor area requirements by allocating the employment projections to the space types (in the above tables). The economic sectors align Hastings and Napier Councils' definitions of 'wet' and 'dry' industries. These definitions align with the ANZSIC sectors. The estimated employment growth is transformed into land and floorspace requirements using the following key steps:

- The employment estimates are distributed spatially across Hastings and Napier using different approaches. For example, area (sqm) by zone and SA1 combinations are applied to estimate the relative location (in the area) of sectors employment,
- The share of employment (by sector) that is in areas that do not have the expected (relevant) zoning is estimated. For example, a share of construction jobs is in residential areas. These shares are used to adjust the employment growth that is used to estimate the demand for land and GFA downward. This adjustment assumes that share of employment that is in out of zone locations will remain stable. The shares vary considerably, with low (<0.5%) for some manufacturing activities, and up to 50% for education (driven by schools).
- The change in employment (growth or contraction) per sector is adjusted for intensification. The share of growth that is accommodated through intensification (i.e., more intensive use of existing sites) is based on how big a sector is as well as the size of the growth and the type of sector. The share of each sectors growth that is accommodated via intensification is around 5% (median value across all the sectors) but it varies depending on the sector. Applying these assumptions and then aggregating the results suggest that a quarter (24%-25%) of growth will be accommodated through more intensive use of sites. Importantly, a third of the intensification growth is in transport, storage and office-type activities (e.g., professional services and central government activities).
- The adjusted employment growth is allocated to zones, and the land area requirements for the zones are estimated based on the space-type requirements (as per Table 3-1). Sectoral use of space types is distributed (percentage shares) based on local conditions and a need to calibrate the potential growth to observed patterns. Appendix 3 reports the assumed ratios. By taking a matrix approach, a sector's growth can be disaggregated across different space types. This approach reflects that a sector's growth is unlikely to be solely in one space-type.



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 an industrial business with a large industrial footprint, but also a warehouse area and a head office in commercial office space.

The NPSUD has an urban focus, meaning that the important rural sector is excluded. However, considering its important role in Hastings, as well as its lesser role in Napier, agriculture is included in the economic assessment to help estimate the outlook. The rural sectors do not directly drive demand for industrial or commercial land. The indirect (flow on) effects are included in the modelling. However, a small portion of the associated (rural) growth is translated into industrial land requirements (urban). The main effects of the agriculture sector on business land (in the urban areas) are through the supply chains, and the sectors supplying agriculture (like services to agriculture) and sectors that process agricultural goods.

While not an BCA requirement, the analysis aggregated the economic activity into ten sectors, as used by the Councils. The current relationships<sup>20</sup> of these sectors (listed below), and the main zones is used to allocate growth to different zones. The basic premise is that these industries (especially the wet/dry sector) reflect some co-location advantages that would persist going forward.

- Wet Industry,
- Dry Industry,
- Service Industry,
- Transport and Storage,
- Wholesale and Retail,
- Utilities and Waste Services,
- Other Services,
- Primary Production,
- Accommodation, and
- Other.

The sector-zone and Council industry relationships are based on the area occupied in each zone, and by each industry. These relationships are linked to sectoral growth (employment) as well as the space-types to inform the spatial allocation of demand across the zones, and the associated capacity. In terms of the allocation process, it was assumed that the non-wet industries can locate in zones that can accommodate wet industries, but wet industries can only locate in zones where there are other wet industries i.e., the existing distributions reveal where there is appropriate infrastructure. Note, the availability of water (i.e., an allowance or ability to take) is not explicitly included in the assessment.

# 3.2 Demand outlook for Napier

The demand for business land is a function of the anticipated growth, as well as the sectoral mix of the growth. There are several factors determining the overall demand, including the assumed densities. The demand for business land has been calculated using different combinations and the results are presented in a way that shows the range of potential outcomes. The different component parts are dealt with separately.

<sup>&</sup>lt;sup>20</sup> Based on the share of land area, per zone, that is occupied on a per sector basis (this is informed by work completed by the Councils that linked activities to ANZSIC economic sectors).



## 3.2.1 Industrial

The future demand for industrial land has been estimated based on the population growth patterns, the underlying economic structures of the district, and sectoral performance. The analysis also includes different scenarios where the inputs are adjusted to show a more aggressive pathway.

## Table 3-2: Industrial Land Demand: Napier – over time (ha)

Zone	ЗY	7Y	20Y	SUM
Main Industrial	3.4	7.8	22.0	33.2
Business Park Zone	0.4	0.8	1.9	3.1
Airport Zone	0.4	1.0	2.8	4.2
Deferred Airport Zone	0.0	0.0	0.1	0.1
Suburban Industrial Zone	0.1	0.3	0.8	1.2
Mixed Use and West Quay Waterfront Zones	0.5	1.1	3.0	4.6
Port and Marine Zones	0.0	0.0	0.2	0.2
Wastewater Treatment Zone	0.0	0.1	0.2	0.4
SUM	4.9	11.1	31.0	47.0
Average per year (sum divided by number of years)	1.6	1.6	1.6	

The overall demand for industrial land, over the long term (in total) is estimated at 47.0ha. Most of the industrial land demand is expected to be in the Main Industrial zone, with this zone accounting for 70% of demand. This share is a function of the type of sectors that can be accommodated in this zone, as well as the sectoral employment growth. Importantly the distribution of demand across the zones is a function of currently occupied land by different economic sectors.<sup>21</sup>

Beyond the main industrial zone, the type of businesses that are located in the Business Park Zone, the Mixed Use and West Quay Waterfront Zones as well as the Airport Zone will see an increase in demand (i.e., for those types of businesses) and these businesses would need to be accommodated in appropriate locations (this might not be in the same location/zone as where the demand is estimated). The spatial reallocation and reconciling the demand and the potential locations (capacity) occurs in a later section. Therefore, the demand indications presented here should be seen as the first step in the overall process. Combined, these zones will see a quarter of the demand (25%-26%) for industrial land. In area terms (ha), the demand for land in these zones is estimated at:

- 1.3h over the short term,
- 2.9ha over the medium term, and
- 7.8h over the long term.

Based on these estimates, the total demand in these zones over 30 year is estimated at 11.9ha.

Several zones will see small shares of the demand looking forward, including the Deferred Airport Zone, the Port and Marine Zones and the Wastewater Treatment Zone. The modelling restricts the level of demand that is allocated to these zones. For example, a strict allocation process is followed and only port related employment related growth<sup>22</sup> is linked to this zone. Similarly, the Wastewater Treatment Zone is associated

<sup>&</sup>lt;sup>21</sup> The Councils classified the local businesses to economic sectors (ANZSIC)

<sup>&</sup>lt;sup>22</sup> Other transport, postal, courier, transport support and warehousing services.



with 'water, sewerage, drainage and waste services', and only this sector's growth is allocated to this zone. Importantly, these zones are treated as 'unavailable' to accommodate growth associated with the wider economy.

In terms of the type of industries (wet, dry, service etc), the within-zone distribution varies. At a total level, following proportions are identified:

- Wet Industry 18%,
- Dry Industry 32%,
- Service Industry 3%-4%,
- Transport and Storage 18%-21%,
- Wholesale and Retail 17%, and
- All other 11%-13%.

The shares are expected to remain broadly constant over time. These shares vary if the zones are considered individually. For the Main Industrial zone, the shares are skewed towards the wet and dry industries, that combined account for two thirds of the demand (in this zone). The splits are:

- Wet Industry 25%,
- Dry Industry 41% 42%,
- Transport and Storage 12% 14%
- Wholesale and Retail 16% to 18%, and
- All other 3% to 4%.

In addition to the base scenario, a high growth scenario is included with a view to illustrate the potential upper end of demand over time. The high scenario reflects StatsNZ's high population growth pathway, and exports are lifted across the board (+5%). The lift in economic activity will see an increase in demand for land and while the quantum will shift upwards, the relative distribution stays constant. The total demand for industrial demand under the high scenario is expected to increase to 56.0ha over the entire period, with the growth over the different periods estimated as follows:

- Short term 4.9ha,
- Medium term, 11.1ha,
- Long term 31.0ha, and
- Total 56.0ha.

## Competitiveness Margin

As outlined in the NPSUD Part 3 (in 3.26), Councils are required to include a competitiveness margin.

"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 long term, 15%



Including this margin in the overall demand for land increases the quantum to include in the sufficiency assessment.

#### Table 3-3: Total Industrial Demand (Including and excluding margin)

			н	а	
Total De	emand	3Y	7Y	20Y	SUM
Base	Excluding Margin	4.9	11.1	31.0	47.0
High	Excluding Margin	5.8	12.9	37.4	56.0
Base	Including Margin	5.9	13.4	35.7	54.9
High	Including Margin	6.9	15.4	43.0	65.3
Annual requirements (including margin)					
	Base	2.0	1.9	1.8	1.8
	High	2.3	2.2	2.1	2.2

Adding the competitiveness margin across the different timeframes lifts the additional area to include in the assessment by between 7.9ha and 9.3ha over the assessment period. Over the short term, the margin adds 1ha to demand, 2.2ha over the medium term and 4.7ha over the long term. Under the high scenario these increases are greater – 1.2ha over the short term, 2.6h and 5.6ha over the medium and long term respectively.

The margin is included in the sufficiency assessment to highlight the links between the demand, margin and available capacity.

## **Building Consents**

Using building consent information (provided by the Councils) covering industrial floor space for the 2005 to 2021 period, the average annual demand for industrial floor space was estimated. This is used as a broad measure of the demand patterns. Table 3-4 presents the annual average, and applies different assumptions to show the range of land area requirements. Importantly the approach uses a trimmed mean to remove the effects of outliers.

#### Table 3-4: Building Consents for Industrial Floor Space (2005-2021) - Napier

2005-2021	Site coverage	Awatoto	Onekawa	Other Napier	Napier
Annual Average* GFA (sqm)		610	4,350	410	5,375
Estimated land size (Ha)	30%	0.2	1.4	0.1	1.8
	35%	0.2	1.2	0.1	1.5
	45%	0.2	1.1	0.1	1.3

\*Trimmed Mean. Rounded.

The annual average demand levels in Napier have been relatively stable. However, 2021 was an exceptionally strong year in terms of industrial building activity. The consented floorspace was more than double the year before and 2.5 times that of 2019. The previous spike of this magnitude was in 2013. However, it is important to note, not all of the building floor space (in the consent data) relates to vacant land meaning that some

caution is needed when applying the information to the demand outlook. For example, some of the consents included developments like, office extensions, ablution blocks, refitting workshops, etc.

Note, these are averages over time, and the so, averages for the individual areas will not sum to the average for Napier. Onekawa accounts for the largest annual average when compared against Awatoto and the rest of Napier. The data suggests that annual demand for industrial land is 1.3 and 1.8 hectares of industrial land is taken up annually across Napier by development of industrial floorspace.

It is acknowledged, that the information in this table excludes building consents issued in the first quarter of 2022. According to information received from Council, the land area associated with building consents approved during this period, totals 7.7ha. If this is taken up in the short term (reflecting economic uncertainty, supply chain constraints, inflation and cost increases and so forth) and this would decrease the available capacity. However, due to timing issues and the uncertainty around when these opportunities would be ready for the market (to occupy), so it was not included in the modelling.

## 3.2.2 Commercial and Retail

Estimating commercial and retail demand uses a similar approach to that used for the industrial land demand assessment, i.e., translating employment growth into additional demand for space. This section presents the demand outlook over the short, medium and long terms. The retail and commercial demand is reported individually, as well as in aggregate in terms of Gross Floor Area (GFA). The reason for combining the two types is because the planning provisions, and the local spatial patterns, suggest a high degree of spatial integration. Neither Napier, nor Hastings, have 'dedicated' retail zones, except for Napier's Large Format Retail zone. This is not uncommon in an urban environment. In fact, it is rare that commercial land is zoned independently of retail land, as the aggregation of workforce and businesses requiring office space, 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, suggesting colocation of retail and commercial activities within the same zone.

Table 3-5 presents the short, medium and long term demand outlook followed by some key observations.

	На				
	Commercial	Retail	Other	SUM	
3 YEARS					
SUM	1.1	0.4	1.0	2.5	
Annual Average	0.4	0.1	0.3	0.8	
7 YEARS					
SUM	2.5	0.9	2.1	5.5	
Annual Average	0.4	0.1	0.3	0.8	
20 YEARS					
SUM	6.1	1.9	5.4	13.4	
Annual Average	0.3	0.1	0.3	0.7	

## Table 3-5: Additional Floor Space Demand in Napier (excl. Industrial) – Medium Outlook (ha)



Combined, the total additional demand for commercial, retail and other floor space across is estimated at:

- 2.5ha over the short term
- (0.8ha per annum),
- 5.5ha over the medium term
- (0.8ha per annum), and (0.7ha per annum).
- 13.4ha over the long term (

The overall structure of demand (by floor space type), is expected to gradually shift due to economic sectors growing at slightly different rates:

- Commercial 45% in the short term, up to 46% in the long term
- Retail 16% in the short term, down to 14% in the long term
- Other 39% in the short term, up to 40% in the long term.

The shifts are due to differential sectoral employment growth, i.e. sectors requiring commercial and 'other' space, growing at a faster rate than retail employment. The modelling assumes the space type required (i.e., the area required by each sector on a per employee basis) by sectors remain stable over time.

The 'other' floor space refers to accommodation, education, warehousing, outdoor spaces, and so forth. Floor space that is not strictly office or retail space but is required by sectors typically locating within these zones. This highlights the diverse nature of employment in the commercial and retail zones.

## Competitiveness margins

The NPSUD Part 3 (3.26), requires Councils to assess demand including the competitiveness margins:

- 20% over the short term
- 20% over the medium term
- 15% over the long term

Including the competitive margin increases the quantum of floor space to be included in the sufficiency assessment. Table 3-6 presents demand estimates with competitiveness margins included and excluded. The estimates show the additional floor space required over the short, medium and long term. Including the competitiveness margin lifts demand as follows: (the figures in brackets report the demand plus margin under the high scenario):

- Short term 3ha (3.7ha)
- Medium term 6.6ha (8.1ha)
- Long term 15.4ha (20.5ha)

The sufficiency assessment includes margins, to highlight the links between the demand, margin and available capacity.

On average, around 1ha/year of floor space is required to accommodate additional employment within commercial and retail zones.



## Table 3-6 Additional Demand for floor space (Including and excluding margin) - Napier

			F	la	
Total De	emand	3Y	7Y	20Y	SUM
Base	Excluding Margin	2.5	5.5	13.4	21.4
High	Excluding Margin	3.1	6.8	17.8	27.7
Base	Including Margin	3.0	6.6	15.4	25.0
High	Including Margin	3.7	8.1	20.5	32.3
Annual requirements (including margin)					
	Base	1.0	0.9	0.8	0.8
	High	1.2	1.2	1.0	1.1

## 3.3 Demand outlook for Hastings

Hastings has experienced strong economic growth in the immediate past, but over the medium term, the growth has tended to follow the business cycles. The recent economic developments around increasing prices (inflation), global geo-political uncertainties and rising interest rates are likely to have a cooling effect on local activity. However, the existing development pipeline and economic momentum could assist in providing a soft landing over the short term. Regardless, the outlook is positive, and demand for new (additional) business areas, including industrial, retail and commercial space is expected to remain over the medium to long term. It is important to look at historic trends that around the development trajectory and look beyond outliers.

## 3.3.1 Industrial

Using the economic outlook as foundation, and translating the employment projections into land requirements, provide an indication of the anticipated demand for industrial land area, over the short, medium and long terms. Table 3-7 presents the estimated (additional) industrial land that would be required to accommodate the projected employment growth.

## Table 3-7: Hastings: Industrial Land Demand – over time (ha)

Zone	3Y	7Y	20Y	SUM
General Industrial	10.9	25.7	58.2	94.8
Tomoana Food Industry	0.2	0.5	1.3	2.0
Havelock North Village: Industrial and Business	0.2	0.5	1.0	1.6
Light Industrial	0.7	1.6	3.9	6.2
Whirinaki Industrial	2.1	4.5	9.4	16.1
Deferred General Industrial	-	-	-	-
SUM	14.1	32.7	73.9	120.7
Annual Average	4.7	4.7	3.7	4.0

Over the long term (30 years) the total additional demand for industrial land, is estimated at 120.7 hectares. More than three quarters (79%) of this is expected within the General Industrial zone, with this share remaining fairly stable over the different timeframes – of course this is subject to availability (of land as well as the supporting infrastructure). This stability is a function of the type of activities anticipated to locate in



this zone, and the projected employment growth in industrial sectors. Similar to Napier, the distribution of demand across the zones is a function of currently occupied land by different economic sectors.<sup>23</sup> That is, the existing patterns are interpreted as showing locational preferences and co-location decisions.

Demand for industrial land in the Whirinaki Industrial zone accounts for 13% of the total over time, and the Light Industrial zone, 5%. Havelock North Village Business and Industrial, and Tomoana Food Industry zones are expected to accommodate the remainder (3%) of growth. In area terms (ha), the demand for land in the industrial zones is estimated at:

- 14.1ha over the short term,
- 32.7ha over the medium term, and
- 73.9ha over the long term.

In the General Industrial zone, which is expected to accommodate most of the growth (94.8ha), the demand for land over time, is estimated at:

- 10.9ha over the short term,
- 25.7ha over the medium term, and
- 58.2ha over the long term.

In terms of the current land-use by industry type (wet, dry, service etc), the within-zone distribution varies. At an aggregate level, the following proportions are identified across the industrial zones in Hastings:

- Wet Industry 36%,
- Primary Production 13%
- Dry Industry 11%,
- Transport and Storage 10%,
- Wholesale and Retail 6%,
- Service Industry 5%, and
- All other 18%.

The shares are expected to remain broadly constant over time. The distribution varies somewhat when zones and locations are considered on an individual basis. In the General Industrial zone wet and dry industries, when combined, account for a large share (42%) of the demand (in this zone). In terms of locations, the wet and dry industries (respectively) make up the following shares (in the General Industrial zone):

- Hastings Central 94% and 0%,
- Irongate 10% and 28%,
- Omahu Road 28% and 13%,
- Tomoana 64% and 1%, and
- Whakatu 29% and 5%.

Beyond the General Industrial zones, wet industries account for between 0% and 7% of demand in other zones, and dry industries account for between 4% and 27% of current demand.

To illustrate the potential risks of a higher growth pathway resulting in insufficient land capacity, a higher growth pathway was also modelled. As outlined earlier in the report (section 2.1.2), the high scenario is based on higher population growth as per StatsNZ's high population projection, as well as stronger overall economic activity (e.g., a lift in exports of 10%). Under these assumptions, demand for industrial land shift higher and is

<sup>&</sup>lt;sup>23</sup> The Councils classified the local businesses to economic sectors (ANZSIC)



expected to increase to 151.2ha (+30.5ha relative to the base scenario) over the long term, with the growth over the different periods estimated as follows:

- Short term 16.6ha (+2.5ha),
- Medium term, 38.8ha (+6.0ha), and
- Long term 95.8ha (+21.9ha).

The annual average demand for industrial land in Hastings under the high scenario (the figures in brackets show the change relative to the base scenario), is estimated at:

- Short term 5.5ha (+0.8ha),
- Medium term, 5.5ha (+0.8ha), and
- Long term 4.8ha (+1.1ha).

## Adding a Competitiveness Margin

As per the NPSUD, a competitiveness margin is added (NPSUD Part 3, 3.26). The margin is set at 20% in the short and medium term and 15% in the long term. Including this margin increases the quantum in the sufficiency assessment. Table 3-8 presents the estimated demand for the different scenarios, and also reports the effects of the margins.

Adding the competitiveness margin, lifts demand by between 20.4ha and 25.4ha over the assessment period. The range reflects the different outcomes under the base and high scenarios. The margin adds (the figures in brackets report the margin under the high scenario):

- Short term 2.8ha (3.3ha),
- Medium term 6.5ha (7.8ha), and
- Long term 11.1ha (14.4ha).

The sufficiency analysis (section 5) considers the results of both the 'with' and 'without' margin.

Total Demand		На				
		ЗҮ	7Y	20Y	SUM	
Base scenario	Evoluting Margin	14.1	32.7	73.9	120.7	
High scenario	Excluding Margin	16.6	38.8	95.8	151.2	
Base scenario	la chudia - Manaia	16.9	39.3	85.0	141.1	
High scenario	including Margin	19.9	46.5	110.2	176.6	
Per annum values (includi	ng margin)					
Base		5.6	5.6	4.2	4.7	
High		6.6	6.6	5.5	5.9	

## Table 3-8: Hastings Industrial Demand (including and excluding margin) for Base and High scenarios

#### **Building Consents**

Similar as the approach for Napier, the building consent data were used to estimate the historical average annual demand for industrial floor space. This is then compared with the anticipated demand as a means of



validating the assumptions in the modelling, keeping in mind the current (and expected) economic landscape. Table 3-9 presents the annual average consented floor space, and different coverage ratios to estimate the land demand. A trimmed mean was used to help eliminate the influence of outliers.

2005-2021	Site coverage	Omahu	Whakatu & Tomoana	Irongate	Other Hastings	Hastings
Annual Average* GFA (sqm)		9,520	5,380	1,930	1,200	18,030
Estimated land size (Ha)	30%	3.2	1.8	0.6	0.4	6.0
	35%	2.7	1.5	0.6	0.3	5.2
	45%	2.4	1.3	0.5	0.3	4.5

#### Table 3-9: Building Consents for Industrial Floor Space (2005-2021) – Hastings

\*Trimmed Mean. Rounded.

It is stressed that the activity over the past 3-5 years has been high compared to the long-term trend and this exceptional strong growth is not expected to continue when the current economic outlook is considered. It is therefore pragmatic to look at the longer-term average (2005-2021).

On average, between 2005 and 2021, consents for approximately 18,030sqm of industrial floor space were issued annually, across Hastings. Council's data shows in 2020 nearly 50,000sqm of industrial floor space were consented. Similar to Napier, not all of the consented floor space requires additional vacant land. The consent data (over time) revealed that consents for additions and alterations to buildings, canopy constructions and so forth, are also included in the data set. We did not attempt to clean the data and therefore the above data includes activities that do not generate demand for vacant land.

The floor space was translated into land area using three different coverage ratios. The analysis revealed that industrial land required across Hastings, ranges from 4.5 to 6.0 hectares.

## 3.3.2 Commercial and Retail

The sector-specific employment estimates are used to inform future demand for commercial, retail, and other floor space. Table 3-10 presents a summary of the additional demand, driven by employment growth, segmented into short, medium, and long term.

Table 3-10:	Additional Flo	or Space Demand	(excl. Industrial) in	Hastings – Medium Outlook
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	Commercial	Retail	Other	SUM
3 YEARS		H	ła	
SUM	0.7	0.3	0.7	1.7
Annual Average	0.2	0.1	0.2	0.6
7 YEARS				
SUM	1.5	0.5	1.5	3.5
Annual Average	0.2	0.1	0.2	0.5
20 YEARS				
SUM	3.4	0.8	3.9	8.0
Annual Average	0.2	0.0	0.2	0.4



The analysis suggests that over the next three decades, approximately 13 hectares of floor space will be required to accommodate employment growth typically located in retail and commercial zones. Combined, the total demand for commercial, retail, and other floor space across these zones is estimated around:

- Short term 1.7ha (0.6ha per annum),
- Medium term 3.5ha (0.5ha per annum), and
- Long term 8.0ha (0.4ha per annum).

Commercial floor space accounts for 43% of demand in the short term, decreasing slightly to 42% in the long term. Retail space makes up 14% of short term demand, and 10% over the long term. The shift in the relative shares underline the growth of demand from the 'other' sectors. It does not mean that the commercial and retail sectors are declining, but the other sectors are growing slightly faster.

