Palmerston North

Future Development Strategy 2024

horizons REGIONAL COUNCIL

PAPAIOEA PALMERSTON NORTH CITY

City land area

39,500 hectares

Population

94,400 (2023)
117,695 (2054)
24.7% increase

Homes required based on population forecasts

Short term
983
Medium term
3010
Long term
5891
(total 9884)

Business and industrial land required based on population forecasts

Short term
24.3 hectares
Medium term
70.7 hectares
Long term
185.6 hectares

Key

Short term | Within the next 3 years
Medium term | Between 3 and 10 years
Long term | Between 10 and 30 years

Palmy is strategically located for growth

Enough land for housing growth?

Short term ✓
Medium term ✓
Long term ✓

Enough land for business growth?

Short term ✓
Medium term ✓
Long term ✓

Natural city boundary

Flood prone areas
Northwest and Southeast of the city

Highly productive land
West, North and East

River terraces and gully systems in
the Aokautere area to the South

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A Message from the Mayor and Chair

Kia ora tātou

On behalf of Palmerston North City Council and Horizons Regional Council we're pleased to present the Palmerston North Future Development Strategy. This joint strategy reflects the shared commitment of both our councils to shape a vibrant and sustainable future for our city and region over the next three decades.

Te Papaioea, Palmerston North is experiencing sustainable growth that presents us with both opportunities and challenges. Providing for this growth in an affordable and equitable manner has been front of mind as we have developed this strategy.

We have plenty of space to grow, while still protecting our valuable agricultural soils and avoiding areas of risk. Though developing new areas by 'Growing Out', is part of the growth picture, a significant aspect of our growth strategy, especially in the short term, will involve 'Growing Up and In.' In other words, increasing the number of housing and business options within the existing city footprint. A range of growth scenarios are explored in this strategy. Our preferred option enables a mix of Growing Up, In, and Out.

Like others throughout New Zealand, our city is experiencing the impacts of climate change. One of Palmy's most significant challenges is managing our stormwater in large rain events. Without careful growth planning, we are at risk of exacerbating the flooding to which our low-lying city is prone. This strategy sets us up for forward-thinking policies and further detailed planning so that we can continue to invest wisely in a city that can adapt and thrive in the face of evolving environmental challenges.

This future-focused strategy also describes what we think it means for Palmy to be a well-functioning urban environment. We see this as an opportunity to shape not just the physical landscape but also the social and cultural life of our community. We aspire to create an urban environment that enhances the quality of life for all residents.

This strategy is the result of consultation with mana whenua Rangitāne o Manawatū and our central government agency partners, reflecting our commitment to a shared vision for the future. Together, we have incorporated a variety of interests and needs, drawing on collective expertise to shape a strategy that addresses the unique make-up of Palmerston North.

Ngā mihi nui,

Mayor Grant Smith | JP
Palmerston North City Mayor

Dr Rachel Keedwell
Chair, Horizons Regional Council

Section A

Introduction

What is a Future Development Strategy?

This Future Development Strategy (the Strategy) forms the basis for how Palmerston North will grow over the next 30 years to meet our housing, business, and industrial land needs.

As one of the requirements of the National Policy Statement on Urban Development 2020 (the Policy Statement), the Strategy helps council set the high-level vision for accommodating urban growth over the next 30 years.

Where councils share jurisdiction over an urban environment, the Policy Statement requires joint responsibility. This means that Palmerston North City Council and Horizons Regional Council are both responsible for the preparation and implementation of this Strategy.

Scope

The Strategy sets out our long-term vision for the area within the Palmerston North District boundary, which includes Palmerston North City and Ashhurst, Bunnythorpe, Longburn and Linton villages.

Areas identified in the Strategy are indicative and will be refined as part of subsequent planning processes to rezone land.

Purpose

The purpose of the Strategy is to set out how we intend to:

- Achieve well-functioning urban environments in our existing and future urban areas.
- Provide at least sufficient development capacity over the next 30 years to meet expected demand.
- Assist the integration of planning decisions under the Resource Management Act 1991 (RMA) with infrastructure planning and funding decisions under other legislation.

It also includes a statement of hapū and iwi values and aspirations for urban development.

The Strategy takes a bird's-eye view of what type of urban development will occur, and where, in Palmerston North in the coming decades. It does not provide the detail that will enable site-specific planning.

A range of other, more detailed planning processes are required before a development project is shovel-ready. This includes:

- Engaging with affected stakeholders and property owners.
- Investigations such as transport and stormwater modelling, and geotechnical assessments.
- Preparing Master Plans/Structure Plans.
- District Plan zoning and related plan changes.
- Regulatory permissions including subdivision, land use and building consents and engineering approvals.

The Strategy informs a range of other Council planning processes, including our Long-Term Plans and Infrastructure Strategies, priorities and decisions in regional land transport and public transport plans.

Figure 1 shows the relationship between the Future Development Strategy, legislation, and other strategies, plans, and frameworks at national, regional and local levels.