The distribution of demand (by space type) across the zones, will change based on the varied spatial growth patterns. The specific future spatial patterns will need further analysis to reflect finer level insights into the micro-spatial trends. The current patterns provide a starting point and offers some insights into outlook (but this is only indicative of the scale). Section 4 presents the availability (and suitability) of capacity, which is then compared with demand to establish the sufficiency (Section 5).

## Competitiveness margins

Adding the competitiveness margin, as required under the NPSUD (Part 3 in 3.26), lifts the quantum of demand to be incorporated in the sufficiency assessment. Table 3-11 provides an overview of the additional demand under the base and high growth scenarios. The estimated demand is reported with the margins included and excluded over the short, medium and long terms.

Total Demand			На					
		3Y	7Y	20Y	SUM			
Base scenario	Evoluting Morgin	1.7	3.5	8.0	13.2			
High scenario	Excluding Margin	2.2	4.5	11.7	18.3			
Base scenario		2.1	4.2	9.2	15.5			
High scenario		2.6	5.4	13.4	21.4			
	Per annum values (including margin)							
B	ase	0.7	0.6	0.5	0.5			
н	igh	0.9	0.8	0.7	0.7			

#### Table 3-11 Hastings Commercial Demand (including and excluding margin) for Base and High scenarios

Including competitiveness margins, lifts the additional demand over the next three decades to 15.5ha (from 13.2ha excluding margins). The estimates suggest that the annual average additional demand is between 0.5ha and 0.8ha (including margins). The temporal distribution of demand plus margin is estimated as follows (the figures in brackets report the high scenario):

• Short	term	2.1ha	(2.6ha),
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- Medium term
   4.2ha (5.4ha), and
- Long term 9.2ha (13.4ha).



The sufficiency assessment in section 5 includes the margin to highlight the links between demand, margin, and available capacity.



# 4 Capacity and Suitability

The available development capacity to accommodate the envisaged growth, and how to account for the capacity, is discussed in sections 3.28, 3.29 and 3.30 of the NPSUD. Section 3.29 states that the development capacity provided by each Council should be:

- plan enabled,
- infrastructure ready, and
- suitable for each sector.

The Councils can define 'suitable capacity' to reflect the local context, but it must include (at least) location and site size as part of the assessment. Unlike assessing residential capacity (for the Housing Assessment), Councils are not required to assess business capacity through the feasibility lens. It is sufficient to assess the capacity in terms of suitability and in terms of location and scale. The suitability is assessed using a Multi-Criteria Analysis (MCA) framework. Each location is assessed using a set of criteria that provides an indication of the suitability of locations. The selected criteria reflect the development and locational decision, and are varied across sectors (industrial, retail, or commercial).

Each area (zoned areas) is scored against the relevant criteria to provide an overall score out of 100. Comparisons can then be made between where the plan enabled capacity (vacant land) is located 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 at some time during the thirty-year planning horizon. However, if capacity is clustered in areas that score poorly in the MCA, they may find that land is not taken up by developers, and pressure will arise on more suitable capacity.

Results of the MCA scoring process is placed alongside capacity to identify, and highlight, mismatches between plan enabled capacity and the suitable areas.

The section starts by outlining the plan enabled and infrastructure ready capacity before the locations are evaluated using the MCA.

# 4.1 Capacity estimates

The available development capacity is presented in terms of the plan enabled- and the infrastructure ready capacity.

## 4.1.1 Industrial capacity

The capacity estimates for the industrial land were prepared by the Councils and we have relied on this information. We understand that the Councils estimated the available capacity using a staged approach starting with an earlier (2018) assessment of vacant land. This list was then updated by subtracting sites where there have been developments (i.e., new development). Land that has been earmarked for future zoning/servicing is included in the relevant future timeframes (when it will become available). This inclusion is subject to being identified in the Long-term Infrastructure Strategy and/or earlier growth management strategies (HPUDS). The available capacity, as estimated by the Councils, reflect:

"land that is zoned and serviced readily available to the market".



The capacity is presented on a 'per zone' and 'per broad location' basis (see Table 4-1) and the anticipated future additions to industrial land capacity is also shown.

	Zone	General location	Currently	Add	itional (h	na)
			Available (ha)	Зу	7у	20y
	Main industrial	Pandora	4			
	Main industrial	Awatoto	10			
	Main industrial	Onekawa	2			
تع ا	Business Park Zone	Poraiti (rural)	-			
api	Airport Zone/Deferred Airport Zone	Napier Airport	45			
Ž	Suburban Industrial Zone	Various	0			
	Mixed Use and West Quay Waterfront Zones	Ahuriri	1			
	Port and Marine Zones	Napier Port	-			
	Wastewater Treatment Zone	Awatoto	-		10	30
	General Industrial/Light Industrial	Hastings Central	-			
	General Industrial	Irongate	64.6			
	General Industrial	Omahu Road	82.5			
	General Industrial /TFI	Tomoana	12.6			
ŝ		Tomoana Extension				50
asti	General Industrial /TFI	(HPUDS)				
Ĩ	General Industrial	Whakatu	47.4			
	Havelock North Village: Industrial & Business	Havelock North Village	-			
	Light Industrial	Stortford Lodge	0.03			
	Whirinaki Industrial Zone	Whirinaki Industrial Zone	-			
	Source: info	ormation supplied by the Coun	cils			

Based on the information prepared by the Councils, the available industrial capacity across the two areas (and in the urban areas, so excluding the rural areas) is estimated at:

- Napier 62ha currently available and another 10ha becoming available over the medium term, followed by a further 30ha over the long term.
- Hastings District 207ha currently available, with another 50ha available to accommodate future growth (especially around the Tomoana food hub location) over the long term.

In Napier, the capacity is concentrated in the Deferred Airport Zone (42ha) and, the main industrial zone across Pandora, Awatoto and Onekawa account for a quarter of the available capacity. In Hastings, the industrial capacity is spread over

- Irongate,
- Omahu Road, and
- Whakatu.

Combined, these three areas have 195ha area.

We understand that this capacity includes greenfield (vacant) sites as well as an allowance to enable a lift in the intensity at which sites are used (i.e., where there are readily identifiable portions of existing sites that are unused or poorly utilised, then these are included in the capacity).

The Napier capacity excludes several large land areas from the assessment, including:



- Business Park Zone (40ha) This land is zoned for industrial purposes, but is owned by Council, and it has been proposed to be zoned as Rural Conservation in the Draft District Plan that is currently being prepared.
- Wastewater Treatment Zone This land is earmarked for, and to support, wastewater treatment plant and any expansion to the current facility. The area covers 61ha (there could be some surplus capacity that might be available for industrial use).

The plan enabled capacity is tempered by the infrastructure ready capacity.

During the sector engagement, the constraints on the development activity arising from water supply were raised. The respondents indicated that wet industry growth was inhibited because of an inability to secure water consents under the new environmental limits proposed by the Regional Council. The role of the trade waste system (separate industrial network) was highlighted as supporting industrial growth and activity. The capacity assessment does not explicitly reflect the effects of the trade waste, or water consent, issues. However, the importance of these enabling activities should not be underrated, because they form a key part of the enabling business environment even if these are not core requirements under the NPSUD.

## 4.1.2 Commercial and Retail Capacity

This section presents the plan enabled capacity in the relevant retail and commercial zones across Napier and Hastings. Plan enabled capacity is the theoretical maximum area that can be utilized for development in response to additional demand (driven by employment growth). Plan enabled capacity (PEC)was estimated using a combination of:

- Councils' rating data bases and planning provisions.
- Commercial Property Review 2022<sup>24</sup> provided by Council.

The rating data (and land use codes) were used to establish a link between the planning zones and parcel-level information. PEC for the commercial and retail zones is reported in terms of floor space, segmented by:

- Vacant Capacity refers to bare land in the relevant zones. Vacant land parcels were identified using a combination of land use description, existing built floor area metrics and improvement values, as reflected in the rating databases. A base level of development of 50sqm has been used as the lower limit (of development). If the building area on a parcel is below this threshold, then the parcel is assumed to be vacant. Rules relating to site coverage, building heights and floor area ratios were used to estimate the GFA based on the zoning of the parcel.
- Net additional Redevelopment Capacity refers to the additional capacity that can theoretically be added to the existing floor space by redeveloping the parcel up to the maximum under plan provisions. The operative plan rules (e.g., site coverage, building heights and floor area ratios) were used to estimate the total GFA that is enabled on a parcel. The current building floor area (based on Council's rating information) was subtracted to estimate the GFA that could be added if the parcel was to be up-developed to its full plan enabled capacity.
- Unoccupied Capacity refers to the floor space reported by the property review as being unoccupied at the time of the survey. Based on the information provided by Logan Stone Ltd to Councils, the

<sup>&</sup>lt;sup>24</sup> Prepared by Logan Stone Limited.



unoccupied floor space is included in the capacity estimates. It is acknowledged that this is a snapshot and would fluctuate from time to time. This information was only available for Hastings urban area.

Table 4-2 reports the supply (plan enabled capacity) in the commercial and retail zones in Napier and Hastings.

Plar	nning zones	Vacant Capacity	Net additional Redevelopment Capacity	Unoccupied Capacity	Total Capacity (supply)						
		На									
	Art Deco Quarter	0.1	7.8	NA	7.9						
	Fringe Commercial	6.6	58.1	NA	64.8						
	Suburban Commercial	-	21.3	NA	21.3						
Dier	Foreshore Commercial	-	0.3	NA	0.3						
Nap	Large Format Retail	11.9	8.8	NA	20.7						
	Mixed Use	0.4	6.8	NA	7.2						
	Inner City Commercial	1.1	3.6	NA	4.7						
	SUM	20.2	106.7	NA	126.9						
	Central Commercial	1.6	43.2	0.9	45.8						
	Commercial Service	0.9	11.3	0.4	12.6						
	Suburban Commercial	-	2.6	-	2.6						
	Residential Commercial	-	0.8	0.0	0.8						
	Large format retail	0.1	10.8	0.1	10.9						
ngs	Flaxmere Commercial	-	3.3	-	3.3						
astii	Flaxmere Commercial Service	0.6	4.2	0.0	4.8						
Ï	Havelock North Village Centre Retail	-	5.4	-	5.4						
	Clive-Whakatu Suburban Commercial	0.1	0.8	-	0.9						
	Haumoana - Te Awanga Suburban Commercial	-	0.0	-	0.0						
	Waimarama Suburban Commercial	-	0.1	-	0.1						
	SUM	3.2	82.5	1.4	87.2						

## Table 4-2 Floor Space Capacity in Commercial and Retail zones

The modelling suggests that in *Napier*, 127ha of floor space could be developed within the provisions of the operative City Plan. The net additional redevelopment capacity accounts for 84% of the plan enabled capacity. The balance is related to the vacant capacity (20ha of floor space).

The three zones in Napier that have the largest estimated plan enabled capacity (GFA) are:

- Fringe Commercial 64.8ha,
- Suburban Commercial 21.3ha, and
- Large Format Retail 20.7ha.

Vacant capacity is concentrated in the Large Format Retail (LFR) zone (60%) and another third (33%) is in the Suburban Commercial zone (33%). Activities in the LFR zone is specific in nature. The zoning restricts the use of these areas for other types of commercial uses, such as office or accommodation, for example. Conversely, Fringe Commercial zone, where 10 hectares is vacant (plan enabled GFA), is more diverse in term of potential

activities, including larger retailers and supermarkets, accommodation providers, fast food outlets and hospitality businesses, office based activities (e.g. lawyers and accountants), and so forth.

The net additional redevelopment capacity is relatively large, and concentrated in Fringe Commercial and Suburban Commercial zones. This suggests that sites located in these zones theoretically could see substantial up-development (more intensive use/intensification). However, this assessment did not consider each parcel individually to determine the practicality of such redevelopment. One of the issues might be parking provisions. The plan enabled capacity modelling does not consider on-site parking requirements for example. If on-site parking is required, it would lower the reported plan enabled capacity. *The interplays between developers' actual activity, market demand for sites with/without dedicate parking and the impacts on the overall capacity will need to be assessed as part of a wider evaluation of parking requirements across zones.* 

The analysis suggests that across <u>Hastings</u>, around 87.2ha GFA could be developed within the provisions of the ODP. In Hastings, zones with the greatest estimated GFA capacity are:

- Central Commercial 45.8ha,
- Commercial Service 12.6ha, and
- Large Format Retail 10.9ha.

The net additional redevelopment capacity (82.5ha) account for nearly all (95%) of the plan enabled capacity in Hastings. Excluding this, suggests that only 4.6ha of floor space is available to accommodate future growth in these zones. This capacity is associated with:

- 3.2ha vacant capacity, and
- 1.4ha unoccupied capacity.

Importantly, the unoccupied floor space will vary from time to time, and this only presents a snapshot.

Vacant capacity across Hastings is relatively low, with no vacant GFA capacity in some zones. The Central Commercial zone accounts for half (51%) of the vacant capacity (1.6ha) and Commercial Service zone for a further quarter (26%; 0.9ha). These two zones are centrally located, broadly making up the CBD. The relatively low vacant GFA capacity in Hastings' commercial and retail zones is noteworthy because it reflects that local areas (and zones) are already using the available resource. The ability to accommodate future growth, and the share of growth that is accommodate in these zones will need to be monitored.

# 4.2 Infrastructure Ready Capacity

The NPSUD requires the available capacity to be assessed in terms of the availability of infrastructure to support development. Water infrastructure as well as the availability of water for use are known issues in the Napier and Hastings contexts. This issue was identified through work with the Councils and the ground truthing process.

During the process, the team engaged with the councils' infrastructure teams to ascertain the degree to which additional development could be accommodated in industrial areas. Similar information was not available across the commercial and retail zones. Additional work is needed to develop a firm understanding of the infrastructure availability and/or deficits. The comments from the infrastructure representatives are summarised below to illustrate the feedback received and matters raised.

At a high level, the team did not see issues with the potential yields across industrial areas. However, the context is important. For example, in Omahu Road, there are distinct areas depending on the level of service

for wastewater, trade waste and availability of water for wet and dry industries. These sectors have different water-infrastructure requirements, and the infrastructure is not available across all locations. Similarly, stormwater is seen as an on-site issue that require consent from the regional council.

A critical issue is water availability, and it should be regarded that the ability to take and use more groundwater or water from rivers and streams across the Heretaunga Plains is no longer an option. This means that new businesses need to consider alternative approaches to securing access to water. Generally, the main available options are:

- a) water supply that is subject to (and reliant on) local reticulated water supplies which already have water consents (acknowledging that there are already constraints on water supply infrastructure), or
- b) finding innovative solutions to transfer water consents from existing consent holders.

The availability of water services, and the ability to connect, is not only a local (in the industrial area) consideration. The availability of the wider infrastructure, like trunk sewers and the connections, would need to be assessed.

The ability to provide water to the new industrial areas (e.g. Irongate), as well as the timing of infrastructure investments and upgrades, need to be considered in an infrastructure assessment.

## 4.3 Suitability assessment

As mentioned in the introduction, the suitability of the different business locations is assessed using a Multi-Criteria Analysis-framework. The MCA approach offers an ability to consider a range of criteria across different locations, and how well those locations 'scored' for each criteria.

The different business locations are each scored against criteria and the ratings are then expressed as a percentage (overall score out of 100). Comparisons can then be made between where the plan enabled capacity is located and the MCA score for those areas. If capacity is provided in areas that score highly in the MCA, then Councils can be confident that development is likely to occur in those areas. However, if capacity is clustered in areas that score poorly, they may find businesses do not develop that land, and pressure will be brought to bear on other land (with high(er) MCA scores).

Table 4-3 summarise the scores for the industrial locations, and across the criteria, which includes:

- 1. Access to major road/transport routes; good transport access, especially road/motorway,
- 2. Flat land, large land parcel, or contiguous site,
- 3. Service infrastructure in place or proposed,
- 4. Area has potential for co-location or clustering with associated business activities or is contiguous with existing business land zoned for industrial activities,
- 5. Proximity to labour,
- 6. Ability to buffer adverse effects from residential and sensitive activities, distance from sensitive land uses,
- 7. Low level of traffic congestion in vicinity,
- 8. Exposure / profile / visibility,
- 9. Accessibility to Napier Port,
- 10. Access to complementary / supporting business services.

Table 4-4 presents the information for the commercial and retail zones, and the scores for each zone. The criteria used to score commercial and retail locations (zones) are slightly different.



## Table 4-3: MCA Scores for Napier and Hasting's Industrial areas.

	Zone	Location	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 vicinity	Exposure / profile / visibility	Accessibility to Napier Port.	Access to complementary / supporting business services	Score
Napier	Main industrial	Pandora	18	12	14	17	4	15	3	8	4	3	85
	Main industrial	Awatoto	14	12	10	5	3	18	4	4	3	2	65
	Main industrial	Onekawa	16	12	14	12	7	9	2	8	3	3	75
	Business Park Zone	Poraiti (rural)	16	18	1	8	4	15	4	6	4	4	70
	Airport Zone/Deferred Airport Zone	Napier Airport	17	15	8	12	2	10	3	8	3	2	70
	Suburban Industrial Zone	Various	15	5	13	5	7	5	2	8	2	2	56
	Mixed Use and West Quay Waterfront Zones	Ahuriri	16	10	14	14	5	5	1	8	4	4	70
	Port and Marine Zones	Napier Port	16	10	15	10	4	16	3	5	5	3	76
	Wastewater Treatment Zone	Awatoto	14	10	3	7	3	18	4	1	3	2	57
Hastings	General Industrial/Light Industrial	Hastings Central	10	13	13	12	10	10	2	8	1	4	72
	General Industrial	Irongate	20	18	12	10	5	20	5	5	2	2	86
	General Industrial	Omahu Road	19	17	12	10	7	12	3	8	2	2	80
	General Industrial /TFI	Tomoana	15	17	12	10	8	17	4	3	2	2	78
	General Industrial /TFI	Tomoana Extension (HPUDS)	15	17	12	10	8	17	4	3	2	2	78
	General Industrial	Whakatu	17	18	10	10	5	18	4	5	2	2	79
	Havelock North Village: Industrial & Business	Havelock North Village	10	13	13	10	10	5	2	8	1	3	65
	Light Industrial	Stortford Lodge	10	15	13	12	10	5	2	8	1	4	70
	Whirinaki Industrial Zone	Whirinaki	15	15	10	8	3	19	5	2	3	1	70



## Table 4-4: MCA Scores for Napier and Hasting's Commercial and Retail zones

	Zone	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 vicinity	Existing or proposed public transport	Access to complementary / supporting business services	Secure infrastructure - high speed fibre, power etc.	Diversity of Space types	Proximity to market - tourist accommodation within 1km	Score
	Art Deco Quarter	5	9	3	13	10	8	3	4	8	8	2	3	72
	Inner City Commercial	5	9	3	13	10	8	3	4	8	8	2	3	72
er	Fringe Commercial	6	9	4	13	13	8	2	3	8	8	3	3	76
įdr	Suburban Commercial	5	10	3	12	14	9	3	2	7	8	2	1	72
ž	Foreshore Commercial	7	7	1	3	14	6	5	1	2	8	2	4	57
	Large Format Retail	9	8	4	10	15	8	1	2	5	8	1	1	69
	Mixed Use	9	8	3	12	12	8	3	1	9	8	1	1	71
	Central Commercial	8	9	4	14	13	9	2	4	10	9	4	3	85
	Commercial Service	6	9	3	13	11	9	2	3	8	9	2	3	74
	Suburban Commercial	5	9	3	12	11	9	3	1	6	8	1	1	66
Ś	Residential Commercial	5	9	3	10	9	9	3	2	5	9	2	2	65
ΰ	Large format retail	9	9	4	12	14	9	1	3	9	9	1	2	78
sti	Flaxmere Commercial	7	6	3	8	13	6	4	1	5	8	2	1	61
문	Flaxmere Commercial Service	7	6	3	8	13	6	4	1	5	8	1	1	60
	Havelock North Village Centre Retail	8	7	4	10	14	7	3	1	7	8	4	3	72
	Clive-Whakatu Suburban Commercial	10	3	5	4	10	3	1	1	3	8	1	3	50
	Haumoana - Te Awanga Sub. Com.	4	2	4	1	10	2	4	1	1	8	1	1	37
	Waimarama Suburban Commercial	5	9	3	12	11	9	3	1	6	8	1	1	66

The locations score highly on the attributes (criteria) normally associated with the careful planning, and citing, of industrial locations. All the business locations scored highly for:

- Accessibility, and the ability to access major road or transport linkages. Having access to quality and suitable transport linkages and infrastructure supports business activity by reducing transport costs. the business/industrial locations have good linkages to support transport.
- Appropriate typography (flat land) with large sites.
- The infrastructure is available to accommodate and support activities is score relatively high (apart from a small number of locations). however, the scoring reflects the potential constraints and wider considerations (e.g., the limitations on the water consents).
- The ability of a location to foster between business advantages (e.g. co-location, agglomeration, and clustering). The ability to operate in a network of related and unrelated businesses can also deliver spill over benefits.

The location of the business zone relative to the surrounding land uses is important because often a buffer is required, especially around industrial activities. This includes the ability to manage and limit reverse sensitivity issues. Again, these aspects can be managed using appropriate planning mechanisms.

Beyond these criteria, the scores fall to lower levels with proximity to labour (i.e., distance away from the residential areas) and exposure filling the middle of the scores (range). The lower scored criteria relate show that the locations are:

- Potentially subject to traffic congestion. This is despite suitable locations on traffic routes but highlights the level(s) of use (of the infrastructure.
- The access to the port is subject to distance and the access to routes. However, access to the port is not seen as core requirement for all sectors. In fact, only a portion of businesses rely of the port to underpin their business activity.
- The distance to other type of business locations (e.g., commercial areas with supporting business activities like accountants and lawyers) is score towards the lower end. This is a function of where the activities are located, based on zones, and is somewhat removed from industrial locations.
- Except for the Suburban Commercial zones, these business zones are largely found in one geographic area, so they were not assessed by location as the industrial land was.

The scores are integrated into the wider discussions associated with the sufficiency assessment.

# 4.4 Stakeholder Engagement

The NPSUD highlights the need to engage with local developers to source inputs and to consider local views. Hastings District Council have recently completed an 'Intentions Survey' of owners of vacant land and the findings were also considered as part of our assessment. A summary of the results from this survey is included in Section 4.4.1, including some key observations.

In addition, the local economic development agencies<sup>25</sup> and large economic assets (like the port and airport) were surveyed to inform the growth modelling, and the development outlook. The engagement helped to

 $<sup>^{25}</sup>$  We note that the local economic agencies were in the process of being restructured into a single entity to drive economic development.



ensure that local development perspectives were integrated into the analysis and vacant capacity was not overstated.

In particular, the engagement with developers has been used to assist in identifying characteristics of land and location attributes associated with the suitability assessment. The stakeholder engagement process was undertaken in the form of an online survey, administered by M.E, with support from council staff. Results were then collated and incorporated into the MCA. Respondents were asked to rate factors (out of 100) to indicate the importance of those factors when development decisions are made. Table 4-5 presents the results and shows the relative importance of key factors influencing investment decisions.