Implementing and Reviewing the Future Development Strategy

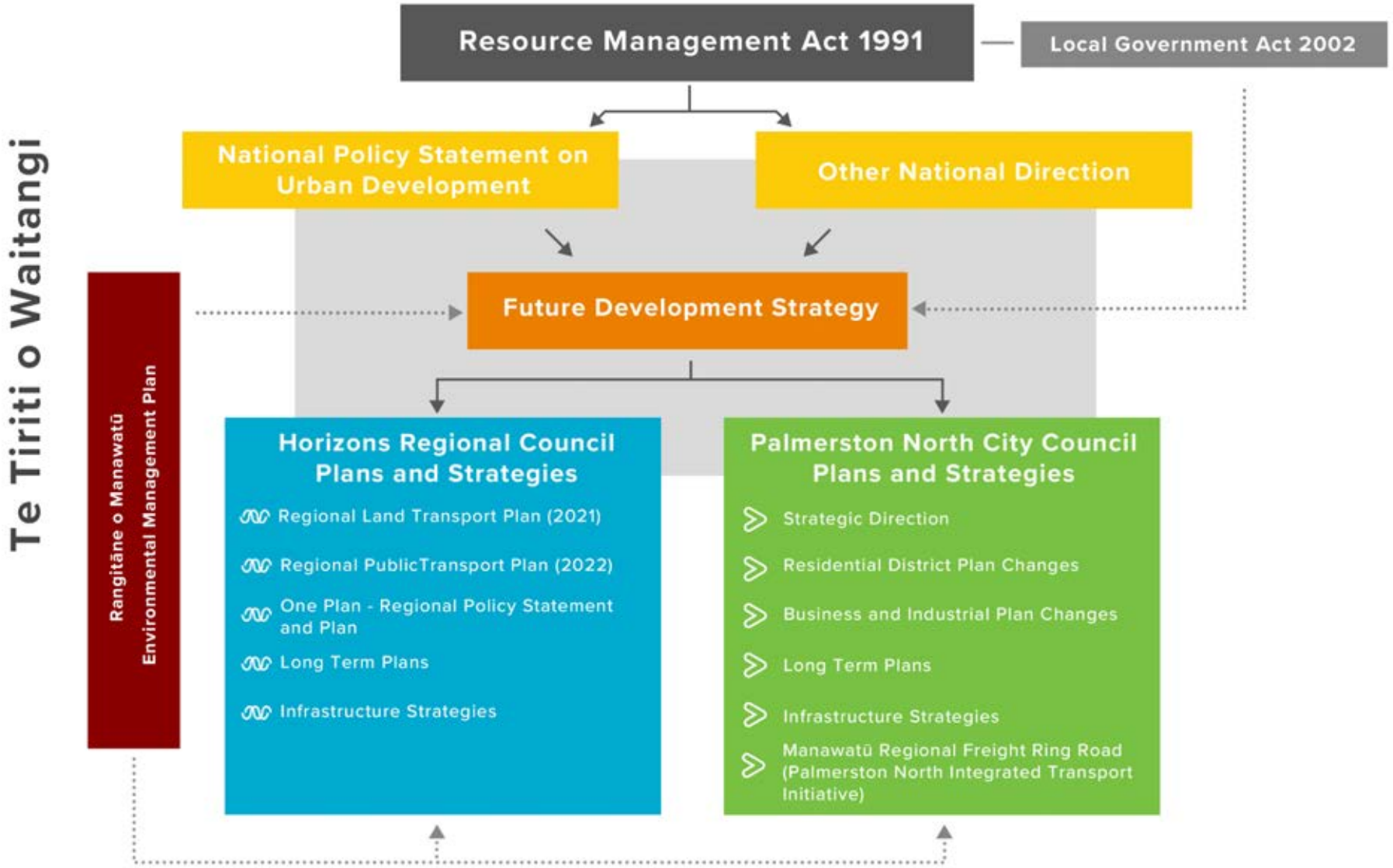
According to the Policy Statement, the Future Development Strategy must be reviewed in time to inform the next long-term plan (i.e. every 3 years). This provides the regular opportunity to update our forecast demand and capacity figures and ensure we are still able fulfil the purpose of the Strategy.

There are several pieces of work at the time of adoption of this Strategy (June 2024) that once complete, will inform the 2027 review:

- Review of the Citywide Vegetation Framework
- Development of a Citywide Stormwater Strategy
- The Palmerston North Strategic Transport Model
- Further planning investigations for Te Utanganui, Roxburgh Crescent, Ashhurst Growth Areas, Medium Density Residential Zone, and Kākātangiata
- Private plan change requests for 160 Napier Road and the Bunnythorpe Business Park
- Updated modelling for flood catchments across the district
- More detailed mapping of highly productive land around growth areas
- Growth strategies and housing and business needs assessments in neighbouring districts
- Plan Change 3 (urban development) to the Horizons One Plan Regional Policy Statement
- Updates to the Regional Land Transport Plan (2024 review)
- Manawatū Regional Freight Ring Road business case

The Policy Statement also requires the preparation of an implementation plan for the Future Development Strategy. Like the Strategy itself, the implementation plan will be jointly prepared by Palmerston North City Council and Horizons Regional Council. It must be updated annually.

Figure 1: Relationship with legislation and other strategies, plans, and frameworks