#### Table 4-5: Summary of factor importance

Factor	Average	Industrial	Commercial	Retail
Other service Infrastructure in place or proposed (Freshwater, Wastewater,				
Roading, Power).	89	89	NA	NA
Risk of Natural Hazards (other than flooding - i.e. geotechnical issues,	07	0.0		00
liquefaction, fault lines, tsunami inundation)	87	98	82	82
Flooding risk and stormwater infrastructure availability.	86	88	82	90
Accessibility to Napier Port.	86	86	NA	NA
Flat land, large land parcel, contiguous sites (functional location).	86	86	NA	NA
Access to major Road / transport routes; good transport access, especially	0.2	0.2	N 4	NLA
road/motorway. Freight/heavy vehicle focused.	02	82	INA	NA
Co-location or clustering with other industrial & service activities	0.7	0.2	NIA	NIA
(Agglomeration benefits)	02	82	INA	NA
Co-location or clustering with other retail activities (Cross Shopping).	80	NA	NA	80
Ownership Structure (tenure i.e. freehold v leasehold land).	78	86	70	NA
Parking availability.	77	NA	64	89
Suitable, reliable communication infrastructure in place or proposed (e.g.	77	NIA	70	00
telecommunications, fast internet, etc.).	//	INA	75	80
Co-location or clustering with complementary business activities -	70	NIA	70	NIA
particularly retail.	/5	INA	/5	NA
Ability to develop a range of space types including multi-storey buildings.	72	NA	72	NA
Proximity to market - dense resident or tourist population in walkable	70	NIA	NIA	70
catchment.	70	INA	INA	70
Ability to buffer adverse effects from residential and sensitive activities,	66	66	NIA	NIA
distance from sensitive land uses.	00	00	INA	NA
Access to major Road / transport routes; good transport access, especially	65	NA	65	66
road/motorway.	05	INA	05	00
Proximity to market - tourist accommodation and attractions.	64	NA	NA	64
Exposure / profile / visibility.	63	52	60	78
Access to complementary / supporting business services (Business sector	61	NIA	61	NIA
suppliers).	01	INA	01	NA
Water Infrastructure in place or proposed (freshwater, wastewater).	61	NA	57	65
Access to complementary / supporting business services (supplying retail	61	NA	NA	61
sector).	01	INA	NA	01
Access to productive land/primary production activities.	61	61	NA	NA
Other service infrastructure in place or proposed (e.g. power, roading, rail).	59	NA	58	59
Access to complementary / supporting business suppliers and resources.	55	55	NA	NA
Proximity to labour.	51	73	31	50
Low level of traffic congestion in vicinity.	48	56	42	48
Proximity to market - dense employment in walkable catchment.	44	NA	NA	44
Accessibility to Hawkes Bay Airport.	39	32	46	NA
Existing or proposed public transport.	36	NA	NA	36
Access to railway, including sidings.	26	26	NA	NA



The sample size for the developer survey is relatively small due to the targeted nature of it combined with low response rates. We consider survey fatigue to have played a role, since there were two related surveys<sup>26</sup> being conducted at the same time. Responses therefore have to be treated with caution. Nevertheless, valuable high-level observations are drawn from the results.

Some of the criteria are universal across all development types (i.e. industrial, commercial, retail), while other considerations are sector specific. For example Availability of parking is unlikely to affect the decision for industrial development but will be considered when a developer decides to provide space for retailing and commercial activity. Similarly, Access to Napier Port is less of a consideration for a commercial (office) development than what it would be for an industrial development. The following criteria are relevant for all development sectors:

- Risk of Natural Hazards (other than flooding i.e., geotechnical issues, liquefaction, fault lines, tsunami inundation),
- Flooding risk and stormwater infrastructure availability,
- Exposure / profile / visibility,
- Proximity to labour, and
- Low level of traffic congestion in vicinity.

The results shows that natural hazards and infrastructure resilience are critically important for developers, with average scores of 86 and 87. As expected, *Exposure/Profile/Visibility* is very important to retail development (78), but less so for industrial developers (52). Location relative to where employees are located, is relatively unimportant for commercial developers. This could be attributed to the emergence of hybrid working<sup>27</sup>, with employers successfully employing office workers further afield. However, this could also related to the generally high levels of accessibility and moderate travel times in the local context.

The ownership structure, and how a property is held, are key considerations because it influences how readily a section can be developed. Industrial developers rated it somewhat higher (86) than commercial developers (70). Retail premises are generally leased, so this question was not put to retail developers.

Sector-specific observations derived from the survey are presented below.

## Industrial

In addition to factors already highlighted, important considerations (>80) for this group centres around the physical attributes of a site, i.e. large, flat parcels, and accessibility, i.e. good access to heavy vehicles and focused on transport routes and Napier Port.

Co-location or clustering with other industrial and service activities is also important to this group because of the agglomeration benefits that arise. These include lower transactions costs, labour pooing, sharing of suppliers and so forth.

For this group, proximity to labour is a moderately important (73) consideration. This points to industrial activities' reliance on employees being physically present in the general location, but not necessarily in close proximity. A constraint highlighted by Councils' economic development agencies, is the availability of labour in especially the rural sector, but this sector is not directly linked to industrial land demand.

<sup>&</sup>lt;sup>26</sup> A survey of industrial land developers/owners by Barkers & Associates and the Intentions survey by Council, were sent to developers around the same time. There were some overlap of the parties targeted by these surveys.
<sup>27</sup> Time is call that was unstring from home and working from the office.

 $<sup>^{\</sup>rm 27}$  Time is split between working from home and working from the office.



#### Commercial

Besides the factors already mentioned, reliable communication infrastructure is rated as important (73). This is on par with co-location/clustering with retail (73). This confirms what is observed across Napier and Hastings, with most zones accommodating a mixture of commercial (office) and retail activities. Having the ability to develop a range of space types that include multi-storey buildings, is moderately important (72) for commercial developers. This is likely due to retail usually locating on the ground floor (and as required by planning provisions), and commercial above ground level.

#### Retail

For this group, parking availability (89) is crucial, followed by considering flood risk during development decisions/due diligence. Convenience is an important attractor for retail, which includes providing parking options. This is especially true for Napier and Hastings where public transport options are limited. If households can't access a retail development conveniently, they might go elsewhere and this is considered by developers. Convenience is further underscored by the importance ascribed to *co-location with other retail activities* (80) by respondents. This points to the need for, and importance, of the centres hierarchy.

With reference to the wider **development considerations**, developers were asked about constraints and business land capacity in Hastings and Napier. Zone provisions and a lack of infrastructure are seen as the main barriers for development and some respondents indicated that the business zone provisions were "out of date" and too restrictive. Zones in Havelock North Village and Tomoana were specifically mentioned.

When asked about the sufficiency of business land in Napier and Hastings, respondents broadly agreed that there is sufficient retail space, but commercial land (for office activities) is in short supply. The responses about industrial land were varied. The general view was that Hastings has sufficient industrial land over the short term, but the supporting infrastructure is lacking. Similarly, Napier was perceived to have sufficient zoned land but infrastructure considerations limited development. Another respondent is of the view that over the longer term, more land along the rail corridor between Tomoana to Whakatu, should be zoned industrial. Another developer remarked, "*if more land is made available for industrial too soon then we won't see enough density of development in the existing/most recently rezoned industrial areas (Irongate & Omahu North). The scale of any newly zoned industrial land should be well thought out - don't release too much all at once.*"

A general observation is, that developers are eager to engage with Councils on planning for the future to ensure economic development is not hindered by a lack of business land capacity.

## 4.4.1 Intentions survey

The Intension Survey was administered by HDC, and a summary of the responses was provided to M.E. Table 4-6 presents a summary of the relevant responses. It is beyond this project scope to provide a full discussion of the survey. It is important to note that the survey was conducted at the beginning of 2022, before the strong inflation figures became very visible, and the Reserve Bank accelerating the interest rate tightening cycle.



Timeframe	Development Plans			Ha
	Developing for Own Use	Expansion from within Hawke's Bay		5.0
ars	Developing for Own Ose	Relocation/Expansion from outside of HB		2.8
k	Douglaning for Another Party	Expansion from within Hawke's Bay		-
-1-	Developing for Another Party	Relocation/Expansion from outside of HB		1.3
			Total	9.1
		Expansion from within Hawke's Bay		-
	Developing for Own Use	Relocation/Expansion from outside of HB		2.0
ars		Undetermined		1.1
k	Developing for Another Party	Expansion from within Hawke's Bay		-
2-3		Relocation/Expansion from outside of HB		-
		Undetermined		18.0
			Total	21.1
		Expansion from within Hawke's Bay		-
γ	Developing for Own Use	Relocation/Expansion from outside of HB		-
feal		Undetermined		1.2
5.	Douglaning for Another Party	Expansion from within Hawke's Bay		-
4	Developing for Another Party	Relocation/Expansion from outside of HB		-
			Total	1.2

#### Table 4-6: Intentions Survey Summary (selected variables)

Source: HDC Intensions Survey Results Summary

The survey results were considered when assessing the current vacant capacity and the expected short term demand for industrial land. Importantly, the respondents indicated that there is some uncertainty about their plans, and several factors such as demand, sale price, market trends will impact their decisions.

Respondents were asked about their development plans over the next five years, including whether:

- they are developing for themselves,
- developing for another party, or
- planning to sell/subdivide in the near future.

We consider 'developing for own use' and 'developing for another party' as relevant. Land which will be sold or subdivided is assumed to be vacant, and therefore part of the vacant capacity assessment.

The survey asked about the characteristics of the end activity, using the following options:

- Relocation from within Hawke's Bay,
- Expansion from within Hawke's Bay,
- Relocation/expansion of a business from outside Hawke's Bay, and
- Undetermined.

To estimate the net impact of the development intentions, i.e. how much industrial land would be taken up if owners' plans came to fruition, relocation from within Hawke's Bay was excluded. It is assumed that when a business relocates, it takes up a vacant site, but simultaneously frees up land on the site it previously occupied. That is, the relocation is to another site. We were unable to determine what the impact of these relocations were, i.e. whether businesses that relocate take up more or less space in their new location (this was another reason for excluding this segment).

Based on the responses, activity in 2022 (0-1 years) will be strong, with an intended 9.1ha of industrial land being developed. While the 2-3 years period is showing very strong 'demand' (21.1ha), it has to be treated with caution. The specific responses relating to the 21.1ha, reveals great uncertainty surrounding the developer's intentions. In addition to the uncertainty whether they can find a buyer/occupier for the land,



there is the matter of water availability in the location, which is likely to constrain development. It is plausible that this capacity might only be taken up later, given the current economic outlook and uncertainty about the near future. Further, the survey reflects individual responses and sums the intentions and does not reflect market visibility about what others are doing. For example, if a development is taking place, then a developer might wait until a future date before commencing his/her development. **Considering the large jump in intentions for the 2-3 year period suggests that there could be 'wait and see' theme over the short term.** 

Future (4-5 years) development intentions are uncertain. Based on the survey results it appears that 1.2 ha of industrial land is intended to be developed. The survey does not provide insight into the specific markets that would be targeted and the current economic environment is adding uncertainty.



# 5 Sufficiency assessment

The sufficiency assessment combines the estimated demand and the supply of land using a qualitative approach. The net position, of supply vs demand, is interpreted in terms of sufficiency. The sufficiency assessment provides information about the degree to which the Section 3.3 of the NPSUD is satisfied. The section indicates that there has to be "at least sufficient development capacity in its region or district to meet the expected demand for business land". The capacity needs to be assessed in terms of:

- 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).

The sufficiency assessment presented below draws from earlier sections about the capacity, demand and the suitability. The assessment includes the competitiveness margin as stipulated by the NPSUD.

We note that the forward-looking demand is based on broad, trend-growth continuing and that the recent (very) strong lift in activity over the recent past will be tempered over the short term. For the short term outlook, the anticipated growth is tempered by rising interest rate environment, supply chain constraints, declining confidence levels and global geo-political uncertainties. These uncertainties are factored into the assessment and the short-term outlook, and growth pathway over the next 3-5 years. Based on historic trends, (section 2), a rebound could be expected after a slowdown and **we strongly advise the Councils to continue to monitor development activity over the short-medium timeframe.** 

## 5.1 Napier City – Sufficiency Assessment

The sufficiency of land provision is illustrated using several tables highlighting the demand, capacity and the suitability. The different land uses are discussed separately using a mix of land area (ha) and GFA to illustrate the relative positions over time.

## 5.1.1 Industrial sufficiency

The industrial sufficiency is presented at a zone level. These zones are broadly location (area) specific except for the main industrial zone that covers Pandora, Awatoto and Onekawa. Similarly, the suburban industrial zone covers several smaller areas throughout the city. Table 5-1 summarises the results of the sufficiency assessment, and it reports:

- The demand (base scenario) for land across the different zones, and over time
- The demand with the competitiveness margin included



- The capacity that remains after the vacant land has been developed. This step includes a spatial allocation of demand across zones to allow for situations where there is demand for space in a specific zone, but that zone is at capacity (no spare capacity). 'Wet industry' demand to allocated to zones that can accommodate wet industries.
- The sufficiency situation for the base and high scenarios are shown. The sufficiency compares the situation for the 'without' and 'with' competitiveness margin applied.
- The available capacity would need to be assessed from an infrastructure capacity perspective. The available information needs to be expanded before the degree to which infrastructure supports (or not) development can be determined. This would need to include stormwater and consider the aspects like the water table and low-lying areas.

		Main Industrial	Business Park Zone	Airport Zone	Deferred Airport Zone	Suburban Industrial Zone	Mixed Use and West Quay Waterfront Zones	Port and Marine Zones	Wastewater Treatment Zone	TOTAL
Vacant	Crnt	15.2	-	3.8	41.5	0.1	1.0	1.0	-	62.6
Capacity	7у	11.3	-	3.4	41.4	0.0	0.8	0.9	-	57.
(pre-dvlpmt)	20y	5.0	-	2.4	38.2	0.0	0.6	0.4	-	46.6
Demand	Зу	3.4	0.4	0.4	0.0	0.1	0.5	0.0	0.0	4.9
Demand (base)	7у	7.8	0.8	1.0	0.0	0.3	1.1	0.0	0.1	11.1
(base)	20y	22.0	1.9	2.8	0.1	0.8	3.0	0.2	0.2	31.0
Demand +	Зу	4.1	0.4	0.5	0.0	0.2	0.6	0.0	0.0	5.9
Margin	7у	9.4	1.0	1.2	0.0	0.4	1.3	0.1	0.1	13.4
(base)	20y	25.2	2.2	3.2	0.1	0.9	3.5	0.2	0.3	35.7
Capacity/	Зу	15.2	-	3.8	41.5	0.1	1.0	1.0		62.6
balance post	7у	11.3	-	3.4	41.2	0.0	0.8	0.9	na	57.5
devmt.	20y	5.0	-	2.4	38.2	0.0	0.6	0.4		46.6
Sufficiency	Зу	Ok	Insuf.	Ok	Ok	Insuf.	Ok	Ok	Ok	Ok
(Base Sc)	7у	Ok	Insuf.	Ok	Ok	Insuf.	Insuf.	Ok	Ok	Ok
	20y	Insuf.	Insuf.	Insuf.	Ok	Insuf.	Insuf.	Ok	Ok	Ok
Sufficiency	Зу	Ok	Insuf.	Ok	Ok	Insuf.	Ok	Ok		Ok
(High Sc)	7у	Insuf.	Insuf.	Ok	Ok	Insuf.	Insuf.	Ok		Ok
	20y	Insuf.	Insuf.	Insuf.	Ok	Insuf.	Insuf.	Ok		Ok
		•							-	

## Table 5-1: Napier Industrial Sufficiency

The key observations about the sufficiency situations across Napier are:

- 1. At a total, city-wide level, there is sufficient industrial (plan enabled) capacity to accommodate the growth (demand). This allows for a transfer/relocation of the demand from zones without capacity to other zones with capacity. This is the situation for the base and high scenarios.
- 2. At a zone level, capacity constraints emerge over the long term, especially for the main industrial zone where a shortfall is identified for the base and high scenarios. This growth is assumed to be



accommodated in the Deferred Airport Zone. Similarly, the capacity constraints would emerge over the medium and long term for the Mixed Use and West Quay Waterfront Zones.

- 3. Some of the zones are already showing capacity constraints. The Business Park Zone, and the Suburban Industrial Zones are already at capacity (based on the small are that is included in the assessment i.e., the entire 44ha is not included in the assessment as capacity. We understand that the area is not available for development because alternative (non-industrial) uses are being explored. The overall demand (growth) in these zones is generally low, reflecting the existing constraints.
- 4. Over the long term, the growth in local industrial activity is expected to see pressures in the Main industrial zone, as well as the Airport zone, regardless of which scenario (base or high) is considered.

A critical assumption of the capacity assessment is that the Deferred Airport zone is part of the available capacity<sup>28</sup>. The sufficiency assessment returns materially different outcomes if this piece of land is excluded. If it is excluded, then there is insufficient capacity at an overall (total) level over the long term. Under this assumption, there is no zone with sufficient capacity over the long term. Further, if the high scenario is assessed, then the sufficiency assessment falls down when the competitiveness margin is also included. If the Airport Deferred zone is excluded (under the base scenario), then 30.5ha of plan enabled capacity would be required to ensure that compliance with the NPSUD is achieved. The interplays between the industrial markets of Napier and Hastings are worth mentioning as there is a degree of substitutability, suggesting that This means that if the Napier locations are at capacity, and not further investments can be accommodated, then a Hastings location is likely to be considered.

The sufficiency assessment would need to be updated to reflect infrastructure constraints and investment programmes.

## 5.1.2 Commercial and Retail sufficiency

This section compares the demand for commercial and retail GFA in Napier, and draws in the information presented earlier in sections 3.2.2, and 4.1.2.

The sufficiency assessment started by considering only vacant capacity, but clear pressures were identified. The sufficiency assessment (Table 5-1) revealed insufficient capacity over the long term, even under the base scenario excluding the competitiveness margin. Therefore, the assessment includes redevelopment but the uncertainties around this approach should be acknowledged because the ease/complexity of redevelopment is unknown. A scenario approach is used to illustrate how much of the redevelopment activity would need to take place for the sufficiency criteria to be achieved. Two shares were considered - 5% and 10% (of the redevelopment capacity is taken up). Under the 5% scenario, development capacity (potential supply) is lifted to 25.6ha (from 20.2ha). Under this scenario, there is sufficient capacity to accommodate the growth over the short and medium term, but there are constraints over the long terms. This is the case with the competitiveness margin included and under the high scenario. The base scenario returns sufficient capacity over the long term.

If 10% of the redevelopment capacity is realised, it lifts total capacity to 30.9ha. There would be sufficient capacity in the commercial and retail zones, over the long term under all scenarios, and with the competitiveness margin included. Sensitivity testing shows that the required share of redevelopment capacity that is needed to return a 'sufficient' result is around 7%.

<sup>&</sup>lt;sup>28</sup> Based on capacity information supplied by Napier City Council.



This suggests, Council should closely monitor the level of redevelopment capacity being taken up by the market (being developed). The amount of redevelopment capacity that is taken up over the short, medium and long term need to be viewed as part of the total uptake that includes vacant uptake. That is, the relative shares of uptake taking place on vacant land, versus redevelopment.

		Vacant ( (or	Capacity nly)	Vacan Redevel Capa	t + 5% opment acity	Vacant + 10% Redevelopment Capacity		
		Base	High	Base	High	Base	High	
	Зу	2.5	3.1	2.5	3.1	2.5	3.1	
Demand	7y	5.5	6.8	5.5	6.8	5.5	6.8	
	20y	13.4	17.8	13.4	17.8	13.4	17.8	
	Зу	3.0	3.7	3.0	3.7	3.0	3.7	
Demand + Margin	7y	6.6	8.1	6.6	8.1	6.6	8.1	
	20y	15.4	20.5	15.4	20.5	15.4	20.5	
	Зу	17.8	17.1	22.4	0.0	27.8	0.0	
Capacity after development	7y	12.2	10.3	15.7	0.0	21.0	0.0	
	20y	0.0	0.0	0.0	0.0	3.2	0.0	
	Зу	Ok	Ok	Ok	Ok	Ok	Ok	
Sufficiency - Excl Margin	7y	Ok	Ok	Ok	Ok	Ok	Ok	
	20y	Insuf.	Insuf.	Ok	Insuf.	Ok	Ok	
	Зу	Ok	Ok	Ok	Ok	Ok	Ok	
Sufficiency - Incl Margin	7y	Ok	Ok	Ok	Ok	Ok	Ok	
	20y	Insuf.	Insuf.	Ok	Insuf.	Ok	Ok	

#### Figure 5-1: Napier Commercial and Retail Sufficiency

It is important to note that this sufficiency assessment was conducted at a city-wide level because the location of office and retail activities are driven by a range of factors. Demand for retail and commercial GFA is largely generated close to market, i.e. driven by residential growth and the location of households, over time. It would not be appropriate to use current spatial distribution of retail and commercial employment to estimate future demand for commercial and retail GFA. But, the current patterns are aligned with existing residential patterns and provide a useful starting point for future analysis. Demand is generated by households and the development patterns are related to residential and intensification growth. In turn, this influences the spatial patterns of commercial and retail development uptake.

While not shown in the above tables, around 60% of vacant capacity is in the Large Format Retail zone. Considering the nature of this land use, its location and the relationship with other activities (e.g. commercial and retail), means that this zone's vacant capacity is masking the true available capacity. If this vacant capacity is ignored, then the redevelopment activity that is needs ensure that there is 'sufficient' GFA is estimated at 21%.



# 5.2 Hastings District – Sufficiency Assessment

The results of the sufficiency assessment for the Hastings district are summarised under three separate headings.

## 5.2.1 Industrial sufficiency

It is important to ensure that sufficient industrial land is available, in appropriate locations, to support economic growth and activity. Table 5-2 presents the sufficiency assessment at a zone level, comparing available capacity with demand for industrial land. Demand for the base scenario is presented including and excluding the competitiveness margin. The spatial distribution of demand is driven by current land use patterns. In addition, the results of the sufficiency assessment under the high scenario are reported at the bottom of the table.

		General Industrial	Tomoana Food Industry	Havelock Nth Village: Industrial, Business	Light Industrial	Whirinaki Industrial	TOTAL
	Current	198.9	8.3	1.0	0.0	2.2	210.3
(pre-development)	7y	187.3	8.0	0.8	0.0	0.1	196.3
(pre development)	20y	205.5	7.5	0.6	0.0	0.0	213.5
Remaining capacity		133.5	5.8	0.4	0.0	0.0	139.7
<b>.</b> .	Зу	10.9	0.2	0.2	0.7	2.1	14.1
Demand (excl margin)	7y	25.7	0.5	0.5	1.6	4.5	32.7
(exermingin)	20y	58.2	1.3	1.0	3.9	9.4	73.9
	Зу	13.0	0.3	0.2	0.8	2.5	16.9
(incl margin)	7y	30.8	0.6	0.5	1.9	5.4	39.3
(inci margin)	20y	67.0	1.5	1.2	4.5	10.8	85.0
	Зу	Ok	Ok	Ok	Insuf.	Insuf.	Ok
Sufficiency* (Base Scenario)	7y	Ok	Ok	Ok	Insuf.	Insuf.	Ok
(base scenario)	20y	Ok	Ok	Insuf.	Insuf.	Insuf.	Ok
	Зу	Ok	Ok	Ok	Insuf.	Insuf.	Ok
Sufficiency * (High Scenaric)	7у	Ok	Ok	Ok	Insuf.	Insuf.	Ok
(High Scenario)	20y	Ok	Ok	Insuf.	Insuf.	Insuf.	Ok
*Includes margin for suff	ficiency ass	essment.					