Section B

Setting the scene

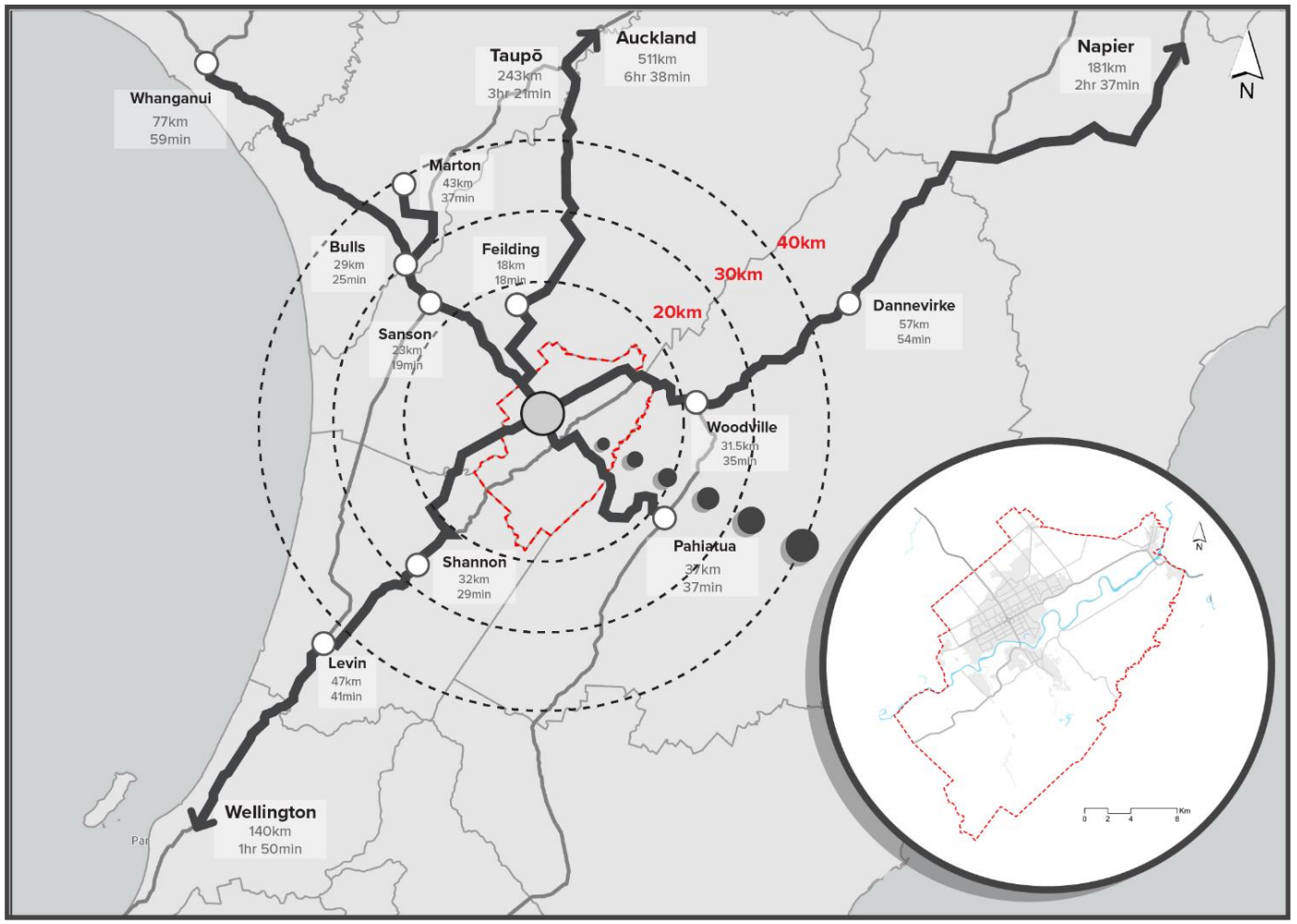
Regional Context

Palmerston North's central location is strategically important to the lower North Island and is a key factor in the rate of growth expected in the city in the coming decades.

Our district's close proximity to Wellington, Kāpiti Coast, Whanganui, Napier and Taupō, as well as being home to Massey University, FoodHQ, Linton Military Camp (and Ohakea Base in the neighbouring Manawatū District) means we are well positioned to contribute to, and benefit from, nationally and internationally significant innovation and distribution networks.

The city is located at the centre of the road and rail networks that connect the Horizons region with Hawke's Bay, Wellington, Taranaki, and the upper North Island. These connections are a key economic lifeline, enabling the movement of people and goods between key centres of production, consumer markets and freight distribution hubs.

A number of nearby towns hold strong ties to Palmerston North, with around 260,000 people living within an hour of the city. This makes it a comfortable commute for residents of Levin, Shannon, Feilding, Pahiatua, Dannevirke, Woodville, Marton, Bulls and Sanson.



Factors influencing our growth

Several regionally significant capital projects and initiatives are currently underway or planned in and around Palmerston North. These are driving population growth and demand for housing, as well as business and industrial floorspace and land. This growth will continue in the medium to long term.

These significant projects and initiatives include:

Te Utanganui – the Central New Zealand Distribution Hub

Te Utanganui, the Central New Zealand Distribution Hub is a multi-modal freight distribution hub connecting air, road, rail, and sea across the lower North Island. It spans the area between the Palmerston North Airport and the village of Bunnythorpe. It provides for 254 hectares of existing industrial land and incorporates the North East Industrial Zone, Palmerston North Airport's Ruapehu Aeropark and the KiwiRail Regional Freight Hub.

As shown in the Housing and Business Development Capacity Assessment 2023, Te Utanganui mainly caters for warehousing and distribution activities, and is closely related to industry and agribusiness at Feilding's Kawakawa Industrial Precinct. Te Utanganui has existed in its current form as the Northeast Industrial Zone, established in 2004 and then further extended in 2018.

The Te Utanganui Masterplan has been developed to inform the future detailed planning and infrastructure approach to an expanded multi-modal distribution hub over the next 30 years. The Te Utanganui Masterplan proposes additional rezoning of industrial land in two stages[1]:

- Stage 1: 26 hectares in 2025/26
- Stage 2: 150 hectares in 2032

The Masterplan provides for ~176 hectares of industrial land, excluding the stormwater reserves required. This will expand Te Utanganui to a total of ~541 hectares of industrial land and is intended to position Palmerston North as a significant national node in the New Zealand freight network.

KiwiRail Regional Freight Hub

In late 2020, KiwiRail initiated plans for the construction and operation of a new intermodal freight hub on 177 hectares of land between Palmerston North and Bunnythorpe. This land is within the Te Utanganui area. By mid-2023, the designation process was resolved and the land purchase programme well advanced. Initial operations are intended to begin in approximately 2032, with the site fully developed by 2051.

The KiwiRail Regional Freight Hub site will combine a container terminal, warehousing and bulk goods, and forestry loading operations with KiwiRail's train operations and maintenance facilities.

The KiwiRail Regional Freight Hub will be a catalyst for the ongoing growth of freight and logistics industries in Palmerston North, particularly in the

[1] Additional land for investigation at the Bunnythorpe Business Park, 813 and 815 Roberts Line, and 129 Richardsons Line may change the Te Utanganui Master Plan.

area around the Hub. The Te Utanganui – Central New Zealand Distribution Hub Masterplan will support this growth.

Palmerston North Airport

The Palmerston North Airport is a strategic gateway that enables air travel, connectivity, and freight transport. It is the second largest regional airport in New Zealand and services over one million residents from a wide area around Palmerston North including those living as far as Ruapehu and Southern Hawkes Bay. It is also one of only three airports in New Zealand permitted for 24/7 jet freight flights.

The airport land contains the Core Airport Precinct, which includes the terminal, airfield, hangars, public parking, and other airside activities as well as the Ruapehu Aeropark – a business and industrial area along the length of Airport Drive.

In 2023 Palmerston North Airport Limited released a plan for the airport out to 2051. Key upgrades are a terminal expansion and runway extension to cater to increased passenger and freight movements as a result of Te Utanganui. The Masterplan also confirms the continued development within the Airport Environs Precinct.

The Palmerston North Integrated Transport Initiative

With Palmerston North's future as a regionally and nationally significant freight and distribution hub secured, the demands on the transport network to, from, and within, the city will become increasingly complex.

The Palmerston North Integrated Transport Initiative (PNITI), prepared in collaboration between NZ Transport Agency Waka Kotahi (NZTA), Horizons Regional Council, Manawatū District Council and the Palmerston North City Council will ensure a coordinated approach to the impact of population and industrial growth on the city's transport infrastructure.

This integrated transport and land use plan for the city sets out a list of safety and access improvement programmes across the next 30 years. These programmes manage planned economic growth, support the freight and distribution potential of the region, address identified safety issues and improve the liveability of the residential areas and city centre. It also includes longer-term interventions such as a future second bridge across the Manawatū River and the Manawatū Regional Freight Ring Road.

The programme is estimated to cost between $335 – 370 million.

NZTA's Te Ahu a Turanga – Manawatū Tararua Highway (construction 2021 – 2025), and NZTA's Ōtaki to North of Levin (construction 2025 – 2029)

Te Ahu a Turanga and Ōtaki to North of Levin will result in more efficient freight movements into and out of Palmerston North, encouraging the utilisation of the city's future industrial land use. Alongside this it could encourage more people to commute into Palmerston North from the East and South, as well as commuters from Palmerston North south towards Wellington.

And many others

Other significant current and future capital projects in and around the district are:

- Repowering and Extension of Te Rere Hau Windfarm (completion expected end of 2027)
- Te Whatu Ora – Health New Zealand – Palmerston North Regional Hospital Capital Projects
- Central Healthcare Private Health Facility (completion expected 2025)
- Kāinga Ora – Homes and Communities – Housing Projects
- Summerset Retirement Village, Whakarongo (completion expected 2026)
- Massey University's Capital Plan

- Massey University Solar Farm
- New Manukura School (completion expected 2024)
- Former Post Office Hotel Redevelopment
- Manawatū District Council Capital Investment
- Linton and Ohakea Regeneration Plan (completion expected 2030)
- Lower North Island Integrated Rail Mobility (Capital Connection): fleet upgrades and service frequency improvements to the passenger rail service between Palmerston North and Wellington (implementation 2028-29)

Affordability and funding of growth

The costs of growth – whether it be in the existing urban environment or greenfield areas – are different. For housing, the development contributions for a greenfield section is threefold compared to the existing urban environment. Similarly for business and industrial sections, the development contribution is more for greenfield areas than the existing urban environment. Non-residential brownfield redevelopment does not attract development contributions. This reflects the infrastructure investment required between the different types of growth.

Affordability and funding infrastructure to support urban growth is an emerging issue. In preparing its 2024 Long Term Plan, Palmerston North City Council has proposed to use a mix of Council debt (Long Term Plan funded) and off balance sheet funding mechanisms (such as Crown Infrastructure Partners funding or developer agreements) to fund growth infrastructure. Growth infrastructure to support growth at Kākātangiata, and Ashhurst has been proposed to be funded off balance sheet. For Aokautere, infrastructure has proposed to be funded by a combination of Council debt (for water, wastewater and transport) and an external funding mechanism (for stormwater and local reserves).

This is discussed further in Appendix 1: Growth Constraints.

Note: the schedule of assets for which development contributions will be used to fund growth is contained in the PNCC 2024 Development Contributions Policy (pages 73-78).

Our Growth Needs

Our latest Housing and Business Development Capacity Assessment – the Palmerston North Housing and Business Development Capacity Assessment 2023 – forecasts our housing, business and industrial demand over the next 30 years.

For housing

We estimate we will need 9,884 homes over the next 30 years with:

- 983 homes required in the short term
- 3,010 homes required in the medium term
- 5,891 homes required in the long term

We estimate that this demand will be for housing in particular locations and certain housing types.

Table 1: Number of houses required in the next 30 years; location and type

	Short term **|Within the next 3 years**	Medium term **|Between 3 and 10 years**	Long term **|Between 10 and 30 years**
	Housing location		
Greenfield	393	1,505	3,240
Infill	541	1,354	2,357
Rural/Rural-Residential	49	150	295
	Housing type		
Standalone dwelling	865	2,588	4,595
Attached dwelling	118	421	1,296

For business and industrial

Over the next 30 years we estimate we will need 279.6 hectares of land to meet demand with:

- 24.3 hectares required in the short term
- 70.7 hectares required in the medium term
- 185.6 hectares required in the long term

This land estimate is based on providing for projected demand for floorspace. Small, medium and large industrial business sectors are primarily driving demand, but other sectors are part of the picture too.

Table 2: Estimated land required for business and industrial use over the next 30 years

	Short term **|Within the next 3 years**		Medium term **|Between 3 and 10 years**		Long term **|Between 10 and 30 years**	
	Floor area (m2)	*Land area (ha)*	*Floor Area (m2)*	*Land area (ha)*	*Floor area (m2)*	*Land area (ha)*
Small & medium industrial	33,749	9.0	94,565	24.1	220,260	51.9
Large floor plate industrial	59,688	13.9	177,430	40.7	515,959	114.7
Accommodation	-	0.0	4,509	0.3	16,224	1.2
Small & medium retail (pedestrian-oriented retail)	-	0.0	-	0.0	45,252	3.9
Large format retail (vehicle-oriented retail)	3,457	0.6	13,272	2.4	33,640	5.7
Commercial office	-	0.0	0	0.0	33,980	0.7
Commercial services	4,081	0.8	15,891	3.2	40,405	7.5
Total	100,975	**24.3**	**305,667**	**70.7**	**905,720**	**185.60**

Further information on our growth picture, demand for housing, business and industrial land, and development capacity can be found in Appendix 2: Our growth, demand, capacity.

Section C

Well-functioning urban environments

Well-functioning urban environments in our city

The policy statement requires us to set out how we intend to achieve well-functioning urban environments in our city both now and in the future.