## Table 5-2: Hastings Industrial Sufficiency



The key observations about the sufficiency of industrial zoned land, across Hastings are:

- 1. Under base scenario settings, around 120ha will be needed over the next 30 years to accommodate the projected employment growth. Under a high scenario setting, this increases to 151ha over the next 30 years. If the competitiveness margin is included, 141ha and 177ha, respectively, would be required.
- 2. In Hastings an estimated 210ha of land has been identified as currently vacant and available for industrial purposes (i.e. zoned/plan enabled). Council's urban development strategy identifies a further 50ha at Tomoana over the long term, which increases industrial (plan enabled) capacity to 260ha by 2051. We understand that the future use of this area will be subjected to review as part of the Future Development Strategy process.
- 3. This suggests at a total, district-wide, level there is sufficient industrial (plan enabled) capacity to accommodate the employment growth (demand) even if higher than expected growth eventuates. However, this would need to be viewed against infrastructure readiness as well as other considerations like water availability (ability to secure consents).
- 4. The industrial land available to be developed is more than demand requires at the district level, even when the competitiveness margin is included. However, supply is concentrated in General Industrial zone, so **at a finer zone level, there are capacity constraints.** This is in all but the General Industrial and Tomoana Food Industry zones.
- 5. According to Council's estimates, the Light Industrial zone currently has very little vacant capacity (300sqm located in Hastings Central). The estimates (based on sectoral employment growth, and existing spatial patterns) suggest that demand for this location is exceeding the availability capacity even in the short term. However, other location options appear to be available (in other zones).
- 6. In the Whirinaki Industrial zone, capacity constraints emerge over the medium and long term even if the competitiveness margin is excluded. Including the margin as per NPSUD requirements, reveals a shortage of capacity in the short term. In the event of higher than anticipated growth (i.e. the high scenario), the shortage in this zone is more acute. Under a high scenario, Whirinaki Industrial zone faces shortages in the short term, even when the margin is excluded. Further, the area is a larger single use site and we understand that the area included in the capacity consideration is only the readily developable portion. It will be within the owner's capability to add additional land to the industrial portion of the site if he/she so wishes'
- 7. Havelock North Industrial and Business, is expected to see a shortage over the long term, regardless of whether a margin is applied or not, and under both the base and high scenarios. Considering the proximity of Havelock North to Hastings, the demand could (theoretically) be accommodated elsewhere in the district such as Irongate or Whakatu, assuming that these locations would be appropriate, and comparable to the Havelock North Industrial and Business zone.

## 5.2.2 Commercial and Retail sufficiency

Like Napier, the sufficiency assessment firstly assumed that only vacant capacity is available to satisfy commercial and retail GFA demand. However, the shortfall in Hastings is more acute than in Napier. The assessment shows there is sufficient commercial and retail plan enabled GFA over the short term (including when the competitiveness margin is incorporated), but shortfalls emerge over the medium and long term.

Table 5-3 presents the results of the assessment, including two scenarios where a share (20% and 25%) of the redevelopment capacity is taken up.



		Vacant	Capacity	Vacant Redevelopm	: + 20% ent Capacity	Vacant Redevelopm	t + 25% Jent Capacity
		Base	High	Base	High	Base	High
	Зу	1.7	2.2	1.7	2.2	1.7	2.2
Demand	7у	3.5	4.5	3.5	4.5	3.5	4.5
	20y	8.0	11.7	8.0	11.7	8.0	11.7
	Зу	2.1	2.6	2.1	2.6	2.1	2.6
Demand + Margin	7у	4.2	5.4	4.2	5.4	4.2	5.4
	20y	9.2	13.4	9.2	13.4	9.2	13.4
	Зу	1.5	1.1	18.0	17.6	22.1	21.7
Capacity after	7у	0.0	0.0	14.5	13.1	18.7	17.2
	20y	0.0	0.0	6.5	1.4	10.6	5.5
	Зу	Ok	Ok	Ok	Ok	Ok	Ok
Sufficiency – Excl	7у	Insuf.	Insuf.	Ok	Ok	Ok	Ok
Margin	20y	Insuf.	Insuf.	Ok	Ok	Ok	Ok
	Зу	Ok	Ok	Ok	Ok	Ok	Ok
Sufficiency – Incl Margin	7у	Insuf.	Insuf.	Ok	Ok	Ok	Ok
	20y	Insuf.	Insuf.	Ok	Insuf.	Ok	Ok

#### Table 5-3: Hastings Commercial and Retail Sufficiency

If 20% of redevelopment capacity is assumed to be developed, then capacity across Hastings's commercial and retail zones, is lifted to 19.7ha (from 3.2ha). Under such a scenario, insufficient capacity remains over the long term and under the high growth pathway (including the competitiveness margin).

Under a scenario where 25% of the redevelopment capacity is realised, GFA capacity lifts to 23.9ha. There would then be sufficient capacity, over the long term under all scenario settings. Sensitivity testing showed,  $\sim$ 21% is the required level of development (of the redevelopment capacity) over the long term.

Like for Napier, the sufficiency assessment in Hastings was conducted at the district-wide level.

The results indicate the level of business capacity (commercial and retail) that is available for both Napier and Hastings, if all vacant business-zoned land was occupied by business activities.

However, there is a complicating matter in some locations where residential and business activity can colocate (for example Ahuriri). Residential activity (household units) has permitted status in several other<sup>29</sup> business zones. While it is generally recognised that retail uses would take preference over residential activity on the ground floor in these zones, there could be competition for upper-floor space between residential and office activities. If residential capacity displaces business capacity, then there could be a need for additional

<sup>&</sup>lt;sup>29</sup> Napier: Mixed Use zone, Art Deco Quarter zone, Fringe Commercial zone, Suburban Commercial zone, Foreshore Commercial zone and Inner City Commercial zone. Hastings: Hastings Commercial Service zone, Hastings Central Residential Commercial zone, Havelock North Village Centre Mixed Use zone, Clive Suburban Commercial zone, Haumoana - Te Awanga Suburban Commercial zone, and Waimarama Suburban Commercial zone.


capacity to accommodate employment growth. The size of residential development that displaces commercial activities (and uses available capacity) will determine how much additional capacity would be needed. Councils should monitor this.

While the assessment did not differentiate between commercial and retail capacity, there was broad consensus during the stakeholder engagement that there is sufficient retail space, but commercial land (for office activities) is lacking. The analysis shows that this is the case if redevelopment capacity is excluded. The vacant capacity is limited, and over the long-term redevelopment capacity will need to be developed to meet overall demand levels.

### 5.3 Conclusion

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.

The limited information about infrastructure capacity is a gap in the business land sufficiency assessment. This gap relates to the degree to which the growth can be accommodated within existing (and planned) infrastructure constraints. The assessment used available information, but additional work is needed to ensure to lift the knowledge about local infrastructure capacity constraints.



# 6 Concluding remarks

M.E have undertaken a BCA for the urban areas of Napier and Hastings, to meet the key areas required under the NPS-UD for Napier and Hastings. Ensuring that there is sufficient land capacity to support the local market to deliver the required business space is important because it contributes to community wellbeing through enabling employment.

This change in employment is core in estimating the land and floorspace requirements to carry out daily business activities. In other words, the future economic outlook is translated into employment numbers, and in turn, these were used to estimate the business land requirements. The assessment gives a positive demand outlook for industrial, commercial and retail sectors projected for Napier and Hastings area, across the assessment period.

The net position of supply vs demand according to the measures of plan enabled, infrastructure ready, demand requirements of the associated businesses, suggest sufficiency for the business zone availability to service its short and medium-term demands. However, over the longer terms, some pressures emerge in some zones. The current economic outlook is clouded by global geopolitical shifts, and the tightening business cycle. The trends over the short term will influence the relative sufficiency levels for the medium term (10 years), and it is suggested that the local trends be carefully monitored. In addition, infrastructure capacity and its ability to support growth needs to be assessed.



# 7 Appendices



#### Appendix 1: Overview of the Policy Framework

The following is a highly summarised overview of the NPS-UD policy framework. 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.



#### Appendix 2: Introduction to the EFM

The EFM is a multi-regional scenario model which traces the economic implications of growth by economic sector and households over a thirty-year timeframe. The model adopts a 'systems' perspective in its evaluation of the impacts of growth, acknowledging that many of the issues we face today are highly interconnected and complex. It uses an integrated approach to assess the possible implications of plausible scenarios, given a range of assumptions. The model helps to identify possible constraints and limiting factors which may result from economic growth using 'what if' scenario analysis.

The EFM is based on a multi-regional economic input-output table, capturing the impacts of growth on the study area, as well as on the wider regional and national economies. The model uses input-output mathematics to capture not only the direct effects of final demand growth in each sector, but also the indirect (i.e. upstream flow-on) and induced (i.e. resulting from consumer spending) effects associated with this growth. The impacts resulting from each scenario are compared with the 'baseline' Business-As-Usual (BAU) scenario, which is established by estimating sectoral domestic and export final demand, and by developing quantitative projections of population and export growth. This baseline analysis can be augmented by including qualitative information on prevailing or imminent economic conditions gathered through literature searches, industry reports, media commentaries, and dedicated workshops and interviews with key regional stakeholders.

The model analyses the economic impacts for 48 industries within the region, focussing on key industries. (These industries can be disaggregated to 106 sectors and can be linked to the 6 Digit ANZSIC Business Directory's 500 sectors).

Results from the quantitative econometric projections, literature reviews and interviews are combined using the EFM, to project the full 'business as usual' evaluation of economic growth for the region. The model projects domestic and export market growth, and the impacts of changes to the region's population and business requirements. For example, industries driven by local demand are primarily influenced by changes in the size of the population, and its composition. The Council's population growth projections (or StatsNZ's) could be used to estimate the effects on the education, health and community services sectors, and growth of the accommodation, restaurants and bars, cultural and recreational services, and retail trade sectors. Industries driven by international demand are analysed using quantitative projections of export growth, for each industry. These are based on time-series analysis of commodity outputs and employment growth rates. Industries driven by intermediate demand (such as road transport and services to agriculture) are captured via flow-on implications from growth of the key industries. Technological progress and changes in labour productivity are also accounted for.

We note that the EFM reflects a set of assumptions that can be adjusted to assess the outcomes relative to the base scenario. The outputs are then compared to reflect the relative change. Different component parts can be adjusted to reflect the scenarios, including: household consumption (based on population and population ageing), international exports, inter-regional exports, gross fixed capital formation (GFKF), and changes in inventory.



#### Appendix 3: Sector-land use (space-type) relationships

Sector	OfficeCommercial	OfficeRetail	ShopsCommercial	ShopsRetail	Accommodation	Warehouse	Factory	YardCommercial	YardIndustrial	Other BuiltCommercial	Other Built—Industrial	Education	OutdoorCommercial	OutdoorIndustrial	OutdoorRural
Horticulture and fruit growing	08/	0%	0%	0%	0%	0%	0%	0%	0%/	0%	E 9/	0%	0%	0%	05%
Shoon, boof eattle and grain farming	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%	93%
Dainy cattle farming	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%	95%
Poultry deer and other livestock farming	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%	95%
Forestry and logging	0%	0%	0%	0%	0%	0%	8%	0%	15%	0%	0%	0%	0%	0%	77%
Fishing and aquaculture	0%	0%	0%	0%	0%	19%	0%	0%	0%	0%	47%	0%	0%	0%	35%
Agriculture, forestry and fishing support	20%	15%	0%	0%	0%	15%	10%	0%	0%	0%	0%	0%	40%	0%	0%
Mining, quarrying, exploration and other	0%	0%	0%	0%	0%	0%	10%	0%	20%	0%	0%	0%	70%	0%	0%
Cil and see systemation	00/	09/	08/	09/	08/	08/	1.00/	09/	200/	09/	09/	0%	70%	09/	00/
Meat and meat product manufacturing	0%	0%	0%	0%	0%	20%	80%	0%	20%	0%	0%	0%	0%	0%	0%
Dairy product manufacturing	0%	0%	0%	0%	0%	10%	90%	0%	0%	0%	0%	0%	0%	0%	0%
Other food manufacturing	0%	0%	0%	0%	0%	10%	80%	0%	10%	0%	0%	0%	0%	0%	0%
Beverage and tobacco product manufacturing	0%	0%	0%	0%	0%	20%	80%	0%	0%	0%	0%	0%	0%	0%	0%
Textile, leather, clothing and footwear	0%	0%	0%	0%	0%	10%	90%	0%	0%	0%	0%	0%	0%	0%	0%
Wood product manufacturing	2%	0%	0%	0%	0%	11%	60%	0%	28%	0%	0%	0%	0%	0%	0%
Pulp, paper and converted paper product	2%	0%	0%	0%	0%	20%	63%	0%	16%	0%	0%	0%	0%	0%	0%
Printing	2%	0%	0%	0%	0%	21%	78%	0%	0%	0%	0%	0%	0%	0%	0%
Petroleum and coal product manufacturing	2%	0%	0%	0%	0%	11%	20%	0%	68%	0%	0%	0%	0%	0%	0%
Chemical, polymer and rubber product manufacturing	2%	0%	0%	0%	0%	20%	63%	0%	16%	0%	0%	0%	0%	0%	0%
Non-metallic mineral product manufacturing	2%	0%	0%	0%	0%	11%	50%	0%	38%	0%	0%	0%	0%	0%	0%
Primary metal and metal product manufacturing	2%	0%	0%	0%	0%	6%	60%	0%	33%	0%	0%	0%	0%	0%	0%
Fabricated metal product manufacturing	2%	0%	0%	0%	0%	25%	48%	0%	25%	0%	0%	0%	0%	0%	0%
Transport equipment manufacturing	2%	0%	0%	0%	0%	11%	68%	0%	20%	0%	0%	0%	0%	0%	0%
Machinery and equipment manufacturing	2%	0%	0%	0%	0%	11%	68%	0%	20%	0%	0%	0%	0%	0%	0%
Furniture and other manufacturing	2%	0%	0%	0%	0%	11%	68%	0%	20%	0%	0%	0%	0%	0%	0%
Electricity generation and supply	9%	0%	0%	0%	0%	14%	0%	0%	18%	0%	58%	0%	0%	0%	0%
Gas supply	0%	0%	0%	0%	0%	15%	0%	0%	20%	0%	65%	0%	0%	0%	0%
water, sewerage, drainage and waste services	2%	0%	0%	0%	0%	15%	0%	0%	27%	0%	56%	0%	0%	0%	0%
Construction	5%	5%	0%	0%	0%	10%	5%	0%	15%	30%	30%	0%	0%	0%	0%
Retail Trade	D76	0%	66%	0%	0%	95%	0%	3/1%	0%	0%	0%	0%	0%	0%	0%
Accommodation and food services	0%	0%	0%	50%	50%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Road transport	3%	0%	0%	0%	0%	10%	10%	0%	78%	0%	0%	0%	0%	0%	0%
Other transport, postal, courier, transport	5%	0%	0%	0%	0%	21%	10%	0%	24%	0%	40%	0%	0%	0%	0%
Air and space transport	10%	0%	0%	0%	0%	10%	40%	0%	30%	0%	10%	0%	0%	0%	0%
Information media and telecommunications	60%	0%	0%	0%	0%	25%	15%	0%	0%	0%	0%	0%	0%	0%	0%
Finance	95%	0%	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%	0%	0%
Insurance and superannuation funds	95%	0%	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%	0%	0%
Auxiliary finance and insurance services	95%	0%	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%	0%	0%
Rental, hiring and real estate services	10%	10%	5%	0%	0%	15%	0%	15%	10%	5%	0%	0%	0%	0%	30%
Ownership of owner-occupied dwellings	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Professional, scientific, technical, administrative and support services	45%	0%	42%	0%	0%	0%	0%	0%	0%	13%	0%	0%	0%	0%	0%
Central government administration, defence and public safety	35%	0%	0%	0%	0%	15%	0%	0%	15%	20%	0%	0%	15%	0%	0%
Local government administration	50%	0%	0%	0%	0%	0%	0%	0%	0%	50%	0%	0%	0%	0%	0%
Education and training	25%	0%	20%	0%	0%	0%	0%	0%	0%	0%	0%	55%	0%	0%	0%
Health care and social assistance	20%	20%	20%	0%	0%	0%	0%	0%	0%	40%	0%	0%	0%	0%	0%
Arts and recreation services	25%	0%	29%	0%	0%	3%	3%	0%	0%	40%	0%	0%	0%	0%	0%
Personal and other services	11%	0%	39%	0%	0%	14%	10%	0%	0%	26%	0%	0%	0%	0%	0%



#### Employment outlook - sector specific comments

Forestry and logging – the wood availability forecasts published by MPI in 2021 shows a levelling off of wood in all four modelled scenarios from 2040 onwards. Some growth expected in the near term (2021-2029), then stabilizing over the medium to long term. No sign of the exponential growth.

Fishing and Aquaculture – growth but no specific/large developments in this sector in Hawke's Bay, that we are aware of. According to MPI's national situation and outlook for the primary sector<sup>30</sup> seafood export revenue is forecast to begin recovering in 2022, as the food service industry starts to reopen, though it will take a number of years to return to previous highs.

Meat product manufacturing – Market research report by Ibisworld<sup>31</sup> on meat processing in NZ, highlighted the weakened trading conditions as a result of the pandemic, which are anticipated to reduce global demand for industry goods over the coming year. As a result, industry exports (and revenue) have fallen consecutively for the two years through 2021-22. This is expected to continue in the short term, but the sector is expected to show strong growth over the long term.

<sup>&</sup>lt;sup>30</sup> https://www.mpi.govt.nz/dmsdocument/45451-Situation-and-Outlook-for-Primary-Industries-SOPI-June-2021

<sup>&</sup>lt;sup>31</sup> https://www.ibisworld.com/nz/industry/meat-processing/90/

# Appendix 6 – Transport Assessment

! 19?MNapier Hastings Future Development Strategy 2024-2054 | Appendicies

# Napier-Hastings Urban Environment Future Development Strategy – Transportation Network Impact Assessment

PREPARED FOR HASTINGS DISTRICT COUNCIL | July 2024

We design with community in mind

Stantec

# Revision schedule

Rev No	Date	Description	Signature of Typed Name (documentation on file							
			Prepared by	Checked by	Reviewed by	Approved by				
1	31/05/2024	Draft	D Kusumastuti	D Hunter	J Ballantyne	V Powell				
2	21/06/2024	Draft	D Kusumastuti	D Hunter	J Ballantyne	V Powell				
3	15/07/2024	Final	D Kusumastuti	D Hunter	J Ballantyne	V Powell				

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# Quality statement

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# 1 Introduction

Hastings District Council (HDC) contacted Stantec to provide transportation assessment services to assist in the preparation of a Future Development Strategy (FDS) for the Napier-Hastings Tier 2 Urban Environment for the Hawke's Bay Regional, Napier City and Hastings District Councils as required under the National Policy Statement on Urban Development 2020 (NPS-UD).

Stantec's role was to take four spatial scenarios provided by the Client and undertake a strategic evaluation to assess and quantify the impacts of these scenarios on the transport network, including output emissions for each scenario. The results would be used to list potential infrastructure interventions that could mitigate any network deficiencies that we identify and provide high-level cost estimates.

The scope of work can be summarized into four main tasks, outlined below. The work associated with each task and the results are reported in the chapters shown in brackets in the list below.

- Modelling the Base Case Scenarios for the year 2023, 2028 and 2048 (reported in Chapter 3)
- Modelling the Four Laning of SH2 Expressway for the year 2048 (reported in Chapter 3)
- Modelling four spatial scenarios for the year 2048 (reported in Chapter 4)

# 2 Strategic Transport Model

The modelling and assessment utilized Council's existing strategic transport model, updated in 2020 and documented in the report "Hawkes Bay Transport Study CUBE Modelling, 2018 Model Update" by GHD.

In this project, a serious oversight was found in the model. The problem happened because intersection delays were not considered in route choice and destination choice (linking trip origins and destinations to determine how far people travel), nor in comparing modelled travel times to observed for the model validation.

After model correction, the modelled traffic flows in the interpeak period appear to match the observed 2018 flows better than before. However, the modelled verses observed traffic flows in the morning and evening peak periods after correction are worsened. As traffic flows in the evening peak are the highest, and the error compared with observed was the least, it was agreed with the Client that all the modelling tasks would focus on **the interpeak and evening peak periods**.

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# 3 The Base Case Scenarios

This part of the project entailed modelling the Base Case scenarios for the years 2023, 2028 and 2048.

The model contains two main inputs, i.e., land use and network inputs. The model has a base year of 2018 and a single transport network representing 2018 which was also previously used for all future years. Distinct land use is input for 2018, 2028 and 2048.

Three main tasks were carried out to produce the Base Case scenarios:

- 1. Create land use input for the year 2023 and a simple check/update of land use input for the years 2028 and 2048 to adjust for any discrepancies associated with introducing the year 2023.
- 2. Update the model network for the years 2023, 2028 and 2048 based on list of improvements provided by the Client.
- 3. Run the Base Case scenarios with the land use and network created/updated in the previous tasks and analyze the results.

Methods to produce the land use input, the list of changes to the network, and the modelling results are discussed in the subsequent sections.

### 3.2 Land Use

The land use input consists of zonal data for each variable listed in Table 3-1.

Table 3-1 Variables in the Model Land Use Input

Variables in Model Land Use	Definition
Households	The number of occupied private households per zone
Dependents	The number of persons aged 5-15 years old in each zone
	The number of people living in each zone and employed in blue collar work. Blue
Blue collar workers	collar workers are those that work in manufacturing, construction, agriculture
	transport, warehousing and electricity, gas, water and waste services
White college workers	The number of people living in each zone and employed in white collar work. White
white conar workers	collar workers are the total of workforce less blue collar workers
Blue collar jobs	The number of people working in each zone in blue collar work
White collar jobs	The number of people working in each zone in white collar work
Datail iska	The number of people working in each zone in retail (a subset of white collar
Retail Jobs	workers)
Education jobs	The number of people working in each zone in education (a subset of white collar
Luucation jobs	workers)

### 3.2.1 Land Use, 2023

The land use input to the model consists of two main parts (Table 3-1). The first part typically is derived from the population demographic data (population and households) from the Census, and it consists of the variables of households, dependents, blue collar workers, and white collar workers. The second part is derived from the business demographic data, and it consists of the variables of blue collar jobs, white collar jobs, retail jobs and education jobs. The methods associated with these two parts are outlined below.

The zonal figures for households, dependents, blue collar workers and white collar workers for 2023 were produced using the population demographic data (population and household) by Statistical Area 2 (SA2) from the 2018 Census and demographic projection data (medium projection) from Stats NZ for 2023 and 2043. In general, the process entailed producing a 'population demographic growth factor' by zone. The growth factor by zone was then applied to the existing model land use for 2018 to calculate households, dependents, blue collar and white collar workers by zone for 2023, noting that if a zone is empty in 2018 (i.e., greenfield), it will remain an empty zone in a future year. This is the main limitation of using the growth factor. The simplest solution to address this issue would have been by manually inputting the demographic information of a particular greenfield zone (which would need to be provided) if it is known to be developed in a future year. However, this was not done in this project and is considered a minor limitation given the 2023 outputs are "forecasts".



The model zonal employment figures were calculated using the Modified Employment Counts (MEC) data. The MEC data contains employment figures across all of the Australian and New Zealand Standard Industrial Classification (ANZSIC) by Statistical Area 1 (SA1). These data were sorted into employment categories used in the model land use, i.e., blue collar, white collar, retail and education jobs, as shown in Table 3-2.

#### Table 3-2 ANZSIC and Model Employment Categories

ANZIC Employment Category	ANIZEIC Codo	Model Employment
ANZIC Employment Category	ANZSIC Code	Category
Agriculture, Forestry and Fishing	Α	Blue Collar
Mining	В	Blue Collar
Manufacturing	C	Blue Collar
Electricity, Gas, Water and Waste Services	D	Blue Collar
Construction	E	Blue Collar
Wholesale Trade	F	Blue Collar
Transport, Postal and Warehousing	I.	Blue Collar
Accommodation and Food Services	Н	White Collar
Information Media and Telecommunications	J	White Collar
Financial and Insurance Services	К	White Collar
Rental, Hiring and Real Estate Services	L	White Collar
Professional, Scientific and Technical Services	M	White Collar
Administrative and Support Services	N	White Collar
Public Administration and Safety	0	White Collar
Health Care and Social Assistance	Q	White Collar
Arts and Recreation Services	R	White Collar
Other Services	S	White Collar
Retail Trade	G	Retail
Education and Training	Р	Education

By the time this work commenced, the MEC employment data were only available until the year 2022 and therefore, the MEC figures for the year 2022 were used to represent the year 2023. Similar to the above, the 'growth employment factor' by zone and employment category was computed first. These growth factors were then sorted into three simpler factors to reduce anomalies based on ranges of values. The simple growth factors by zone were then used to scale the 2018 land use input and create the 2023 land use input for employment.

#### 3.2.2 Land Use Update, 2028 and 2048

As previously mentioned, the model contains land use for the year 2028. This land use needed to be updated to be in line with the 2023 land use. The update was done though a simple process, by taking the difference between the existing land use inputs of 2018 and 2028 and half the figures to create 'growth' between 2023 and 2028. These figures were then added to the 2023 land use, creating the updated 2028 land use.

A similar method was applied for 2048 land use: the difference between the existing land use inputs of 2028 and 2048 were calculated and added to the updated 2028 land use to create the updated 2048 land use.

It is important to highlight that the land use assumptions (magnitude, location, and type) for 2028 and 2048 <u>were not updated</u> at this stage – the future year land use was merely adjusted to be align with the newly created 2023 base land use.

### 3.3 Network

Based on the directions from the Client, changes were made to the 2018 network to reflect the current network (2023) and to include planned future upgrades (for 2028 and 2048). These changes are listed in Table 3-3 for roads/intersections and Table 3-4 for speed limits, with 'x' indicating the network year when the changes were included.

#### $\bigcirc$

Area	Roads/Intersections	Description of Change	2023	2028	2048
Hastings	Maraekakaho Rd, Irongate Rd	Changed to Roundabout	x	x	x
Hastings	Omahu Rd, Henderson Rd	Changed to Roundabout	x	x	х
Hastings	Omahu Rd, Chatham Rd	Changed to Roundabout	x	x	х
Hastings	Napier Rd, Crosses Rd	Changed to Roundabout	x	x	х
Hastings	Maraekakaho Rd, York Rd	Changed to Roundabout	-	x	х
Hastings	Omahu Rd, Pakowhai Rd, Maraekakaho Rd, Heretaunga St W	Added in Signals	-	x	x
Hastings	Hastings Rd, St Aubyn St	Added in Signals	-	х	х
Hastings	North Eastern Connector	Added in New Road	-	х	х
Hastings	Pakowhai Rd, Evenden Rd	Changed to Roundabout	х	x	x
Hastings	Tomana Rd, Evenden Rd	Changed to Roundabout	-	х	х
Hastings	Karamu Rd, North East Connector	New Intersection, Roundabout	-	х	х
Hastings	Kenilworth Rd, Karamu Rd	Changed to Roundabout	-	х	х
Hastings	Latham St, Nuffield St	Changed to Roundabout	-	-	х
Napier	Taradale Rd, Trinity Cres	Added in Signals	x	x	x
Napier	Pandora Rd, Thames St	Changed to Roundabout	х	х	х
Napier	York Ave, Auckland Rd	Changed to Roundabout	х	x	х
Napier	Vautier St, Hastings St	Changed to Roundabout	х	x	х
Napier	Shakespeare Rd	Changed priority on Shakespeare	x	x	x
Napier	West Quay	One-way Northbound	x	x	x
Napier	Kennedy Rd, Maadi Rd	Added in Signals	x	x	x
Napier	Kennedy Rd, Wycliffe St	Added in Signals	x	x	x
Napier	Gloucester St, York Ave	Removed Right Turns	-	x	x
Napier	Gloucester St, Springfield Rd	Changed to Roundabout	-	x	x
Napier	Marine Parade, Ellison St	Changed to Roundabout, Incorporating Te Awa Ave and McGrath St	-	x	x
Napier	Te Awa Ave, McGrath St	Changed to Dual-Lane Roundabout	-	x	x
Napier	Latham St, Wellesley St	Changed to Roundabout	-	x	x
Napier	Meeanee Rd, Guppy Rd	Changed to Roundabout	-	x	x
Napier	Cathederal St	One way Northbound	-	x	x
Napier	Vautier St, Dalton St	Changed to Roundabout	-	-	x
Napier	Carlyle St, Faraday St	Changed to Roundabout	-	-	x
Napier	Meeanee Rd, Tannery Rd	Changed to Roundabout	-	-	x
Napier	Kennedy Rd, Riverbend Rd	Changed to Roundabout	-	-	x
Napier	Emerson St	Removed Vehicle Access	-	-	x

#### Table 3-3 List of Network Changes, Roads and Intersections



Area	Road	Description of Change	2023	2028	2048
Napier	Tannery Rd	Speed lowered to 80	x	x	х
Napier	Burness Rd	Speed lowered to 80	x	x	х
Napier	Meeanee Rd	Speed lowered to 70	х	х	х
Napier	Awatoto Rd	Speed lowered to 80	х	x	х
Napier	Willowbank Rd	Speed lowered to 80	х	х	х
Napier	Riverbend Rd	Speed lowered to 70	x	x	х
Napier	Kenny Rd	Speed lowered to 70	x	x	х
Napier	Powellrell Rd	Speed lowered to 70	х	x	х
Napier	Waitangi Rd	Speed lowered to 70	х	x	х
Napier	Marine Parade	Speed lowered to 30	х	x	х
Napier	George St	Speed lowered to 50	х	x	х
Napier	Prebensen Dr	Speed lowered to 70	х	x	х
Napier	Prebensen Dr	Speed lowered to 80	х	x	х
Napier	Church St, Predensen Dr	Speed lowered to 70	х	x	х
Napier	Pukettiri Rd	Speed lowered to 80	х	x	х
Napier	Main North Rd	Speed lowered to 70	x	x	x

#### Table 3-4 List of Network Changes, Speed Limits

In subsequent analysis, it became apparent that not all upgrades to the network had been provided to be incorporated in the model. This will be prominent when discussing the results of the four spatial scenarios in Section 4, where it was found that two intersections, between SH2 and Meeanee Quay and between SH51 and Awatoto Road, were still modelled as priorities although they have been upgraded to roundabouts in recent years.

The issue above however does not undermine the results of the assessment. The mitigation measures formulated based on the results of the four spatial scenarios does consider the recent upgrades associated with the two intersections above.

### 3.4 Modelling Results

The results of the Base Case Scenarios for 2023, 2028 and 2048 are discussed with regard to the level of service (LOS) at intersections and on roads. Note that as described in Section 2, these scenarios were run for the **interpeak and evening peak periods only**.

Intersection level of service is based on the weighted average of flow and delay for roundabouts and traffic signals, while for priority intersections, it is based only on the worst turn delay. Also, the threshold for worsening LOS for priorities is lower than for signals and roundabouts. LOS at priority intersections is therefore often poor since the number of vehicles experiencing the delay is not considered, and the delay thresholds are lower than for roundabouts/signals. It is also noted that the model calculates level of service across an average hour, and does not take account of flow peaking.

In general, intersections in Napier and Hastings perform relatively well. Only one intersection, a priority, is expected to perform at LOS E/F (Table 3-5). For simplicity, INP and PMP signify the interpeak and evening peak periods. These intersections are shown in the LOS plot (Figure 3-1), for the evening peak results only.



#### Table 3-5 Intersections with LOS E/F, the Base Case Scenarios

		2023			20	28	2048	
INTERSECTION	AREA	INTERSECTION	INP	PMP	INP	PMP	INP	PMP
Omahu Rd, Stoneycroft St	Hastings	Priority	F	F	F	F	F	F

The performance of intersections in both Napier and Hastings in 2028 and 2048 is relatively similar to that in 2023. The intersection between Omahu Rd and Stoneycroft St is forecasted to be LOS in 2023 and remain so through to 2048. However, this is a priority intersection with a very low turning movement from Stoneycroft St to Omahu Rd.

Overall, the road network in Napier and Hastings performs relatively well, with only a few road sections performing at LOS E/F, as shown in the figure below for the evening peak period (as it is the busiest period). The road LOS calculation is determined based on vehicle speed and assigned flow.





Figure 3-1 Road and Intersection LOS, PMP, Base Cases for 2023 (left-hand side), 2028 (middle), 2048 (right-hand side)

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## 3.5 Four-Laning of SH2 Expressway

The four-laning of SH2 was tested for the year 2048, with the four-laning section being shown in bold in Figure 3-2.



#### Figure 3-2 Four-Laning of SH2

Compared with the Base Case, more intersections perform at LOS E/F, as shown in the table below and with the results of the Base Case 2048 being shown for comparison. The results again show the evening peak as the busiest period.

		2048								
INTERSECTION	AREA	INTERSECTION	BASE	CASE	FOUR LANING					
		ТҮРЕ	INP	PMP	INP	PMP				
Omahu Rd, Stoneycroft St	Hastings	Priority	F	F	F	F				
Taradale Rd, Niven St	Napier	Priority	С	С	С	F				
Coventry Ave, Taradale Rd	Napier	Priority	С	D	E	F				
Haumoana Rd, Parkhill Rd	Napier	Priority	С	D	С	E				
Omahu Rd, Kirkwood Rd	Hastings	Priority	С	D	D	F				

#### Table 3-6 Intersections with LOS E/F, Four Laning verses Base Case, 2048

The evening peak LOS plot (Figure 3-3) shows the locations of these intersections. With the four-laning, intersections with LOS F tend to be located closer to the SH2, where the capacity has been increased. It is likely that the additional traffic on the widened corridor is increasing delays on some side roads of priority



intersections, noting this may not (or may) effect many vehicles. Furthermore, although four more intersections are forecasted to perform at LOS E/F in the Four-Laning scenario in the evening peak period compared to the Base Case, these intersections only account for about 5% of all intersections in Napier-Hastings. 827 out of 832 intersections (or about 99.4%) are still forecasted to perform at LOS D and above.

With four-laning, the level of service on SH2 and Evenden Rd are expected to worsen to LOS E/F, as shown in the figure below. Other than this, the level of service on roads are relatively similar between these scenarios. It should be noted that in the Base Case scenario, substantial part of the SH2 where the four-laning is proposed, is forecasted to perform at LOS D.



Figure 3-3 Road and Intersection LOS, PMP, Base Cases (left-hand) verses Four-Laning (right-hand), 2048

The results seem to suggest worse overall network performance with the four-laning in place. This seems rather counter intuitive, and therefore, thorough investigations were done, as described below.

Changes in the traffic volumes along SH2 were checked. Traffic flows, from the evening peak model, from the Four-Laning scenario were compared with the Base Case scenario. The difference in the traffic flows between these scenarios can be seen in Figure 3-4, with shades of red indicating a higher flow in the Four-Laning scenario compared to the Base Case, and blue shades indicating the opposite. The plot of difference in flows confirm that the widening of part of the SH2 contributes to the increase in traffic volume along SH2. The northbound flow in the Four-Laning scenario increases by about 460 veh/hour whilst the southbound flow increases by about 130 veh/hour on the busiest part of the network. Some re-routing can also be seen in the CBD of Hastings and Napier. These increases, however, should not trigger changes in the level of service on SH2 as there is an increase in road capacity.

The level of service on roads is calculated in the model by using assigned speed and flows only, noting that capacity is not included in the calculation. This means that additional lanes on SH2 is not captured in the level of service calculation. Although flow on a road increases, flow per lane may decrease due to an



additional lane. Therefore, volume-to-capacity ratio (VCR) might be a more appropriate index to check the performance of road network. VCR is a measure of the level of congestion on a road taking into account both traffic volume and road capacity, and the VCR plot of the Base Case verses Four-Laning scenarios are shown in Figure 3-5, again for the evening peak only. The VCRs and assigned speeds on SH2 are shown in the figure in black and red respectively.



Figure 3-4 Plot of Difference in Flow, Four Laning minus Base Case, PMP

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Figure 3-5 Volume-to-Capacity, PMP, Base Cases (left-hand) verses Four-Laning (right-hand), 2048

The results show that the performance of SH2 is improved with four-laning in place, as the VCRs decrease and assigned speeds increase, suggesting a better road condition. Evenden Road, one of the roads that feeds into the SH2 has worsened VCR with the four laning. The performance of Kennedy Rd is also worsened in this scenario.

Furthermore, the weighted average distance (vehicle kilometre travelled per trip) increases from 6.5 kilometre in the Base Case scenario to 6.7 kilometre in the Four-Laning and the weighted average time per trip decreases from 8 minutes in the Base to 7.6 minute in Four-Laning. This implies that average trip duration becomes slightly shorter although the average distance becomes slightly longer. The decrease in the weighted average time might seem rather small, however, considering all trips modelled (approx. 56,000 trips), this difference equates to 19,000 veh-minutes. The results seem to suggest that the four-laning improves accessibility between Napier and Hastings, allowing for more trips to travel between the two areas.

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# 4 Four Spatial Scenarios

Four spatial scenarios, listed below, were modelled for the forecast year of 2048.

- 1. Intensification Scenario
- 2. Ahuriri Scenario
- Flaxmere Scenario
  Napier South Scenario
- The land use input associated with these scenarios were provided by Barker and Associates.

The objective of this exercise is to quantify the performance of the road network, identify constraints, and then present possible mitigation measures with high-level cost estimates (see Section 4.7).

Stantec used the updated network 2048 (discussed in Section 3) and added localized network improvements to support the level of intensification added to the demographic input. This support includes adding more road network as well as adding zone connectors to load the trips to/from a zone onto a wider area of the network to represent real-world development conditions.

While it had been intended that the results reported in the previous section would form the base for comparison of the four development scenarios, the 2048 model land use (adjusted to reflect 2023) was considered out-of-date and quite different to the newly formed spatial scenarios. Therefore, a new base for comparison needed to be identified.

In agreement with the Client, the Intensification scenario was selected as the Base to evaluate the other three scenarios, as this scenario accounts for overall intensification of land use planned for Hastings and Napier. In this report, this scenario is also referred to as the Intensification Base to differentiate it from the Base Case scenarios discussed previously in Section 3. These four scenarios and the modelling results associated with them are detailed in the subsequent sections, with the Intensification scenario being discussed first, followed by Ahuriri, Flaxmere and Napier South in turn.

### 4.2 The Intensification Scenario

The Intensification scenario accounts for overall land use intensification in Hastings and Napier. There are more dwellings, workers, and jobs in the intensification scenario compared with the Base Case, as shown in Figure 4-1, with the definition of each variable being shown in Table 3-1.



Figure 4-1 Total Land Use Input, Base Case verses Intensification Scenarios, 2048

0

Similar to the Base Case scenarios and as expected, the modelling results (illustrated in Figure 4-2) show that the road network in Hastings and Napier is busier in the evening peak period (PMP in the figure) than the interpeak period (INP in the figure).

Several main road corridors, i.e. SH50, SH51/Taradale Rd, SH51/Karamu Rd, Kennedy Rd, Meeanee Rd, Pakowhai Rd and Omahu Rd, are forecast to perform at LOS E/F in the evening peak periods (Figure 4-2).



Figure 4-2 Intensification, Roads and Intersections LOS, INP (Left-Hand) and PMP (Right-Hand)

Furthermore, several intersections are forecast to perform at LOS E and F. These intersections are listed in Table 4-1. Note that some of these intersections have relatively low turning volumes, as noted in the table.

INTERSECTION	AREA	REGION	INTERSECTION	INTERPEAK				K	
~	<b>•</b>	Ŧ	ТҮРЕ	DELAY (MINUT	LOS 🔽		DELAY (MINUT	LOS	
St Aubryn St W, King St	Hastings	Hastings	Priority	0.6	E		0.40	С	
Williams St, Glenhope St	Mahora	Hastings	Priority	0.62	E		0.36	С	
Southampton St W, Lascelles St	St Leonards	Hastings	Priority	0.95	F	*	0.43	D	*
SH51, St George Rd	Waipatu	Hastings	Priority	0.4	С		0.71	E	60 Right Turners
Haumoana Rd, Parkhill Rd	Haumoana	Hastings	Priority	0.34	С		0.69	E	
Pakowhai Rd, Brookfields Rd	Pakowhai	Hastings	Priority	0.29	С		0.75	E	32 Right Turners
SH51, Bennett Rd	Waipatu	Hastings	Priority	0.43	D		0.61	E	40 Right Turners
SH51, Kenilworth Rd	Hastings	Hastings	Priority	0.35	С		0.64	E	0 Right Turners
Omahu Rd, Kirkwood Rd	Twyford	Hastings	Priority	0.49	D		0.77	E	
Flaxmere Ave, Kirkwood Rd	Flaxmere	Hastings	Priority	0.52	D		0.81	E	
Omahu Rd, Stoneycroft St	Hastings	Hastings	Priority	1.2	F	0 Right Turners	1.20	F	0 Right Turners
Prebensen Dr, Tamatea Dr	Poraiti	Napier	Priority	0.52	D		0.61	E	
SH2, Meeanee Quay	Westshore	Napier	Priority	0.35	С		1.25	F	
Church Rd, Tironui Dr	Taradale	Napier	Priority	1.13	F	*	1.29	F	*
Taradale Rd, Coventry Ave	Tamatea	Napier	Priority	0.47	D		0.88	F	
Taradale Rd, Exeter Cres	Pirimai	Napier	Priority	0.55	D		1.03	F	0 Right Turners
Taradale Rd, Niven St	Pirimai	Napier	Priority	0.81	E		0.95	F	
Prebensen Dr, Austin St	Onekawa	Napier	Priority	0.33	С		0.98	F	

Table 4-1 Intensification, Intersection LOS, INP and PMP

This "Intensification Base" is the scenario against which the three alternative land use scenarios will be compared in terms of impact on the road network.

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### 4.3 The Ahuriri verses Intensification Scenarios

The difference in land use input between the Ahuriri and Intensification scenarios is shown in Figure 4-3, showing only the two variables of households (HH) and blue collar jobs (BEMP) as a proxy for population and employment figures. Compared with the Intensification scenario, more jobs were added in Ahuriri/Bay View area and more dwellings were added in several areas in Hastings and Napier. Jobs and dwellings were also removed from several areas as shown in the figure. The change in land use is provided to show context for the change in traffic flows and road network performance, which is the objective of this project.



Figure 4-3 Land Use Input, Ahuriri minus Intensification Scenarios, 2048

To check whether the scenario results are sensible, the flow from the Ahuriri scenario was compared with the Intensification scenario, focusing on the busier evening peak period. The difference in traffic flows (i.e., the Ahuriri minus Intensification Base scenarios) is shown in Figure 4-4, with shades of red indicating higher flows in the Ahuriri scenario compared to the Intensification Base, and blue shades indicating higher flows in the Intensification Base.



#### Figure 4-4 Plot of Difference in Flow, Ahuriri minus Intensification, PMP

As about 1,600 dwellings and 2,400 jobs are added in Ahuriri (Figure 4-3), traffic flows to/from Ahuriri increases, as shown by the shades of red in Figure 4-4. Compared with the Intensification Base, approximately 1,600 jobs were taken from Flaxmere (Hastings) and about 1,300 dwellings were removed from Meeanee (Napier). This has resulted in lower traffic flow in the Ahuriri scenario compared to the Intensification Base. The change in traffic flows is therefore as expected, aligning with the change in input land use.

The level of service on roads and at intersections, for the evening peak period, can be seen in Figure 4-5, with the Intensification Base being shown on the left-hand side and the Ahuriri scenario on the right-hand side.



Figure 4-5 Intensification (Left-Hand) vs. Ahuriri (Right-Hand), Roads and Intersections LOS, PMP

The results reflect the difference in flows (Figure 4-4). The higher traffic flow in Bay View in the Ahuriri scenario has worsened the level of service on SH2, between the SH2 and SH5 intersection and Prebensen Dr to LOS E/F. It also worsened the performance of several intersections to LOS E and F. These intersections are listed in the tables below with the evening peak results being shown first (Table 4-2). The table summarizes all intersections that perform at LOS E or F in at least one of the two scenarios compared.

The performance of seven intersections is worsened to LOS E/F in the evening peak period compared to the Intensification Base. These intersections are flagged ('FL' in Table 4-2), noting that a few of them have relatively low turning volumes from the minor arm. Poor performing intersections are "flagged" for investigation into potential mitigation measures if the level of service in the spatial scenario being assessed worsens and is either LOS E or F. No assessment has been considered if an intersection already performs poorly in the Intensification Base.

The intersection between between SH2 and Meeanee Quay is flagged despite having the same LOS F as the Intensification Base due to the substantial increase in delay. However, further checking shows that this

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intersection was upgraded to a roundabout in 2018. Despite having been improved, it was not included in the 2018 network nor identified in the intersection improvements that were provided. The mitigation measure take this upgrade into account.

The performance of five intersections is worsened to LOS E/F in the interpeak peak period compared to the Intensification Base. These intersections are flagged in Table 4-3, noting that all of them perform poorly in the evening peak period as well.

			INTERCECTION	INTENSIFIC	CATION			AHU	RIRI
INTERSECTION	AREA	REGION	INTERSECTION	DELAY		DELAY	DELAY		NOT
	*	ΨŤ		(MINUTE 🔽		(MINUTE) 🔻	LUS 🖵	FLAG	
Haumoana Rd, Parkhill Rd	Haumoana	Hastings	Priority	0.69	E	0.71	E		
Omahu Rd, Kirkwood Rd	Twyford	Hastings	Priority	0.77	E	0.87	F	FL	
SH51, St George Rd	Waipatu	Hastings	Priority	0.71	E	0.69	E		
SH51, Bennett Rd	Waipatu	Hastings	Priority	0.61	E	0.61	E		
Flaxmere Ave, Kirkwood Rd	Flaxmere	Hastings	Priority	0.81	E	0.64	E		
Omahu Rd, Stoneycroft St	Hastings	Hastings	Priority	1.20	F	1.20	F		
SH2, Villers St	Bay View	Napier	Priority	0.22	В	0.73	E	FL	46 Right Turners
SH2, McHardy St	Bay View	Napier	Priority	0.35	С	0.68	E	FL	
SH2, New Rd	Bay View	Napier	Priority	0.22	В	0.67	E	FL	
SH2, Onehunga Rd	Bay View	Napier	Priority	0.22	В	0.77	E	FL	0 Right Turners
Taradale Rd, Coventry Ave	Tamatea	Napier	Priority	0.88	F	1.17	F		
Taradale Rd, Riverbend Rd	Onekawa	Napier	Priority	0.56	D	0.65	E	FL	36 Right Turners
Taradale Rd, Exeter Cres	Pirimai	Napier	Priority	1.03	F	1.20	F		
Taradale Rd, Niven St	Pirimai	Napier	Priority	0.95	F	1.40	F		
Church Rd, Tironui Dr	Taradale	Napier	Priority	1.29	F	1.66	F		
SH2, Petane Rd	Bay View	Napier	Priority	0.22	В	0.93	F	FL	
SH2, Meeanee Quay	Westshore	Napier	Priority	1.25	F	8.52	F	FL	Flagged due to increase in delay
Prebensen Dr, Austin St	Onekawa	Napier	Priority	0.98	F	1.41	F		

#### Table 4-2 Intensification verses Ahuriri, Intersection LOS, PMP

#### Table 4-3 Intensification verses Ahuriri, Intersection LOS, INP

			INTERSECTION	INTENSIFICATION		AHURIRI				
INTERSECTION	AREA	REGION	TYPE	DELAY (MINUT	LOS	DELAY (MINUTE	LOS 🖵	FLAG		
Omahu Rd, Stoneycroft St	Hastings	Hastings	Priority	1.20	F	1.20	F			
Williams St, Glenhope St	Mahora	Hastings	Priority	0.62	E	0.62	E			
Southampton St W, Lascelles St	St Leonards	Hastings	Priority	0.95	F	0.90	F			
SH2, McHardy St	Bay View	Napier	Priority	0.28	С	0.92	F	FL		
SH2, Villers St	Bay View	Napier	Priority	0.17	В	0.68	E	FL		
Taradale Rd, Exeter Cres	Pirimai	Napier	Priority	0.55	D	0.82	E	FL	0 Right Turners	
Taradale Rd, Niven St	Pirimai	Napier	Priority	0.81	E	0.92	F	FL		
Church Rd, Tironui Dr	Taradale	Napier	Priority	1.13	F	1.41	F			
SH2, Meeanee Quay	Westshore	Napier	Priority	0.35	С	2.50	F	FL		

### 4.4 The Flaxmere verses Intensification Scenarios

Compared with the Intensification scenario, substantial numbers of jobs and dwellings are added into the Flaxmere area, reducing jobs and dwellings from other areas in Hastings and Napier, as shown in Figure 4-6.