In Palmerston North our urban environments will be well-functioning when:

<table>
<tr><th>A variety of options for living and business needs are available</th><th>Housing and business land is affordable</th><th>Moving between home, work, and recreation is straightforward and safe</th><th>Our enviromental footprint is light and community resilience is high</th><th>Our urban spaces demonstrate quality urban design features</th><th>The aspirations of Rangitāne o Manawatū for the future growth and developement of the city are realised</th></tr>
<tr><td rowspan="2">There are different housing options in terms of type, location and cost</td><td rowspan="5">We support a healthy and competitive land and development market by making sure the right amount of land is ready and available at the right time, in the right places</td><td rowspan="2">Our urban spaces are compact, orderly, safe and connected</td><td>We support reductions in greenhouse gas emissions</td><td rowspan="5">Buildings and public spaces incorporate and demonstrate urban design to enhance our communities’ quality of life and experience of the urban environment</td><td>A city with minimal environmental impact</td></tr>
<tr><td rowspan="3">The impact of urban growth on highly productive land is minimised</td><td>A city with a strong identity based on its own story</td></tr>
<tr><td rowspan="2">Māori, Pasifika, and other cultures have the ability to express their cultural norms and traditions</td><td rowspan="2">Our urban spaces have good accessibility for all people between housing, jobs, community services, natural spaces, and open spaces</td><td>A city that embodies Te Tiriti partnership</td></tr>
<tr><td>A city that prioritises the mauri and health of waterbodies and connections to them</td></tr>
<tr><td rowspan="2">Public and active transport options are safe, easy and efficient</td><td>We plan and design for resilience to the impacts of climate change</td><td>Affordable, healthy and accessible housing options</td></tr>
<tr><td>A range of suitable sites are available for different business sectors, in terms of site size and location</td><td>We work with, not against, the natural characteristics of our location to promote community and environmental wellbeing</td><td>Māori development (including papakāinga, cultural hubs and new marae) is a readily available option</td></tr>
</table>

Iwi and Hapū aspirations

Whatonga, the tupuna of Rangitāne o Manawatū arrived in Aotearoa aboard the Kurahaupō waka over 30 generations ago. Whatonga was the captain of the Kurahaupō and grandfather of Rangitāne whose descendants occupy the Manawatū and other areas of the lower North Island and top of the South Island today.

The city of Te Papaioea Palmerston North enjoys a strong working relationship between Rangitāne o Manawatū and the city and regional councils. We have formal and informal relationships that have ensured iwi voice has long been a part of our thriving city. Regular hui between Council and Rangitāne ensure positive partnership with Rangitāne leadership. Ngāti Kauwhata have an interest in Bunnythorpe Village and projects affecting it, for instance the Kiwirail Regional Freight Hub.

In March 2023 a hui was held between Rangitāne o Manawatū, Te Tihi o Ruahine Whānau Ora Charitable Trust Alliance (Te Tihi), and the Palmerston North City Council to discuss Māori housing issues and pāpākainga. Rangitāne o Manawatū sets out their aspirations for future growth and development of Te Papaioea Palmerston North in their Environmental Management Plan 2023. Separate hui with Ngāti Kauwhata were held in late 2023 to discuss Te Utanganui and Bunnythorpe.

The plan emphasises the importance of implementing the Whānau Ora Framework in planning decisions. The Framework describes seven outcomes:

RANGATIRATANGA

Self-managing and empowered leaders

HAUORANGA

Leading healthy lifestyles

KOTAHITANGA

Participating fully in society

TUAKIRITANGA

Confidently participating in Te Ao Māori

PŪKENGA RAWA

Economically secure and successfully involved in wealth creation

PĀPORITANGA

Cohesive, resilient, and nurturing

TIAKI TAIAO

Responsible stewards of their living and natural environment

Tangata whenua aspirations for the future urban development of Palmerston North are:

A city with minimal environmental impact

Recognition that as human communities, our health relies on the health of te taiao[2] and we must strive to make as little negative impact as possible and strive to improve our environment.

A city with a strong identity based on its own story

Rangitānenuirawa (Rangitāne practices and mātauranga knowledge) and the stories and landscapes are a seamless part of the city's identity.

A city that embodies Te Tiriti partnership

Recognition that Rangitāne o Manawatū, Horizons Regional Council and Palmerston North City Council are Te Tiriti partners. We should write the rules together and, where appropriate, iwi lead for iwi, noting that tangata whenua has a role to awhi maata waka[3] those who choose to make Te Papaieoa their home.

A city that prioritises the mauri and health of waterbodies and connections to them

The mauri and health of the Manawatū Awa its tributaries, lagoons and connections are protected and restored to secure the wellbeing of people interacting with them. Where appropriate, lost waterbodies are identified and restored.

In relation to housing, iwi aspirations are:

Affordable, healthy and accessible housing options

Whānau live in homes that are affordable and that support their wellbeing. Mixed and holistic pathways to home ownership are available.

Māori development (including papakāinga, cultural hubs and new marae) is a readily available option

Homes are oriented towards communal spaces and a connection with wai, rongoa, maara, and marae with a collective kawa and tikanga[4] that protects these shared spaces.

Te Mana o te Wai in the Manawatū – Te Mana o te Wai statement

As tangata whenua of Te Papaioea, Rangitāne o Manawatū have a significant and deep connection to the land and waters of the Manawatū, and obligation to protect, enhance and restore the mauri for future generations.

Rangitāne o Manwatū sets out how Te Mana o te Wai applies in a statment in their Manawatū Environmental Management Plan:

The most significant quality that flows through wai is mauri. The mauri is generated throughout the catchment and is carried through the connected tributaries, groundwater, wetlands, and lagoons.

It is the most crucial element that binds the physical, traditional, and spiritual elements of all things together, generating, nurturing, and upholding all life, including that of Rangitāne o Manawatū. The health and well-being of Rangitāne is inseparable from the health and well-being of wai. The Manawatū Awa, its catchment, tributaries and connections, wetlands and lagoons are taonga and valued for the traditional abundance of mahinga kai and natural resources.

In Horizons Regional Council's role to manage freshwater in the region they must give effect to Te Mana o te Wai through their Regional Policy Statement and Regional Plan.

[2] The natural environment

[3] Provide care and support for Māori who have come from other areas.

[4] Customs and practices

Section D

Where will growth occur?

Like most cities in Aotearoa, we need to use our housing, business, and industrial land more efficiently through intensification as part of providing for growth. We'll also need to rezone new areas at the edges of our city to ensure market choice. However, the increasing cost of funding growth infrastructure to support development at the edges of the city is stretching Palmerston North City Council's financial resources.

Affordability is a constraint that is pushing the city towards relying more heavily on intensification within the existing urban area to provide for growth, and being careful about the extent to which greenfield land supply is enabled.

For housing, in the short term, housing growth will largely need to be accommodated through infill and intensification in our existing urban environments and development of our already zoned greenfield areas which includes the Whakarongo, Mātangi, Napier Road Extension Area and Kikiwhenua Residential Areas. We will be further enabling intensification through our upcoming medium density residential zone plan change, which will enable up to three homes on a site as a permitted activity. This plan change, in part, responds to feedback from our development sector around consenting time and costs associated with medium density development.

More greenfield housing options will be made available in Aokautere, Ashhurst and Kākātangiata in the medium to long term, however these are intended to be the final extent of greenfield growth in the city. We will also look to rezone old industrial pockets and two reserves in the city that are not required to meet community or recreation needs for housing.

Development in these areas is still subject to the planning process and the construction of development and additional infrastructure which will take a number of years. In the medium to long term, we will continue to accommodate growth in our existing urban environments and encourage housing in our city centre buildings.

For business and industrial land, intensification of our existing business, airport and industrial zones will be part of our growth picture, along with greenfield growth in the northeast of the city. Development of our existing greenfield industrial area – the North East Industrial Zone Extension Area – will provide for growth in the short term. More land there will be made available in the short, medium, and long term through the Te Utanganui Masterplan, which will extend the North East Industrial Zone and provide for freight, and logistics industrial activities that require large floor areas.

See *Map 1* for housing and business/industrial growth capacity and locations over the short, medium, and long term.

Map 1: Where housing, business and industrial growth will occur in Palmerston North over the next 30 years

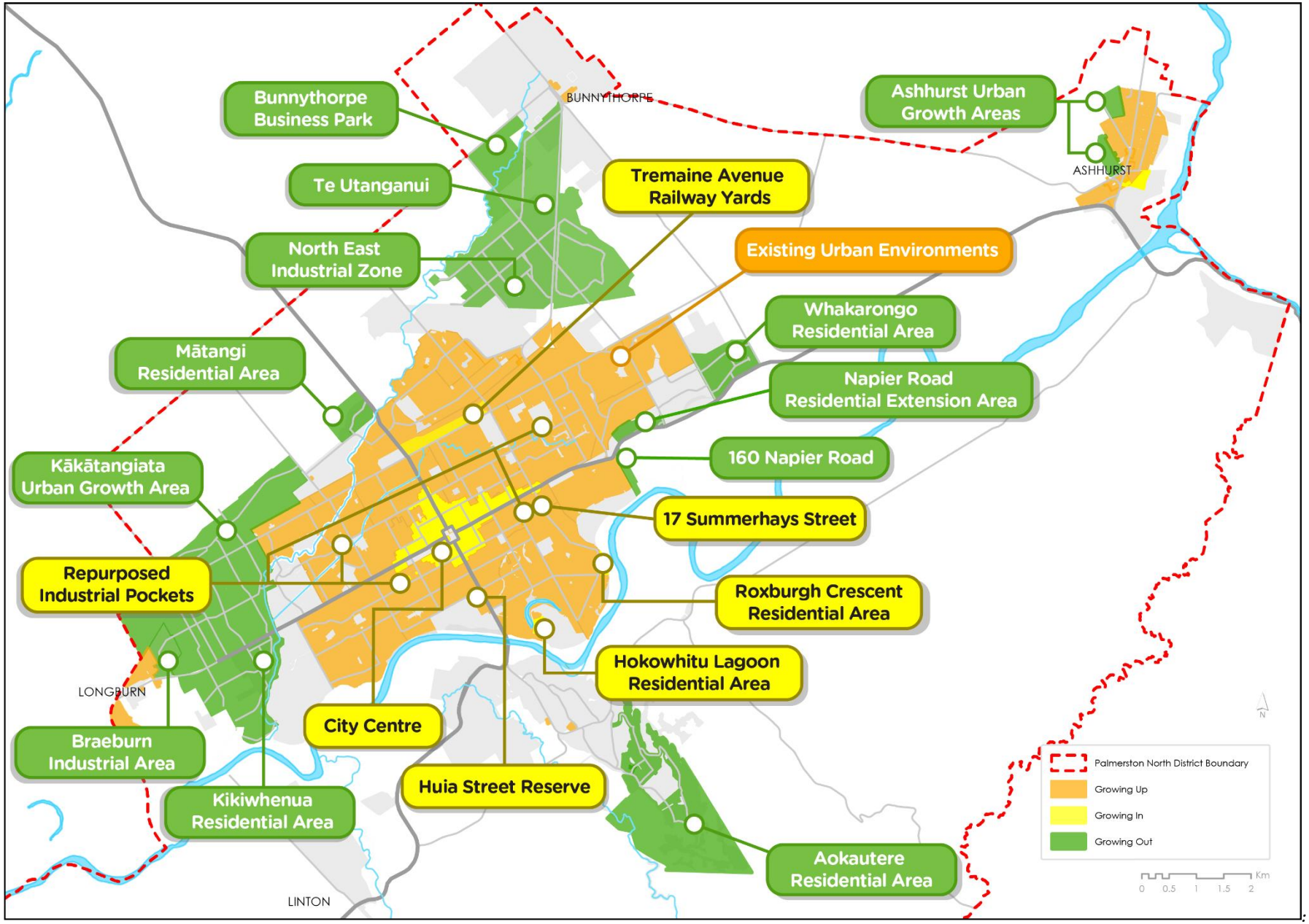
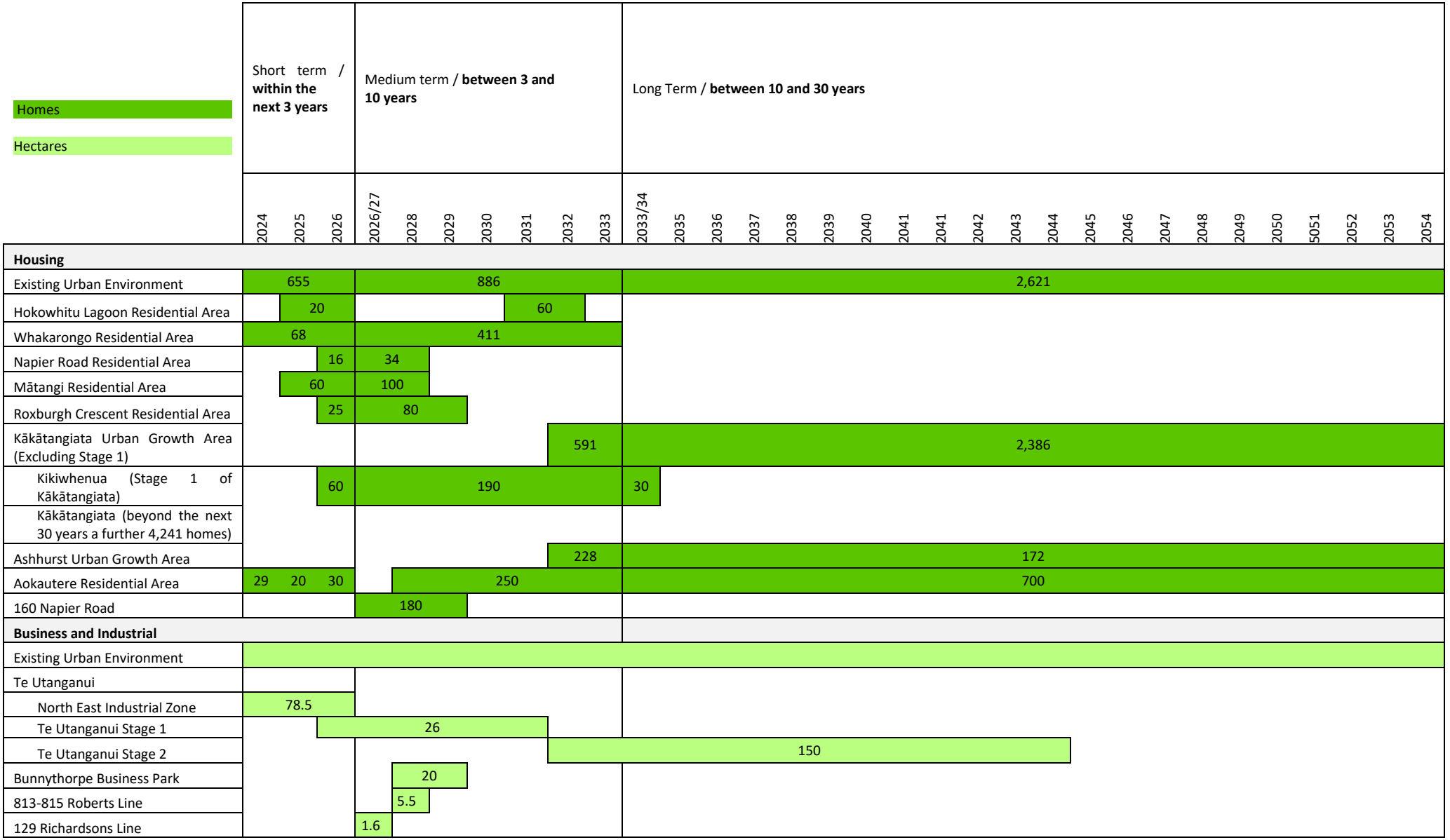