Figure 4-6 Land Use Input, Flaxmere minus Intensification Scenarios, 2048

The modelled traffic flows from the Flaxmere scenario were compared with flows from the Intensification Base. The difference in traffic flow in the evening peak period is shown in Figure 4-7, again with the red shades indicating higher flow in the Flaxmere scenario compared to the Intensification Base, and blue meaning higher flows in the Intensification Base.



Figure 4-7 Plot of Difference in Flow, Flaxmere minus Intensification, PMP

As more than 2,000 dwellings and jobs are added into Flaxmere in this scenario compared with the Intensification scenario, more traffic could be observed in the area, as shown by the red shades in Figure 4-7. The change in traffic flows therefore aligns with expectations based on the change in input land use.



The level of service on roads and at intersections in the evening peak period can be seen in Table 4-4, with the Intensification base being shown on the left-hand side and the Flaxmere scenario on the right-hand side.

Figure 4-8 Intensification (Left-Hand) vs. Flaxmere (Right-Hand), Roads and Intersections LOS, PMP

The added dwellings and jobs in Flaxmere result in the increase in traffic flows in the area, worsening the level of service on Flaxmere Ave and Maraekakaho Rd to LOS E/F. It should be noted however that there is no development master plan and thus, loading the development onto the network has been necessarily simplistic. This resulted in worsened level of service on some road sections close to zone connectors. This worsened LOS around point zone loading locations is a modelling issue rather than a real-world outcome, as in reality, trips would load onto the road network over a slightly wider area.

The performance of two intersections is worsened to LOS E/F in the interpeak and evening peak periods, as shown in Table 4-4 for the evening peak and Table 4-5 for the interpeak.

			INTERCECTION	INTENSIFIC	CATION	FLAXMERE				
INTERSECTION	AREA	REGION	TYPE	DELAY	LOS	DELAY	LOS	FLAG	NOTE	
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Haumoana Rd, Parkhill Rd	Haumoana	Hastings	Priority	0.69	E	0.68	E			
Longlands Rd, Railway Rd South	Longlands	Hastings	Priority	0.32	С	0.72	E	FL		
Omahu Rd, Kirkwood Rd	Twyford	Hastings	Priority	0.77	E	0.71	E			
SH51, St George Rd	Waipatu	Hastings	Priority	0.71	E	0.70	E			
Flaxmere Ave, Kirkwood Rd	Flaxmere	Hastings	Priority	0.81	E	0.71	E			
Omahu Rd, Stoneycroft St	Hastings	Hastings	Priority	1.20	F	1.20	F			
Stock Rd, Equistrian Ln	Bridge Pa	Hastings	Priority	0.19	В	1.48	F	FL	82 Right Turners*	
Taradale Rd, Coventry Ave	Tamatea	Napier	Priority	0.88	F	0.91	F			
Taradale Rd, Exeter Cres	Pirimai	Napier	Priority	1.03	F	1.09	F			
Taradale Rd, Niven St	Pirimai	Napier	Priority	0.95	F	1.38	F			
Church Rd, Tironui Dr	Taradale	Napier	Priority	1.29	F	1.31	F			
SH2, Meeanee Quay	Westshore	Napier	Priority	1.25	F	1.16	F			
Prebensen Dr, Austin St	Onekawa	Napier	Priority	0.98	F	0.94	F			

#### Table 4-4 Intensification verses Flaxmere, Intersection LOS, PMP

#### Table 4-5 Intensification verses Flaxmere, Intersection LOS, INP

			INTERSECTION	INTENSIFICATION		FLAXMERE			
INTERSECTION	AREA	REGION	TVDE	DELAY	1.05	DELAY	1.05	FLAG	
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Stock Rd, Equistrian Ln	Bridge Pa	Hastings	Priority	0.17	В	0.78	E	FL	
St Aubryn St W, King St	Hastings	Hastings	Priority	0.60	E	0.62	E		
Omahu Rd, Stoneycroft St	Hastings	Hastings	Priority	1.20	F	1.20	F		
Southampton St W, Lascelles St	St Leonards	Hastings	Priority	0.95	F	1.00	F		
Taradale Rd, Niven St	Pirimai	Napier	Priority	0.81	E	2.04	F	FL	
Church Rd, Tironui Dr	Taradale	Napier	Priority	1.13	F	1.10	F		

### 4.5 The Napier South verses Intensification Scenarios

Compared with the Intensification scenario, a substantial number of jobs is added into the Whakatu area, reducing jobs in Flaxmere and the CBD of Hastings (Figure 4-9). Furthermore, there are overall changes in the number of dwellings in some areas in Naper and Hastings, as shown in Figure 4-9.



Figure 4-9 Land Use Input, Napier South minus Intensification Scenarios, 2048

The difference in traffic flows between the Napier South and Intensification Base scenarios is shown in the plot below (Figure 4-10). As a substantial number of jobs are added into the Whakatu area, more trips area attracted into this area (shown by the red shades in the figure) from the surrounding residential areas, including from Haverlock and Meeanee (nearby areas with added dwellings). Additionally, as a substantial number of jobs were removed from Flaxmere, there is a decrease in traffic flows in the area (shown by the blue shades in the figure below).

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#### Figure 4-10 Difference in Flow plot, Napier South minus Intensification, PMP

The level of service plots can be seen in Figure 4-11 below, with the Intensification Base being shown on the left-hand side and the South Napier on the right-hand side.



Figure 4-11 Intensification (Left-Hand) vs. Napier South (Right-Hand), Roads and Intersections LOS, PMP

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The level of service on Te Ara Kahikatea Road is worsened to LOS E/F. Other than this, the road level of service is relatively similar between the two scenarios.

The performance of several intersections is worsened in the South Napier scenario compared with the Intensification Base. These intersections where the level of service changes from an acceptable level (up to LOS D) to unacceptable (E or F) are flagged (FL) in Table 4-6 and Table 4-7 below, for the evening peak and interpeak in turn.

#### SOUTH NAPIER INTENSIFICATION INTERSECTION AREA REGION TYPE SH51, Kenilworth Rd Haumoana Rd, Parkhill Rd Pakowhai Rd, Brookfields Rd 0.64 0.69 0.75 0.65 0.76 0.91 Hastings Pakowhai Priority Hastings Hastings Hastings 0.77 Omahu Rd, Kirkwood Rd Twyford Priority 0.81 SH51, St George Rd SH51, Bennett Rd . Waipatu Priority 0.71 0.83 0.62 0.65 1.20 0.93 0.62 Waipatu Waipatu Flaxmere Hastings Tamatea Te Awa Priority 0.61 Flaxmere Ave, Kirkwood Rd Omahu Rd, Stoneycroft St Taradale Rd, Coventry Ave Hastings Hastings Napier 0.81 0.81 1.20 0.88 0.50 Priority Priority Priority SH51, Awatoto Rd Napier Priority nt coded as priority but in reality roundabout (recent change) Taradale Rd, Riverbend Rd Brookfields Rd, Sandy Rd Taradale Rd, Exeter Cres Taradale Rd, Niven St Church Rd, Tironui Dr Napier Napier Napier Napier Priority Onekawa 0.56 0.56 1.03 0.95 1.29 1.25 0.64 0.74 1.06 1.14 1.59 1.14 agged in Ahuriri Scenario (slightly higher delay there) Meeanee Pirimai Pirimai Priority Priority Priority Taradale Napier Priority SH2, Meeanee Quay Westshore Napier Priority Priority Prebensen Dr. Austin St Onekawa Napier 0.99 0.93

#### Table 4-6 Intensification verses Napier South, Intersection LOS, PMP

#### Table 4-7 Intensification verses Napier South, Intersection LOS, INP

			INTERSECTION	INTENSIF	CATION				SOUTH NAPIER
INTERSECTION	AREA	REGION	TYPE	DELAY (MINUT 🔻	LOS	DELAY (MINUTE 🔽	LOS 🖵	FLAG	NOTE
St Aubryn St W, King St	Hastings	Hastings	Priority	0.60	E	0.53	D		
Omahu Rd, Stoneycroft St	Hastings	Hastings	Priority	1.20	E F	1.20	F		
Williams St, Glenhope St	Mahora	Hastings	Priority	0.62	E	0.56	D		
Southampton St W, Lascelles St	St Leonards	Hastings	Priority	0.95	E E	0.85	F		
Taradale Rd, Exeter Cres	Pirimai	Napier	Priority	0.55	D	0.53	D		
Taradale Rd, Niven St	Pirimai	Napier	Priority	0.81	E	0.96	F	FL	Flagged in Flaxmere Scenario (slightly higher delay there)
Church Rd, Tironui Dr	Taradale	Napier	Priority	1.13	F	1.44	F		

The performance of one and four intersections are worsened in the interpeak and evening peak periods in turn. Note that similar to the Ahuriri scenario, the intersection between SH51 and Awatoto Road is again flagged in this scenario. As discussed in Section 4.3, this intersection has not been updated from a priority in the model to the recently constructed roundabout. The mitigation measures have taken this upgrade into consideration.

### 4.6 Vehicle Emissions Prediction Model

As part of this project, the model has been upgraded to include a module to compute vehicle emissions based on rates provided by the Vehicle Emissions Prediction Model (VEPM). VEPM is is an average speed model developed by NZ Transport Agency Waka Kotahi for the New Zealand fleet under typical road, traffic and operating conditions. VEPM provides emission rates for CO, HC, NOX CO<sub>2</sub> and particulates based on the assumed vehicle fleet.

The emission rates from VEPM for the forecast year 2048 were used to calculate emissions produced in the four scenarios, based on the modelled traffic flows and speeds, and network information.

The results show that compared to the Intensification Base, car emissions increase only marginally, between 0.8% and 2.3% depending on the type of emissions, periods and scenarios. Emissions associated with Light Commercial Vehicles (LCVs) and Heavy Commercial Vehicles (HCVs) changes between -5.3% and 1.6% compared with the Intensification Base.

Results of selected emissions, i.e., CO2-e (in grams), NOx (in grams) and PM2.5 (also in grams), for cars, LCVs and HCVs can be seen in the figure below and more detailed results can be found in Table 4-8.







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	-T-	INTENSIFICATION		AHURIR	AHURIRI vs INT		FLAXMERE vs INT		NAPIER SOUTH vs INT	
		INP	PMP	INP	PMP	INP	PMP	INP	PMP	
	CO g	36,685	43,259	1.6%	1.0%	2.2%	1.0%	1.3%	1.2%	
	CO2-e g	22,430,767	26,340,863	1.8%	1.4%	2.0%	0.9%	1.2%	1.2%	
	VOC g	646	760	1.9%	1.4%	2.0%	0.9%	1.2%	1.3%	
Car	NOx g	13,479	15,843	1.7%	1.3%	2.1%	0.9%	1.2%	1.2%	
Cai	NO2 g	3,155	3,714	1.6%	1.1%	2.1%	0.9%	1.2%	1.2%	
	PM2.5 E g	196	229	1.5%	1.7%	1.5%	0.9%	1.0%	1.3%	
	PM B&T g	4,906	5,727	2.0%	2.3%	1.7%	0.8%	1.0%	1.4%	
	FCI	9,069	10,651	1.8%	1.4%	2.0%	0.9%	1.1%	1.2%	
	CO g	3,452	3,422	1.3%	0.1%	-0.2%	-0.1%	0.5%	0.3%	
	CO2-e g	2,124,475	2,126,824	1.3%	0.3%	-0.4%	-0.3%	0.0%	-0.1%	
	VOC g	61	61	1.6%	0.0%	0.0%	0.0%	0.0%	0.0%	
	NOx g	1,274	1,272	1.3%	0.2%	-0.3%	-0.2%	0.2%	0.0%	
Lev	NO2 g	298	296	1.3%	0.3%	-0.3%	0.0%	0.3%	0.3%	
	PM2.5 E g	19	19	0.0%	0.0%	-5.3%	0.0%	0.0%	0.0%	
	PM B&T g	471	479	1.1%	0.4%	-0.8%	-0.6%	-0.8%	-0.8%	
	FCI	859	860	1.4%	0.2%	-0.3%	-0.2%	0.0%	-0.1%	
	CO g	4,099	4,660	1.0%	-0.4%	-0.7%	-0.5%	-1.3%	-1.4%	
	CO2-e g	13,389,709	15,157,682	1.2%	-0.3%	-0.4%	-0.2%	-1.0%	-1.1%	
	VOC g	600	684	0.8%	-0.4%	-0.8%	-0.6%	-1.7%	-1.6%	
ЦСИ	NOx g	7,746	8,955	0.1%	-0.5%	-1.7%	-1.2%	-2.9%	-2.8%	
ne v	NO2 g	780	902	0.1%	-0.6%	-1.7%	-1.2%	-2.8%	-2.8%	
	PM2.5 E g	278	317	1.1%	-0.6%	-0.4%	-0.6%	-1.1%	-1.6%	
	PM B&T g	1,475	1,688	0.9%	-0.1%	-0.8%	-0.5%	-1.9%	-1.8%	
	FCI	4,958	5,612	1.2%	-0.4%	-0.4%	-0.2%	-1.0%	-1.1%	

#### Table 4-8 Emissions, Four Scenarios, INP and PMP

## 4.7 Summary of Spatial Scenarios and Mitigation Measures

### 4.7.1 Summary of Outputs

The modelling results of the Intensification Base have identified road corridors that perform poorly (LOS E/F). These roads are: SH50, SH51/Taradale Rd, SH51/Karamu Rd, Kennedy Rd, Meeanee Rd, Pakowhai Rd, and Omahu Rd.

The performance of a few road corridors is worsened to LOS E/F in the three spatial scenarios compared with the Intensification Base. These are:

- Ahuriri Scenario: SH2, between the SH2 and SH5 intersection and Presbensen Dr
- Flaxmere Scenario: Flaxmere Ave and Maraekakaho Rd
- Napier South Scenario: Te Ara Kahikatea Road

A total of 15 intersections were flagged in the three spatial scenarios as their performance is predicted to worsen to LOS E/F compared with the Intensification Base. These intersections are listed in Table 4-9 below, with 'x' indicating whether the intersection is flagged in the scenarios. It is noted that an intersection already forecast to perform at LOS E or LOS F in the Intensification Base, with no change in the level of service in the spatial scenario, is not identified for further investigation.



No.	Intersection	Ahuriri	Napier South	Flaxmere
1	SH2, Onehunga Rd	x		
2	SH2, New Rd	x		
3	SH2, McHardy St	x		
4	SH2, Petane Rd	x		
5	SH2, Villers St	x		
6	Taradale Rd, Exeter Cres	x		
7	Taradale Rd, Niven St	x	x	x
8	Taradale Rd, Riverbend Rd	x	x	
9	SH2, Meeanee Quay	x		
10	Stock Rd, Equistrian Ln			х
11	Longlands Rd, Railway Rd South			х
12	Omahu Rd, Kirkwood Rd	x		
13	Pakowhai Rd, Brookfields Rd		x	
14	SH51, Awatoto Rd		x	

### Table 4-9 List of Flagged Intersections for Mitigation Assessment

### 4.7.2 Discussion

15 Brookfields Rd, Sandy Rd

The three spatial scenarios evaluated against the Intensification Scenario have a significant amount of development, with a substantial number of jobs and dwellings added into several areas. However, master plans for these areas are not available at this early stage in the planning process and thus, judgement was required in terms of the local road network to support these developments. This resulted in worsened level of service on some road sections close to zone connectors with added demographic input. This worsened level of service around point zone loading locations is a modelling issue rather than a real-world outcome, as in reality, trips would load onto the road network over a slightly wider area.

Furthermore, the model is primarily vehicle based. Therefore no active travel and public transport interventions and responses have been evaluated. This provides the worst-case traffic scenarios as potential for mode shift to active transport and / or public transport, which would reduce vehicle trips and vehicle kilometres travelled (VKT), has not been accounted for in the model.

Therefore, the mitigation measures would focus on the intersection assessments, considering that:

- 1) National roads are within the jurisdiction of NZ Transport Agency Waka Kotahi (NZTA).
- 2) Worsened level of service on local roads are likely a modelling anomaly associated with how trips are loaded from zones to the road network, and that appropriate local infrastructure will be built to support the development.
- 3) As the model is limited to reflecting only vehicle trips, it shows the most congested situation. It does not take into account any interventions that aim to encourage the shift in transport mode from car to public transport, bicycle and walking.

The results of the mitigation assessment have been reported to the Client in Stantec Technical Note entitled 'Heretaunga UDS Mitigations Review Technical Note 001' sent on 6 May 2024. This Technical Note is attached in Appendix 1, and the key outputs are summarised below.

### 4.7.3 Summary of Mitigation Measures

A high-level analysis of intersections identified to support a strategic evaluation of impacts to the road transport network resulting from a future development strategy for Napier and Hastings has been undertaken and reported in the Stantec technical note. The analysis involved a mitigations review of identified intersections based on the identification of Level of Service (LOS) reduction, and the identification of the safety performance of the intersection.

The table below illustrates the identified intersections and recommended mitigation measures to consider for further investigation.



Mitigations offered for consideration were priced based on a rudimentary budget range for low to high-cost standard safety interventions that NZTA developed for their Standard Safety Intervention Toolkit published in 2021.

The proposed mitigation measures and high-level cost estimates are shown in Table 4-10 and Table 4-11 in turn, with Table 4-11 also showing the cost range (in thousand). Note that there are no costs included for the intersections between SH2 and Meeanee Quay and between SH51 and Awatoto Rd, as they have already been upgraded to roundabouts (but are included in the model as priority intersections).

The highest intervention costs are associated with the Ahuriri Scenario (in the range of about \$2.5M to \$17M), followed by the Napier South Scenario (in the range of about \$1.5M to \$10.1M), and the Flaxmere scenario (in the range of about \$1.2M to \$8.5M).

Table 4-10 Summary of Mitigation	Measures and Rough Order	Cost Range (Source:	<b>Technical Note</b>
Attached)			

No.	Intersection	Mitigation	Rough Order Cost Range (\$)
1	SH2, Onehunga Rd	Signs and Markings Renewal	Up to 50K
2	SH2, New Rd	Channelised Right Turn Bay	200K – 500K
3	SH2, McHardy St	Signs and Markings Renewal	Up to 50K
4	SH2, Petane Rd	Roundabout	500K – 6M
5	SH2, Villers St	Signs and Markings Renewal	Up to 50K
6	Taradale Rd, Exeter Cres	Signs and Markings Renewal	Up to 50K
7	Taradale Rd, Niven St	Traffic Signal Intersection	500K – 2M
8	Taradale Rd, Riverbend Rd	Traffic Signal Intersection	500K – 2M
9	SH2, Meeanee Quay	No change	N/A
10	Stock Rd, Equistrian Ln	Channelised Right Turn Bay	200K – 500K
11	Longlands Rd, Railway Rd South	Roundabout	500K - 6M
12	Omahu Rd, Kirkwood Rd	Roundabout	500K - 6M
13	Pakowhai Rd, Brookfields Rd	Safety maintenance and low-cost physical interventions / speed and hazard awareness measures	50K – 100K
14	SH51, Awatoto Rd	No change	N/A
15	Brookfields Rd, Sandy Rd	Roundabout	500K - 6M

#### Table 4-11 Summary of Cost Estimates (in Thousand) (Source: Technical Note Attached)

No	Intersection	Ahuriri		Napier South		Flaxmere	
INO.	Intersection	Low (\$K)	High (\$K)	Low (\$K)	High (\$K)	Low (\$K)	High (\$K)
1	SH2, Onehunga Rd	50	50				
2	SH2, New Rd	200	500				
3	SH2, McHardy St	50	50				
4	SH2, Petane Rd	500	6,000				
5	SH2, Villers St	50	50				
6	Taradale Rd, Exeter Cres	50	50				
7	Taradale Rd, Niven St	500	2,000	500	2,000	500	2,000
8	Taradale Rd, Riverbend Rd	500	2,000	500	2,000		
9	SH2, Meeanee Quay	0	0				
10	Stock Rd, Equistrian Ln					200	500
11	Longlands Rd, Railway Rd South					500	6,000
12	Omahu Rd, Kirkwood Rd	500	6,000				
13	Pakowhai Rd, Brookfields Rd			25	100		
14	SH51, Awatoto Rd			0	0		
15	Brookfields Rd, Sandy Rd			500	6,000		
	Total	2,400	16,700	1,525	10,100	1,200	8,500

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# 5 Conclusions

Key findings are summarized below.

The base case modelling results show that overall, the road network in Napier and Hastings performs relatively well, with only a few road sections performing at LOS E/F. The intersection between Omahu Rd and Stoneycroft St is forecast to be LOS in 2023 and remain so through to 2048. However, this is a priority intersection with a very low turning movement from Stoneycroft St to Omahu Rd.

With four-laning of SH2, four additional intersections perform at LOS E/F compared to the base case scenario. These intersections tend to be located closer to the SH2, where the capacity has been increased. It is likely that the additional traffic on the widened corridor is increasing delays on some side roads of priority intersections, noting this may not (or may) effect many vehicles.

In terms of level of service on roads with four-laning of SH2, the results seem to suggest worse overall network performance with the four-laning in place. This seems rather counter intuitive. Further investigations show that additional lanes (implying additional road capacity) on SH2 is not captured in the level of service calculation in the model. The level of service on roads is calculated in the model by using assigned speed and flows only. This means that although traffic flow on a road increases, flow per lane may decrease due to an additional lane. In this situation Vehicle-to-Capacity Ratios (VCR) might be a more appropriate measure on how well the network performs with and without four-laning in place. The VCR results show that the performance of SH2 is improved with four-laning, as the VCRs decrease and assigned speeds increase, suggesting a better road condition. The performance (VCR) of few road sections (Evenden Road and Kennedy Road) has worsened with the four laning, noting that these are roads that feed into SH2.

The three spatial scenarios were evaluated against the Intensification scenario. Intersections that are worsened to LOS E/F compared to the Intensification scenario were flagged and mitigation measures were formulated for each of these intersections. The results show that the highest intervention costs are associated with the Ahuriri Scenario (in the range of about \$2.5M to \$17M), followed by the Napier South Scenario (in the range of about \$1.5M to \$10.1M), and the Flaxmere scenario (in the range of about \$1.2M to \$8.5M). Mitigations offered for consideration were priced based on a rudimentary budget range for low to high-cost standard safety interventions that NZTA developed for their Standard Safety Intervention Toolkit published in 2021.