Figure 2: Growth capacity and locations over the short, medium, and long term



Housing growth locations

Demand for housing will be met through a balanced approach of growing the district up, in, and out over the next 30 years and beyond.

GROWING UP means meeting demand by providing for growth in our existing urban environments through increasing density. We will *grow up* throughout our existing urban environments in Palmerston North and Ashhurst, where we see demand, by enabling subdivision and redevelopment of existing sites where appropriate and rezoning parts of the city to enable medium density housing as a permitted activity subject to performance standards being met. We want to *grow up* across the short, medium, and long term.

GROWING IN means meeting demand through repurposing/rezoning pockets of industrial land and two previously identified reserves in the city that are not required to meet community or recreation needs. It also means enabling housing within our city centre where this is above ground floor level. We will *grow in* at Roxburgh Crescent, the Huia Street and Summerhays Reserves, and our city centre (zoned inner and outer business zone). We could also *grow in* at some industrial pockets on Featherston Street, Joseph Street, West Street, Botanical Road and the Albert Street Depot if these are found to be suitable.

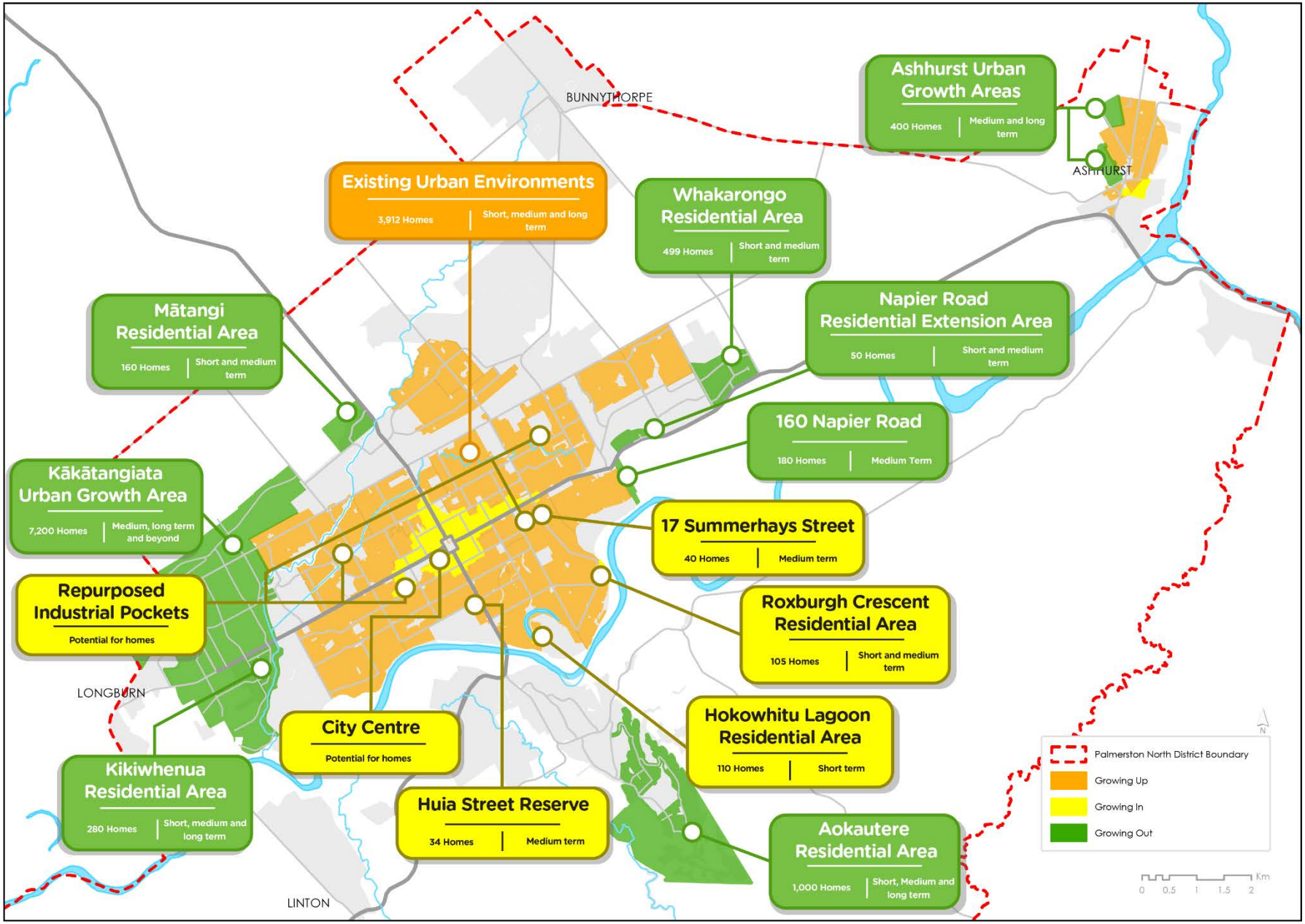
We will include Huia Street, Summerhays Reserve, and the Albert Street depot in our Medium Density Residential Zone extent.