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# Appendix A Technical Note

Heretaunga UDS Mitigations Review Technical Note 001

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# Technical Note

То:	Hastings District Council	Attention:	Mark A Clews
Project:	Napier-Hastings Urban Environment Future Development Strategy – Transportation Network Impact Assessment	Project No:	310205717
From:	Diana Kusumastuti	Date:	6 May 2024

## Revision Schedule

Revision No.	Date	Description	Prepared by	Quality Reviewer	Independent Reviewer	Project Manager Final Approval
0	6 May 2024	Heretaunga UDS Mitigations Review Technical Note 001	S Lloyd	H Poulsen	J Ballantyne	V Powell

## 1. Introduction and Background

This Technical Note summarises a high level analysis of identified intersections and road corridors to support a strategic evaluation of impacts to the road transport network resulting from the application of a future development strategy for Napier and Hastings.

Four development scenarios were modelled by Stantec. These were:

- 1. Intensification Scenario
- 2. Ahuriri Scenario
- 3. Flaxmere Scenario
- 4. South Napier Scenario

The intensification scenario considers an updated 'base case' of development capacity that takes into account a development intensification plan in Hastings and Napier..

The Ahuriri scenario commits increased household (HH) and employment (EMP) loading to Napier and Hastings, with the majority of loading being applied to the north of Napier, in the Ahuriri / Bay View area. Roughly the same amount of HH and EMP are removed from the base case at identified locations within Napier Hastings.

The Flaxmere scenario commits increased household (HH) and employment (EMP) loading to the Flaxmere area of Hastings. In this scenario there is a greater reduction in households compared to the number that are being added to the Flaxmere area (approximately 400 reduction).

The South Napier scenario concentrates on employment reallocation within the Hastings area, with increased employment identified at Mangateretere and Irongate. Comparable employment numbers are reduced in Flaxmere and Mahora neighbourhoods.

Detailed information on the assessment methodology and results of the modelled effects for the scenarios can be found in the Stantec Report entitled 'Napier-Hastings Urban Environment Future Development Strategy – Transportation Network Impact Assessment' (Forthcoming)..



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Site 4 SH2 – Petane St Site 3 SH2 – McHardy St Site 5 SH2 - Villers St Site 1 SH2 – Onehunga Rd 10 Site 2 SH2 – New Rd Site 9 SH2 – Meeanee Quay Site 8 Taradale Rd – Riverbend Rd Site 7 Taradale Rd – Niven St Site 6 Taradale Rd – Exeter Cr Site 15 Meeanee Rd – Awatoto Rd Sandy Rd – Brookfields Rd Site 14 SH51 – Awatoto Rd Site 13 Brookfields Rd – Pakowhai Rd Site 12 Omahu Rd – Kirkwood Rd Site 10 Stock Rd – Equestrian Ln Site 11 Ahuriri Scenario Longlands Rd – Railway Rd Flaxmere Scenario South Napier Scenario

The sites identified for review are illustrated in Figure 1 and colour coded to their respective scenario.

Figure 1 Site location plan

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# Technical Note

# 2. Summary of Modelling

The modelling of the four scenarios utilized Council's existing strategic transport model, updated in 2020 and documented in the report 'Hawkes Bay Transport Study CUBE Modelling, 2018 Model Update' by GHD. These scenarios were for the forecast year of 2048 and the land use associated with these scenarios were provided by Barker and Associates. Stantec updated the network for the forecast year in agreement with the Client to reflect the future network upgrades planned for Hastings and Napier. More localized network support was added into the model network to support the level of intensification in several areas.

In agreement with the Client, the Intensification scenario was selected as the base scenario and it is used to identify the changes in the level of service associated with Ahuriri, Flaxmere, and South Napier scenarios. When the level of service on an intersection in one of these scenarios is worsened to level of service (LOS) E/F compared to the Intensification base, this intersection is flagged for mitigation assessment. These intersections can be seen in Figure 1.

The AM peak model has not been used for the purpose of this study as the model is producing unstable results that are considered unsuitable to base intersection mitigation analysis upon. Therefore, in agreement with the Client, only the interpeak and PM peak models of the network have been developed and evaluated.

The modelling results also identify several roads with worsened level of service. For instance, in Ahuriri scenario, the performance of SH2, between the SH2 and SH5 intersection and Prebensen Dr is worsened to LOS E/F. These roads are reported in the forthcoming Stantec Report. It should be noted that several main roads in the base Intensification network already perform at LOS E/F, such as SH2 between Pakowhai Roundabout and Meeanee Rd. Only few additional roads, typically local roads, are worsened compared to the base. Jobs/dwellings were added into several areas in the three scenarios. However, master plans for these areas (for the year 2048) are not available and thus, there is no guidance on how these developments would link to the network. This results in worsened LOS on some road sections, closer to zone connectors that load trips to/from zones with added demographic input. This worsened LOS around point zone loading locations is a modelling issue rather than a real-world outcome, as in reality, trips would load onto the road network over a slightly wider area. Furthermore, the models used in the analysis are vehicle based only. No active travel and public transport interventions and responses have been evaluated. This provides the worst-case traffic scenarios as potential for mode shift to active transport and / or public transport, which would reduce vehicle trips and vehicle kilometres travelled (VKT), has not been accounted for in the model.

Therefore, the focus of this report is on the intersection assessments, considering that:

- 1) National roads are within the jurisdiction of NZ Transport Agency Waka Kotahi (NZTA)
- 2) Worsened local roads are associated with how trips are loaded from zones to road network (which depends on a development master plan)
- 3) As the model is limited to reflecting only vehicle trips, it shows the most congested situation. It does not take into account any interventions that aim to encourage the shift in transport mode from car to public transport, bicycle and walking.

# 3. Intersections Mitigation Review

## 3.1 Methodology of mitigation review

The selection of an appropriate intersection treatment in any given situation is complex because it involves considerations of safety, operational performance and/or other factors. The development of the safest feasible treatment that also provides an acceptable level of mobility is crucial in all situations. The relative safety and needs of all road users (including people with disability or mobility difficulty), particularly pedestrians and cyclists, should be considered as their needs may be a significant factor in the choice of treatment and the type of traffic control adopted. However, in the context of this workstream the specific needs of pedestrians and cyclists, either existing or anticipated future demand, have not been analysed or developed within the confines of the mitigation review.



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Summary of Modelling | 3



The mitigations review of the identified intersections is based on two factors:

- Identification of Level of Service (LOS) reduction, and
- Identification of the current safety performance of the intersection.

The results of the network modelling identified where deterioration of the intersection level of service occurred because of the increased traffic volumes associated with the development scenarios. Refer to Section 2 of this technical note, and Stantec Report Napier-Hastings Urban Environment Future Development Strategy – Transportation Network Impact Assessment (Forthcoming), for information relating to the derivation of the intersections adversely affected by the development scenarios.

In keeping with the high-level nature of this project task, a rudimentary review of the crash characteristics of the identified intersections has been undertaken to identify the level of crash risk that is present and confirmation that, on safety grounds alone, an improvement to the intersection may be considered. This has been applied only to intersections within the model study area that were identified in the operational analysis as requiring capacity mitigations.

The safety analysis of the intersections has been undertaken by calculating the estimated collective and personal safety risks to identify the high-risk intersections. Factors such as intersection type, speed environment, and average annual daily traffic flows (AADT sourced from Mobile Road), and injury crash movement types have been used to help define the risk profiles. Collective risk is measured as the total number of fatal and serious crashes per intersection in a crash period, and Personal risk is the risk of death or serious injuries to each vehicle entering the intersection. Using the collective and personal risk levels a treatment philosophy strategy figure illustrated below has been used for guidance on the appropriate treatment type for each intersection.



#### Figure 2 Intersection treatment: Safety improvement strategy (source: NZTA High-risk intersection guide)

An initial indication of the suitability of a particular intersection form and traffic control may be derived using Table 1 below. The table is based on a general appreciation of the need to provide a satisfactory level of safety and mobility on arterial roads. The needs of all road users should be taken into account when selecting traffic control, as for example, roundabouts may be considered generally safer intersection forms than other at-grade intersections for motor vehicle occupants, however they do not offer the same degree of benefits for cyclists and motorcyclists.

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Road type	Primary arterial	Secondary arterial	Collector and local crossing road	Local street
Roundabouts				
Primary arterial	А	А	Х	Х
Secondary arterial	А	А	А	Х
Collector & local crossing road	Х	А	А	0
Local street	Х	Х	0	0
Traffic signals				
Primary arterial	0	0	0	Х
Secondary arterial	0	0	0	Х
Collector & local crossing road	0	0	Х	Х
Local street	Х	Х	Х	Х
Stop signs or give way signs				
Primary arterial urban/(rural)	X/(X)	X/(O)	А	А
Secondary arterial urban/(rural)	X/(O)	X/(O)	А	А
Collector & local crossing road	А	А	А	А
Local street	А	А	А	А

Table 1 Suitability of types of traffic control (Source: Austroads AGTM6)

A = Most likely to be an appropriate treatment

O = May be an appropriate treatment X = Usually an inappropriate treatment.

Based on the outcomes of the analysis a recommended intervention is offered for consideration, with an assumed low to high cost range provided for design and construction. Costings have been generally aligned with the interventions budget summary in the NZTA Standard Safety Intervention Toolkit published in 2021.

#### 3.2 Intersection 1 – SH2 / Onehunga Rd

This intersection is a priority crossroads under give way control for the Onehunga Rd approach and stop control for the Fannin St approach. The One Network Road Classification (ONRC) for the roads is Regional State Highway for SH2, Secondary Collector for Fannin St, and Access for Onehunga Rd. The estimated Annual Average Daily Traffic Volumes (AADT) for the roads are 12,885 for SH2, 596 vehicles for Fannin St, and 187 vehicles for Onehunga Rd. The state highway operates under a 70km/h speed limit and the minor roads operate under a 50km/h speed limit This intersection was identified during the modelling of the Ahuriri development scenario as an intersection that warranted review and possible intervention.

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#### Figure 3 Aerial image of intersection location

### 3.2.1 Modelling outcome

The modelling analysis indicates the operation of the intersection will deteriorate from a LOS B to a LOS E. There are significant delays anticipated for right turn movements out of the minor road at the intersection. It is anticipated that delays of this level are likely to encourage motorists to take greater risks when turning by utilising shorter gaps in the main road traffic stream. On the basis of this anticipated deterioration a review of the intersection to determine if interventions may be applied to offset the negative capacity effects of potential future development has been undertaken.

### 3.2.2 Safety review

The table below summarises a Crash Analysis System (CAS) analysis of the intersection site for the last 10 years.

#### Table 2 Intersection crash analysis summary

Study Period		Sever	ity	
olday i onou	Non-injury	Minor	Serious	Fatal
10 years (2014-2023 incl.)	0	1	0	0

The table indicates that there are no trends in severity currently present at this location.

Table 3 summarises the intersection risk profile based on analysis of the injury crashes for the last 10 years. This assists in determining the status of the intersection in terms of safety and identifying which intersections investigated have a higher-than-normal risk that crashes will result in death or serious injury. This status may be used to determine intersections for further, more detailed investigation, or assist in determining a hierarchy of intervention implementation.

#### Table 3 Intersection risk profile

Collective Risk	0.03	Low
Personal Risk	13.5	Medium

Based on a low collective risk and a medium personal risk the intersection settles into the safety maintenance / safety management category of possible improvements. The safety maintenance category would be seen as the minimum benchmark to apply intersection improvements, whereby the road assets such as markings and signage would be reviewed and renewed, and raised pavement markers replaced as necessary. Providing interventions using safety



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management features could also be considered, aimed at improving site safety and operational efficiency without major intersection form changes. As the intersection is a priority crossroads already the potential for an auxiliary lane merge adjacent to the southbound lane would be difficult to achieve due to the right turn into Fannin St.

A rough order cost for general maintenance, signs and markings improvements would be in the order of \$50K.

## 3.3 Intersection 2 – SH2 / New Unformed Road

This intersection has been modelled as a priority 'T' intersection with an extension of Quarantine Road. The state highway has median wire rope barrier, edge barriers, and starts to develop two southbound lanes at the location of the proposed intersection. The ONRC for the existing road is Regional State Highway for SH2. The estimated Annual Average Daily Traffic Volumes (AADT) for SH2 is 14462. The intersection is anticipated just south of the speed transition of the state highway from 70km/h north and 100 km/h south. This intersection was identified during the modelling of the Ahuriri development scenario as an intersection that warranted review and possible intervention.



Figure 4 Aerial image of intersection location

### 3.3.1 Modelling outcome

The modelling analysis indicates the operation of the intersection will deteriorate from a LOS B to a LOS E. There are significant delays anticipated for turn movements out of the minor road at the intersection with almost half minute delay for right turns onto SH2 and 40 seconds delay for left turns onto SH2. It is anticipated that delays of this level are likely to encourage motorists to take greater risks when turning by utilising shorter gaps in the main road traffic stream. On the basis of this anticipated deterioration a review of the intersection to determine if interventions may be applied to offset the negative capacity effects of potential future development has been undertaken.

### 3.3.2 Safety review

The table below summarises a CAS analysis of the intersection site for the last 10 years.

#### Table 4 Intersection crash analysis summary

Study Period	Severity			
	Non-injury	Minor	Serious	Fatal
10 years (2014-2023 incl.)	0	1	0	1

The fatality was the result of a vehicle colliding with a pedestrian walking along the road. There are no dedicated footpath facilities and, at the time of the incident there were no median or edge rope barriers installed.

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#### Table 5 Intersection risk profile

Collective Risk	0.10	Medium
Personal Risk	144.4	High

Table 5 summarises the intersection risk profile based on analysis of the injury crashes for the last 10 years. Based on a medium collective risk and a high personal risk the intersection settles into the safety management / safe system transformational works category of possible improvements.

The safety management category would include application of such interventions as speed management measures, pedestrian crossing facilities, and low cost intersection improvements such as minor kerb realignment and marking adjustments to the implementation of larger cost infrastructure works such as installing signal control or roundabout.

Major transformational works would provide the opportunity to develop safer movement opportunities for the minor road traffic and improve the operational efficiency however it would be expected that these forms of control would have an impact on the state highway traffic by introducing delays on the through traffic.

A cost-effective improvement to the intersection form would be to defer the commencement of the two southbound lanes by introducing a channelised right turn bay into the minor road and providing a merge lane of appropriate distance for the right turns out of the minor road using a break in the median wire rope barrier.

A rough order cost to construct a channelised right turn intervention would be in the region of \$200K to \$500K.

## 3.4 Intersection 3 – SH2 / McHardy St

This intersection is a priority 'T' intersection under stop control for the McHardy St approach. The state highway has flush median separating the running lanes. The ONRC for the roads is Regional State Highway for SH2, and low volume road for McHardy St. The estimated AADT for the roads are 12,885 for SH2, and 163 vehicles on McHardy St. The state highway operates under a 70km/h speed limit and the minor road operates under a 50km/h speed limit. This intersection was identified during the modelling of the Ahuriri development scenario as an intersection that warranted review and possible intervention.



Figure 5 Aerial image of intersection location



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### 3.4.1 Modelling outcome

The modelling analysis indicates the operation of the intersection will deteriorate from a LOS C to a LOS E. There are significant delays anticipated for turn movements out of the minor road at the intersection with almost a minute delay for right turns onto SH2 (compared with a delay of around 17 seconds for the 2048 base model scenario). It is anticipated that delays of this level are likely to encourage motorists to take greater risks when turning by utilising shorter gaps in the main road traffic stream. On the basis of this anticipated deterioration a review of the intersection to determine if interventions may be applied to offset the negative capacity effects of potential future development has been undertaken.

### 3.4.2 Safety review

The table below summarises a CAS analysis of the intersection site for the last 10 years.

Table 6 Intersection cro	ish analysis summary
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Study Period	Severity			
etady i onou	Non-injury	Minor	Serious	Fatal
10 years	1	4	0	0
(2014-2023 incl.)			0	0

The minor injury crash involved a pedestrian at the petrol station adjacent to the intersection and did not occur within the confines of the intersection or within the road reserve within 50m of the intersection.

#### Table 7 Intersection risk profile

Collective Risk	0.0	Low
Personal Risk	0.0	Low

As there are no injury crashes recorded within the intersection the risk profile of the intersection is low from a collective, and personal perception. This indicates no intersection alterations are considered necessary at this intersection from a safety perspective.

Providing a roundabout at this location would assist with the right turn movements out of McHardy St, however it is noted that development of this kind of intervention is seldom an appropriate solution (refer Table 1) based on the road classifications. It is recommended that the intersection have the safety maintenance suite of works applied to it and be monitored for increased crash risk at the site in the future. Should the uplift in traffic indicate a risk increase sufficient to change the risk strategy changes to the layout, including left in-left out may be considered.

At this stage safety maintenance measures (signs and markings renewal, raised pavement markers (RPMs) replacement as required) is recommended. A rough order cost for this intervention would be up to \$50K.

## 3.5 Intersection 4 – SH2 / Petane Rd

This intersection is a priority 'T' intersection under give way control for the Petane Rd approach. The state highway northbound approach has a channelised left turn onto Petane Rd. The ONRC for the roads is Regional State Highway for SH2, and Secondary Collector for Petane Rd. The estimated AADT for the roads are 12,885 for SH2, and 1,300 vehicles on Petane Rd. The state highway operates under a 70km/h speed limit and the minor road operates under a 50km/h speed limit. This intersection was identified during the modelling of the Ahuriri development scenario as an intersection that warranted review and possible intervention.

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#### Figure 6 Aerial image of intersection location

### 3.5.1 Modelling outcome

The modelling analysis indicates the operation of the intersection will deteriorate from a LOS B to a LOS F. There are significant delays anticipated for turn movements out of the minor road at the intersection with almost a minute delay for right turns onto SH2 (compared with a delay of around 13 seconds for the 2048 base model scenario). It is anticipated that delays of this level are likely to encourage motorists to take greater risks when turning by utilising shorter gaps in the main road traffic stream.

#### 3.5.2 Safety review

The table below summarises a CAS analysis of the intersection site for the last 10 years.

#### Table 8 Intersection crash analysis summary

Study Period	Severity			
	Non-injury	Minor	Serious	Fatal
10 years	2	0	0	0
(2014-2023 incl.)		0	0	0

This intersection does not have a crash record of concern, with only two recorded crashes over the last ten years.

#### Table 9 Intersection risk profile

Collective Risk	0	Low
Personal Risk	0	Low



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As there are no injury crashes recorded within the intersection the risk profile of the intersection is low from a collective, and personal perception. This indicates no intersection alterations are considered necessary currently at this intersection purely from a safety perspective.

The anticipated traffic flows northbound along SH2 are significant in the modelled PM peak hour period. This may be the contributory factor to the level of delay being experienced by the right turn traffic. Providing a roundabout at this location would likely improve right turn efficiency out of Petane Rd particularly as half of the SH2 southbound traffic is looking to turn right into Petane Rd. This would help break up the SH2 northbound flow and provide Petane Rd traffic opportunities to turn. The road reserve in this area appears extensive, lending confidence for the intersection to be upgraded to a roundabout without impact to external landowners. A roundabout would be a recommended intervention to explore further at this location.

A rough order cost for a roundabout at this location would be in the range of \$500K - \$6M.

## 3.6 Intersection 5 – SH2 / Villers St

This intersection is a priority 'T' intersection under stop control for the Villers St approach. The state highway northbound approach has a flush median separating the running lanes. The ONRC for the roads is Regional State Highway for SH2, and low volume road for Villers St. The estimated AADT for the roads are 12,885 for SH2, and 179 vehicles on Villers St. The state highway operates under a 70km/h speed limit and the minor road operates under a 50km/h speed limit. This intersection was identified during the modelling of the Ahuriri development scenario as an intersection that warranted review and possible intervention.



#### Figure 7 Aerial image of intersection location

### 3.6.1 Modelling outcome

The modelling analysis indicates the operation of the intersection will deteriorate from a LOS B to a LOS E. There are significant delays anticipated for right turn movements out of the minor road at the intersection with around 44 second delay for turns onto SH2 (compared with a delay of around 13 seconds for the 2048 base model scenario). It is anticipated that delays of this level are likely to encourage motorists to take greater risks when turning by utilising shorter gaps in the main road traffic.



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### 3.6.2 Safety review

No crashes of any severity were recorded at the intersection. As such the collective and personal risk profile for the intersection are going to be low. This indicates no intersection alterations are considered necessary currently at this intersection purely from a safety perspective.

The volume of traffic anticipated along the minor road approach is very low, at less than one vehicle per minute wanting to turn right out of Villers St. It is recommended that this intersection would be monitored and if high risk manoeuvres are happening then further investigation into mitigation measures be undertaken.

Any intervention at this intersection should be in the order of safety maintenance measures (signs and markings renewal, RPMs replacement as required). A rough order cost for this intervention would be up to \$50K.

## 3.7 Intersection 6 – Taradale Rd / Exeter Cr

This intersection is a priority 'T' intersection under give way control for the Exeter Crescent approach. Taradale Rd (SH50) is a four-lane dual carriageway. There is limited opportunity for traffic to turn right into Exeter Cres, without obstructing a through lane. The ONRC for the roads is Hi-volume State Highway for Taradale Rd, and Access for Exeter Cres. The estimated AADT for the roads are 11,644 for Taradale Rd, and 637 vehicles on Exeter Cres. Both roads operate under a 50km/h speed limit. This intersection was identified during the modelling of the Ahuriri development scenario as an intersection that warranted review and possible intervention.



#### Figure 8 Aerial image of intersection location

### 3.7.1 Modelling outcome

The modelling analysis indicates the operation of the intersection will deteriorate from a LOS D to a LOS E. There are significant delays anticipated for right turn movements out of the minor road at the intersection with around 50 second delay for right turns onto Taradale Rd). It is anticipated that delays of this level are likely to encourage motorists to take greater risks when turning by utilising shorter gaps in the main road.

### 3.7.2 Safety review

The table below summarises a CAS analysis of the intersection site for the last 10 years.



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#### Table 10 Intersection crash analysis summary

Study Period	Severity			
	Non-injury	Minor	Serious	Fatal
10 years	1	1	1	0
(2014-2023 incl.)				

### Table 11 Intersection risk profile

Collective Risk	0.04	Low Medium
Personal Risk	10.7	Medium

The risk profile indicates intervention at this intersection should be in the order of safety maintenance measures (signs and markings renewal, RPMs replacement as required). A rough order cost for this intervention would be up to \$50K.

## 3.8 Intersection 7 – Taradale Rd / Niven St

This intersection is a priority 'T' intersection under give way control for the Niven Street approach. Taradale Rd (SH50) is a four-lane dual carriageway. There is a channelised turn bay for traffic to turn right into Niven St and a channelised left turn into Niven St. The right turn out of Niven Street appears to be possible as a two stage movement with vehicles able to gap seek within the median island opening. The ONRC for the roads is Hi-volume State Highway for Taradale Rd, and Access for Exeter Cres. The estimated AADT for the roads are 11,644 for Taradale Rd, and 4,998 vehicles on Niven Street. Both roads operate under a 50km/h speed limit. This intersection was identified during the modelling of the Ahuriri development scenario as an intersection that warranted review and possible intervention.



Figure 9 Aerial image of intersection location

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### 3.8.1 Modelling outcome

The modelling analysis indicates the operation of the intersection will deteriorate from a LOS E to a LOS F. There are significant delays anticipated for right turn movements out of the minor road at the intersection with over two minutes delay anticipated for turns onto Taradale Rd). It is anticipated that delays of this level are likely to encourage motorists to take greater risks when turning by utilising shorter gaps in the main road or they may turn left and look to make a u-turn at the Taradale Rd / Exeter Cres intersection a short distance to the north.

### 3.8.2 Safety review

The table below summarises a CAS analysis of the intersection site for the last 10 years.

Table 12 Intersection crash analysis summary

Study Period	Severity			Severity			
	Non-injury	Minor	Serious	Fatal			
10 years	4	2	0	0			
(2014-2023 incl.)	4	5	0	0			

A couple of right turns, including one which collided with a pedestrian making a crossing, and a vehicle striking a parked vehicle account for the minor severity crashes.

#### Table 13 Intersection risk profile

Collective Risk	0.12	Medium High
Personal Risk	1.6	Medium

The risk profile indicates that medium cost or larger cost infrastructure works may be appropriate mitigations at this intersection. The Taradale Rd corridor currently has four signalised intersections between the SH50 roundabout and Kennedy Park. A consistent approach to intervention type would indicate installation of traffic signal control at this intersection. This would safely cater for the right turn demand at the intersection and provide formal pedestrian crossing facilities which would provide good connectivity to the Exeter Crescent populace and Tannery Stream paths.

A rough order cost for this intervention would be up in the region of \$500K to \$2M.

## 3.9 Intersection 8 – Taradale Rd / Riverbend Rd

This intersection is a priority 'T' intersection under stop control for the Riverbend Rd approach. Taradale Rd is a four-lane dual carriageway. There is a channelised turn bay for traffic to turn right into Riverbend Rd. The ONRC for the roads is Hivolume State Highway for Taradale Rd, and Access for Riverbend Rd. The estimated AADT for the roads are 11,644 for Taradale Rd, and 5,236 vehicles on Riverbend Rd. Both roads operate under a 50km/h speed limit. This intersection was identified during the modelling of the Ahuriri, and the South Napier development scenario as an intersection that warranted review and possible intervention.

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#### Figure 10 Aerial image of intersection location

### 3.9.1 Modelling outcome

The modelling analysis indicates the operation of the intersection will deteriorate from a LOS D to a LOS E. The greatest delay anticipated is for right turn movements out of the minor road with around 40 seconds delay envisaged. It is anticipated that delays of this level are likely to encourage motorists to take greater risks when turning by utilising shorter gaps in the main road.

### 3.9.2 Safety review

The table below summarises a CAS analysis of the intersection site for the last 10 years.

#### Table 14 Intersection crash analysis summary

Study Period	Severity			
	Non-injury	Minor	Serious	Fatal
10 years	10	1	1	0
(2014-2023 incl.)	10			

The crashes that resulted in injuries involved a pedestrian crossing the road, and a cyclist not yielding at the intersection. A couple of trends amongst the crashes are present. One is that the crashes involve turning vehicles crossing, and the other is a number of rear end collisions. The low speed that the vehicles are travelling to undertake cross turns and rear end crashes may be a factor in the lack of injuries resulting.

#### Table 15 Intersection risk profile

Collective Risk	0.10	Medium
Personal Risk	12.4	Medium

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The risk profile indicates that intervention type may be applicable from all categories of treatment. The number of crashes involving turning vehicles and vulnerable road users using the intersection would be mitigated with the installation of larger transformational works such as signalisation of the intersection. This would safely cater for the turn demands at the intersection and provide formal pedestrian crossing facilities which would provide good connectivity to the corridor and the Kennedy Park pathway.

A rough order cost for this intervention would be up in the region of \$500K to \$2M.

## 3.10 Intersection 9 – SH2 / Meeanee Quay

This intersection is a four-arm roundabout. The roundabout is approximately 80m inscribed circle diameter (ICD) and two circulatory lanes. The approaches are two lanes at the yield line and all are developed from single lane approaches. There is a rail crossing on Meeanee Quay, approximately 100m from the roundabout. The crossing is not barrier controlled. The ONRC for the roads is Hi-volume State Highway for SH2, Arterial Road for Meeanee Quay and Watchman Rd. The estimated AADT for the roads are 14,462 for SH2, 8,233 vehicles on Meeanee Quay, and 4,190 on Watchman Rd. SH2 operates under an 80km/h speed limit, and the minor roads operate under a 50km/h speed limit. This intersection was identified during the modelling of the Ahuriri development scenario as an intersection that warranted review and possible intervention.



#### Figure 11 Aerial image of intersection location

### 3.10.1 Modelling outcome

The modelling analysis indicates the operation of the intersection will deteriorate from a LOS C to a LOS F during the PM peak, however, the model has this intersection coded as a priority crossroads intersection. The intersection underwent significant change from a priority crossroads to a roundabout during 2017-2018 which was not included in the 2020 update of the model. As a result, the interventions reported here may not be required as the intersection has already been upgraded.

In order to reflect the revised intersection layout the CAS analysis has been adjusted to reflect the last five years (2019-2023 inclusive).

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### 3.10.2 Safety review

The table below summarises a CAS analysis of the intersection site for the last 5 years.

#### Table 16 Intersection crash analysis summary

Study Period		Sever	ity	
	Non-injury	Minor	Serious	Fatal
5 years	5	2	2	1
(2019-2023 incl.)		-	2	

10 crashes occurred over the five year period, with five crashes resulting in injuries. The fatal crash involved a pedestrian crossing the roundabout, and a motorcyclist collision with a truck during a lane change manoeuvre. The prevailing trend of injury crashes involves vehicles cornering at the intersection and colliding with traffic.

#### Table 17 Intersection risk profile

Collective Risk	0.32	Medium High
Personal Risk	30.2	Medium High

With medium high levels of collective and personal risks, the risk profile indicates that the intersection would benefit from transformation works. Grade separation of the SH2 traffic over the roundabout would vastly reduce the instance of conflicting movement to Meeanee right turn traffic, however this measure would come at significant expense. An alternative solution may be to introduce roundabout metering signals on the southbound approach to the intersection. This would develop greater gaps in the flow that would allow safer entry into the roundabout for Meeanee Quay traffic and improve the operation. The lane designation could also be adjusted to allow two lane right turn circulation from Meeanee Quay. Implementing a pavement loop downstream of the rail track crossing would assist in managing queue lengths.

A rough order cost to construct a roundabout metering intervention would be in the region of \$100K to \$250K. However, this intervention may not be required as the base year model assumes this is a crossroads intersection and does not reflect the current roundabout.

## 3.11 Intersection 10 – Stock Rd / Equestrian Ln

This intersection is a priority 'T' intersection with no formal control defined. Stock Rd is the main road and has a rural basic right turn arrangement with shoulder widening at the intersection. The ONRC for the roads is Primary Collector for Stock Rd, and access road for Equestrian Lane. The estimated AADT for the roads are 2,803 for Stock Rd, and 160 vehicles on Equestrian Lane. Both roads operate under a 100km/h speed limit. This intersection was identified during the modelling of the Flaxmere development scenario as an intersection that warranted review and possible intervention.

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#### Figure 12 Aerial image of intersection location

### 3.11.1 Modelling outcome

The modelling analysis indicates the operation of the intersection will deteriorate from a LOS B to a LOS F during the PM peak. The right turn out of Equestrian Lane is anticipated to experience the greater level of delay at around 90 seconds. It is anticipated that delays of this level are likely to encourage motorists to take greater risks when turning by utilising shorter gaps in the main road traffic stream.

### 3.11.2 Safety review

The table below summarises a CAS analysis of the intersection site for the last 10 years.

Table 18 Intersection crash analysis summary

Study Period	Severity			
	Non-injury	Minor	Serious	Fatal
10 years	0	1	0	0
(2014-2023 incl.)				

A single crash was recorded in ten years and resulted in a minor injury. The causation factor was a collision between vehicle heading south and vehicle turning right into Equestrian Lane.



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#### Table 19 Intersection risk profile

Collective Risk	0.03	Low
Personal Risk	26.5	Medium High

The collective risk associated with this intersection is low, with a medium high risk for the personal component. This has the intersection sitting in the safety management strategy of intersection treatments to consider. Applicable interventions include minor kerb realignment, speed management measures, and hazard awareness improvements. In order to mitigate the right turn delays and defining the right turn into Equestrian Lane, developing a rural channelised right turn arrangement at this location should be considered. A review of the speed limit along this route with a view to reducing to 80km/h should also be considered alongside the anticipated intensification of use the intersection is expected to undergo in the future.

A rough order cost to construct a channelised right turn intervention would be in the region of \$200K to \$500K.

## 3.12 Intersection 11 – Longlands Rd / Railway Rd (S)

This intersection is a priority crossroads with a slight stagger through Longlands Rd. Both Longlands Rd approaches operate under give way control. Approximately 8.5m from the Railway Rd edge line is the limit line for the rail crossing. The crossing is not barrier controlled. Longlands Rd (East) has property accesses in close proximity to the intersection and a slightly raised median separating the running lanes. The ONRC for all roads on the approach to the intersection is Primary Collector. The estimated AADT for the roads are 5,200 for Railway Rd (N), 4,008 for Railway Rd (S), 4,680 for Longlands Rd (E), and 5,388 for Longlands Rd (W). Longlands Rd operates under a 100km/h speed limit. Railway Rd is 80km/h speed limit; however it operates with rural intersection activated warning signs (RIAWS) with a variable speed limit of 60km/h when traffic is present at the intersection. This intersection was identified during the modelling of the Flaxmere development scenario as an intersection that warranted review and possible intervention.



Figure 13 Aerial image of intersection location

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### 3.12.1 Modelling outcome

The analysis into intersection operation indicates the intersection will deteriorate from a LOS C to a LOS E during the PM peak. Traffic using the Longlands Rd (West) approach is expected to experience the greatest delay of almost 45 seconds. It is anticipated that delays of this level are likely to encourage motorists to take greater risks when turning by utilising shorter gaps in the main road traffic stream.

3.12.2 Safety review

The table below summarises a CAS analysis of the intersection site for the last 10 years.

#### Table 20 Intersection crash analysis summary

Study Period	Severity			
	Non-injury Minor Serious F			
10 years	16	3	0	0
(2014-2023 incl.)				

A total of 19 crashes have been reported in the last 10 years. Three of these resulted in minor injury. Causation factors for these crashes include collisions when crossing through the intersection. Trends that feature across the 10 year crash period include crossing traffic collisions, cornering vehicles, and vehicles merging with traffic.

#### Table 21 Intersection risk profile

Collective Risk	0.10	Medium
Personal Risk	18.2	Medium High

The collective risk associated with this intersection is medium, with a medium high risk for the personal component. This has the intersection sitting between the safety management and transformational works strategies of intersection treatments to consider. Applicable interventions include minor kerb realignment, speed management measures, and hazard awareness improvements, through to significantly larger cost intersection form changes.

Installation of a roundabout would likely provide the optimum solution at this intersection, however the proximity of the rail track to the intersection provides a considerable obstacle to overcome. It is anticipated that acquisition of third-party land would be a requirement to provide enough room to develop a roundabout and avoid impact to the rail track.

A rough order cost to construct a roundabout at this location could be in the region of \$500K to \$6M.

## 3.13 Intersection 12 – Omahu Rd / Kirkwood Rd

This intersection is a priority 'T' intersection under give way control for the Kirkwood Rd approach. Omahu Rd has flush median separating the running lanes with a right turn bay developed within the median. The ONRC for the roads is Arterial Road for Omahu Rd, and Secondary Collector for Kirkwood Rd. The estimated AADT for the roads are 7,350 for Omahu Rd, and 1,596 vehicles on Kirkwood Rd. Both roads operate under a 60km/h speed limit at the intersection. It is noted that the speed limit along Omahu Rd changes to 80km/h 94m northwest of intersection. This intersection was identified during the modelling of the Ahuriri development scenario as an intersection that warranted review and possible intervention.

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Figure 14 Aerial image of intersection location

### 3.13.1 Modelling outcome

The analysis into intersection operation indicates the intersection will deteriorate from a LOS E to a LOS F during the PM peak. Traffic using the Kirkwood Rd approach are expected to experience the greatest delay of over 50 seconds. It is anticipated that delays of this level are likely to encourage motorists to take greater risks when turning by utilising shorter gaps in the main road traffic stream.

### 3.13.2 Safety review

The table below summarises a CAS analysis of the intersection site for the last 10 years.

#### Table 22 Intersection crash analysis summary

Study Period	Severity			
	Non-injury Minor Serious Fa			
10 years (2014-2023 incl.)	6	2	1	0

There have been nine crashes reported over the last 10 years. Three crashes have resulted in injuries. Causation factors for these crashes include collisions when crossing through the intersection.

#### Table 23 Intersection risk profile

Collective Risk	0.09	Medium
Personal Risk	20.4	Medium High

The collective risk associated with this intersection is medium, with a medium high risk for the personal component. This has the intersection sitting between the safety management and transformational works strategies of intersection treatments to consider. Applicable interventions include minor kerb realignment, speed management measures, and hazard awareness improvements to significantly larger cost intersection form changes.



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Installation of a roundabout would likely provide the optimum solution at this intersection similar to the other forms of intersection control along this corridor (Chatham Rd, Henderson Rd, and Wilson Rd). It is anticipated that acquisition of third-party land may be a requirement to provide enough room to develop a compliant roundabout.

A rough order cost to construct a roundabout at this location could be in the region of \$500K to \$6M.

## 3.14 Intersection 13 – Brookfields Rd / Pakowhai Rd

This intersection is a priority 'T' intersection under give way control for the Brookfields Rd approach. Pakowhai Rd has flush median separating the running lanes with a right turn bay developed within the median. The ONRC for the roads is Arterial Road for Pakowhai Rd, and Primary Collector for Brookfields Rd. The estimated AADT for the roads are 7,350 for Brookfield Rd, and 10,893 vehicles on Pakowhai Rd. Both roads operate under an 80km/h speed limit, however in proximity to the intersection the speed limits on the approaches reduce to 60km/h. This intersection was identified during the modelling of the South Napier development scenario as an intersection that warranted review and possible intervention.



#### Figure 15 Aerial image of intersection location

### 3.14.1 Modelling outcome

The analysis into intersection operation indicates the intersection will deteriorate from a LOS E to a LOS F during the PM peak. Traffic using the Brookfields Rd approach are expected to experience the greatest delay at nearly 55 seconds. It is anticipated that delays of this level are likely to encourage motorists to take greater risks when turning by utilising shorter gaps in the main road traffic stream.

### 3.14.2 Safety review

The table below summarises a CAS analysis of the intersection site for the last 10 years.



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#### Table 24 Intersection crash analysis summary

Study Period	Severity			
	Non-injury	Minor	Serious	Fatal
10 years	8	2	1	0
(2014-2020 Incl.)				

There have been eleven crashes reported over the last 10 years. Three crashes have resulted in injuries. Causation factors for these crashes include a nose-to-tail collision, and loss of control when approaching the intersection. This indicates drivers may be approaching the intersection at inappropriate speeds or the layout of the intersection is confusing.

#### Table 25 Intersection risk profile

Collective Risk	0.08	Medium
Personal Risk	11.1	Medium

The risk profile indicates that intervention type may be applicable from all categories of treatment. The number of crashes involving loss of control approaching the intersection could be mitigated by undertaking safety maintenance at the intersection with improved signage markings and hazard awareness measures. Minor kerb realignments to protect assets would also be beneficial. Transformational works such as a roundabout may also be considered to improve the right turn for Brookfields Rd traffic. In the short term it is recommended the intersection treatment strategy is levelled at safety maintenance and low-cost physical interventions / speed and hazard awareness measures to address the safety and the operation be monitored to understand current / emerging levels of delay to minor road traffic.. A rough order cost to implement these could be in the region of \$25K to \$100K.

## 3.15 Intersection 14 - SH51 / Awatoto Rd

This intersection is a three arm roundabout with an ICD of approximately 46m and single lane circulatory carriageway. The central island has an over-run apron to assist heavy vehicle turning. There is approximately 23m clearance from the roundabout ICD and the yield line to the railway crossing. Awatoto Rd has two property accesses close to the rail crossing. The crossing is under automatic barrier control. The ONRC for the roads is Arterial (SH) road for State Highway 51, and Primary Collector for Awatoto Rd. The estimated AADT for the roads are 15,226 for SH51, and 3,353 vehicles on Awatoto Rd. The NZTA national speed limit register indicates the state highway operates under an 80km/h speed limit and the Awatoto Rd approach (including the accesses operates under a 50km/h speed limit). Awatoto Rd then operates under a 70km/h speed limit west of the roundabout approach. This intersection was identified during the modelling of the South Napier development scenario as an intersection that warranted review and possible intervention.

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Modelled layout

#### Figure 16 Aerial image of intersection location



Recent Implementation

Figure 16 illustrates the layout of the intersection as modelled and analysed for crash data, and the recently completed layout of the intersection upgrade to a roundabout.

### 3.15.1 Modelling outcome

The analysis into intersection operation indicates the intersection will deteriorate from a LOS D to a LOS E during the PM peak, however, this is based on a priority intersection rather than the recently constructed roundabout. Traffic using the Awatoto Rd approach are anticipated to experience the greatest delay, at nearly 40 seconds, to make right turns onto SH51. It is anticipated that delays of this level are likely to encourage motorists to take greater risks when turning by utilising shorter gaps in the main road traffic stream.

### 3.15.2 Safety review

The table below summarises a CAS analysis of the intersection site for the last 10 years.

#### Table 26 Intersection crash analysis summary

Study Period	Severity			
	Non-injury	Minor	Serious	Fatal
10 years	7	4	1	0
(2014-2023 incl.)				Ū

There have been 12 crashes reported over the last 10 years. Five crashes have resulted in injuries. Causation factors for these crashes include turning traffic collisions, right turns against traffic, and nose-to-tail collision.

Table 27 Intersection risk profile

Collective Risk	0.14	Medium High
Personal Risk	18.2	Medium High



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The risk profile indicates the appropriate intervention type sits in the Transformative Works strategy. It is noted that a roundabout, which would satisfy the transformative criteria, has recently been constructed at the site. It is expected that the roundabout will mitigate for the turn crashes by reducing the number of concurrent vehicle conflicts through the intersection and assist with providing safer right turn opportunities. At this stage it is recommended that the site be monitored over time and further safety features be investigated should a crash trend emerge post roundabout construction.

No intervention is considered necessary at this stage.

## 3.16 Intersection 15 – Meeanee Rd / Awatoto Rd / Sandy Rd / Brookfields Rd

This intersection is a crossroads intersection with Sandy Road and Awatoto Rd operating under stop control. These approaches also have judder bars and high friction surfacing applied on the approach. The ONRC for the roads is Arterial for Meeanee Rd, Secondary Collector for Brookfield Rd, Primary Collector for Sandy Rd, and Arterial Road for Awatoto Rd. The estimated AADT for the roads are 7,056 for Meeanee Rd, 545 on Brookfield Rd, 2,901 on Sandy Rd, and 3,739 vehicles on Awatoto Rd. Meeanee Rd and the approaches to the intersection operate under a 50km/h speed limit, with the speed limits changing to 80km/h on the other arms approximately 80m from the intersection. This intersection was identified during the modelling of the South Napier development scenario as an intersection that warranted review and possible intervention.



#### Figure 17 Aerial image of intersection location

### 3.16.1 Modelling outcome

The analysis into intersection operation indicates the intersection will deteriorate from a LOS D to a LOS E during the PM peak. Traffic using the Awatoto Rd approach are anticipated to experience the greatest delay, at nearly 45 seconds. It is anticipated that delays of this level are likely to encourage motorists to take greater risks when turning by utilising shorter gaps in the opposing traffic stream.

### 3.16.2 Safety review

The table below summarises a CAS analysis of the intersection site for the last 10 years.

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#### Table 28 Intersection crash analysis summary

Study Period	Severity							
otady i onod	Non-injury	Minor	Serious	Fatal				
10 years	8	6	1	0				
(2014-2023 incl.)								

There have been 15 crashes reported over the last 10 years. Seven crashes have resulted in injuries. Causation factors for these crashes include right turns against traffic, and lost control during cornering.

#### Table 29 Intersection risk profile

Collective Risk	0.26	High
Personal Risk	35.3	High

The risk profile indicates the appropriate intervention type sits in the Transformative Works strategy. Given the rural-urban fringe nature of the settlement it is recommended that a roundabout be considered at the intersection. It is expected that a roundabout will mitigate for the turn crashes by reducing the number of concurrent vehicle conflicts through the intersection and assist with providing safer right turn opportunities.

A rough order cost to construct a roundabout at this location could be in the region of \$500K to \$6M.

# 4. Review Summary

A high level analysis of intersections identified to support a strategic evaluation of impacts to the road transport network resulting from a future development strategy for Napier and Hastings has been undertaken and reported in this technical note. The analysis involved a mitigations review of identified intersections based on two factors:

- Identification of Level of Service (LOS) reduction, and
- Identification of the safety performance of intersection.

The table below illustrates the identified intersections and recommended mitigation measures to consider for further investigation.

Mitigations offered for consideration were priced based on a rudimentary budget range for low to high cost standard safety interventions that NZTA developed for their Standard Safety Intervention Toolkit published in 2021.

Table 30 Intersection risk profile

	Intersection	Mitigation	Rough Order Cost Range
1	SH2 / Onehunga Rd	Signs and Markings Renewal	Up to 50K
2	SH2 / New Unformed Road	Channelised Right Turn Bay	200K – 500K
3	SH2 / McHardy St	Signs and Markings Renewal	Up to 50K
4	SH2 / Petane St	Roundabout	500K – 6M
5	SH2 / Villers St	Signs and Markings Renewal	Up to 50K

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	Intersection	Mitigation	Rough Order Cost Range
6	Taradale Rd / Exeter Cr	Signs and Markings Renewal	Up to 50K
7	Taradale Rd / Niven St	Traffic Signal Intersection	500K – 2M
8	Taradale Rd / Riverbend Rd	Traffic Signal Intersection	500K – 2M
9	SH2 / Meeanee Quay	No change	N/A
10	Stock Rd / Equestrian Ln	Channelised Right Turn Bay	200K – 500K
11	Longlands Rd / Railway Rd (S)	Roundabout	500K – 6M
12	Omahu Rd / Kirkwood Rd	Roundabout	500K – 6M
13	Brookfields Rd / Pakowhai Rd	Safety maintenance and low- cost physical interventions / speed and hazard awareness measures	50K – 100K
14	SH51 / Awatoto Rd	No change	N/A
15	Meeanee Rd / Awatoto Rd / Sandy Rd / Brookfield Rd	Roundabout	500K – 6M

Figure 18 illustrates the location of recommended intervention with reference to development scenario it features in.

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Figure 18 Intervention location plan

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The summary of cost estimates associated with each of the scenarios can be seen in Table 31, showing the range (in thousand) and with 'x' in the table indicating whether the intersection is flagged (FL) in the scenarios.

The highest intervention costs are associated with the Ahuriri Scenario (in the range of about \$2.4M to \$16.7M), followed by the Napier South Scenario (in the range of about \$1.5M to \$10.1M), and the Flaxmere scenario (in the range of about \$1.2M to \$8.5M).

Table 3	31	Summary	of	cost	estimates	in	thousand
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Cite #	Interportion	Ahuriri			Napier South			Flaxmere		
Sile #	Intersection	FL	Low (\$K)	High (\$K)	FL	Low (\$K)	High (\$K)	FL	Low (\$K)	High (\$K)
1	SH2, Onehunga Rd	х	50	50						
2	SH2, New Rd	х	200	500						
3	SH2, McHardy St	х	50	50						
4	SH2, Petane Rd	х	500	6,000						
5	SH2, Villers St	х	50	50						
6	Taradale Rd, Exeter Cres	х	50	50						
7	Taradale Rd, Niven St	х	500	2,000	х	500	2,000	х	500	2,000
8	Taradale Rd, Riverbend Rd	х	500	2,000	х	500	2,000			
9	SH2, Meeanee Quay	х	0	0						
10	Stock Rd, Equistrian Ln							х	200	500
11	Longlands Rd, Railway Rd Sou							х	500	6,000
12	Omahu Rd, Kirkwood Rd	х	500	6,000						
13	Pakowhai Rd, Brookfields Rd				х	25	100			
14	SH51, Awatoto Rd				х	0	0			
15	Brookfields Rd, Sandy Rd				х	500	6,000			
	Total		2,400	16,700		1,525	10,100		1,200	8,500



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