As a river city, some parts of the city are constrained by stormwater ponding and flows. This limits growing up and in opportunities in some areas of the city (see Stormwater ponding, in Appendix 1 for further information).

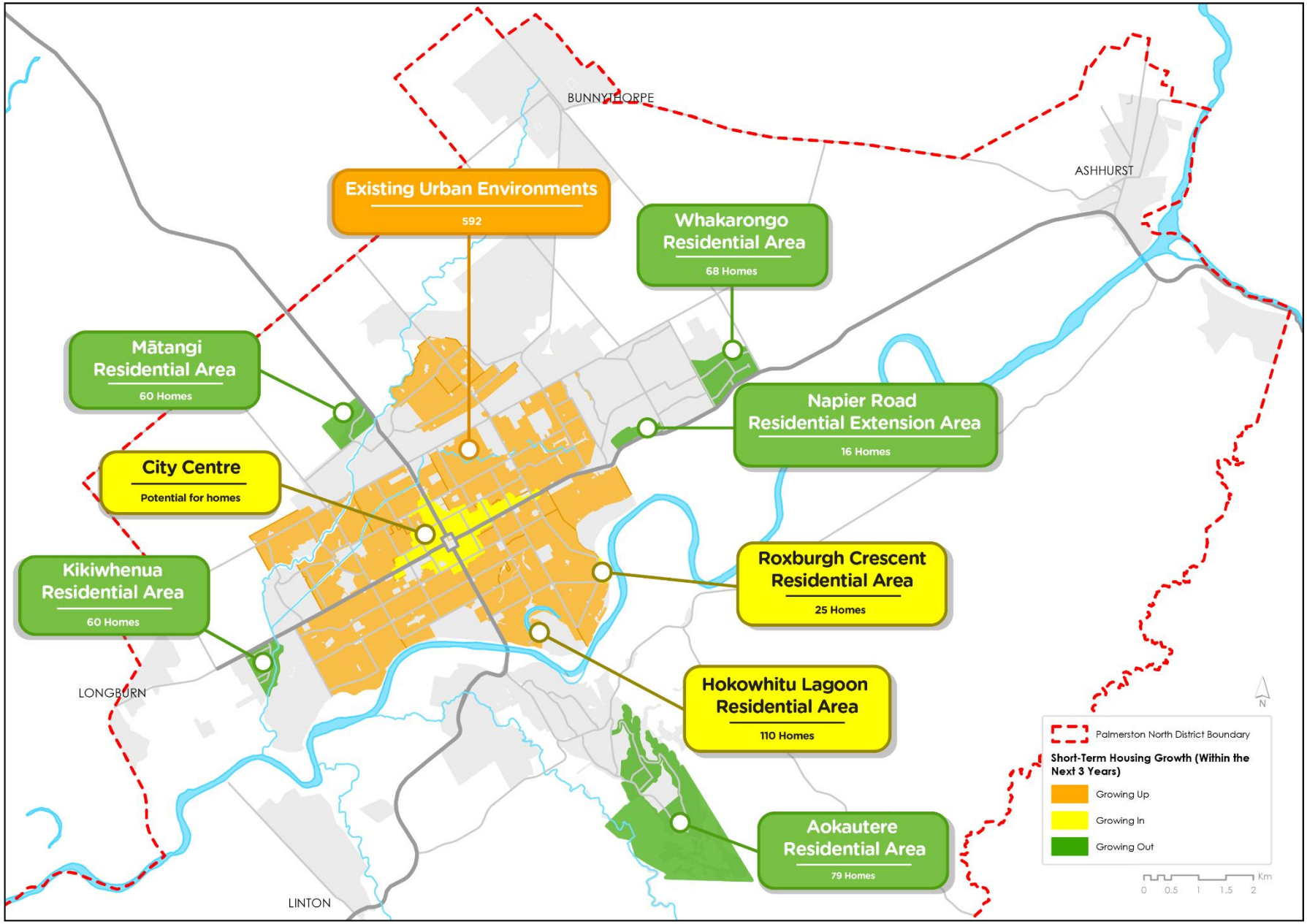
GROWING OUT means providing for housing growth via greenfield (undeveloped) areas at the edges of the city. First, we will *grow out* at our already zoned greenfield areas Kikiwhenua, Mātangi, Whakarongo, and the Napier Road Extension Residential Areas in the short-medium term. We will *grow out* at Aokautere, Kākātangiata, and Ashhurst in the medium and long term. Kākātangiata will continue to provide for another 4,241 homes beyond the 30 year time period. As part of achieving well—functioning urban environments in our greenfield areas we will provide housing choice by including medium density areas.

See Figure 2 (page 25) for detail about how many homes can be provided, and where. More information on how we have identified where housing growth will be provided for can be found in Appendix 4. Maps 4-5 set out where housing growth will occur over the short, medium and long term.

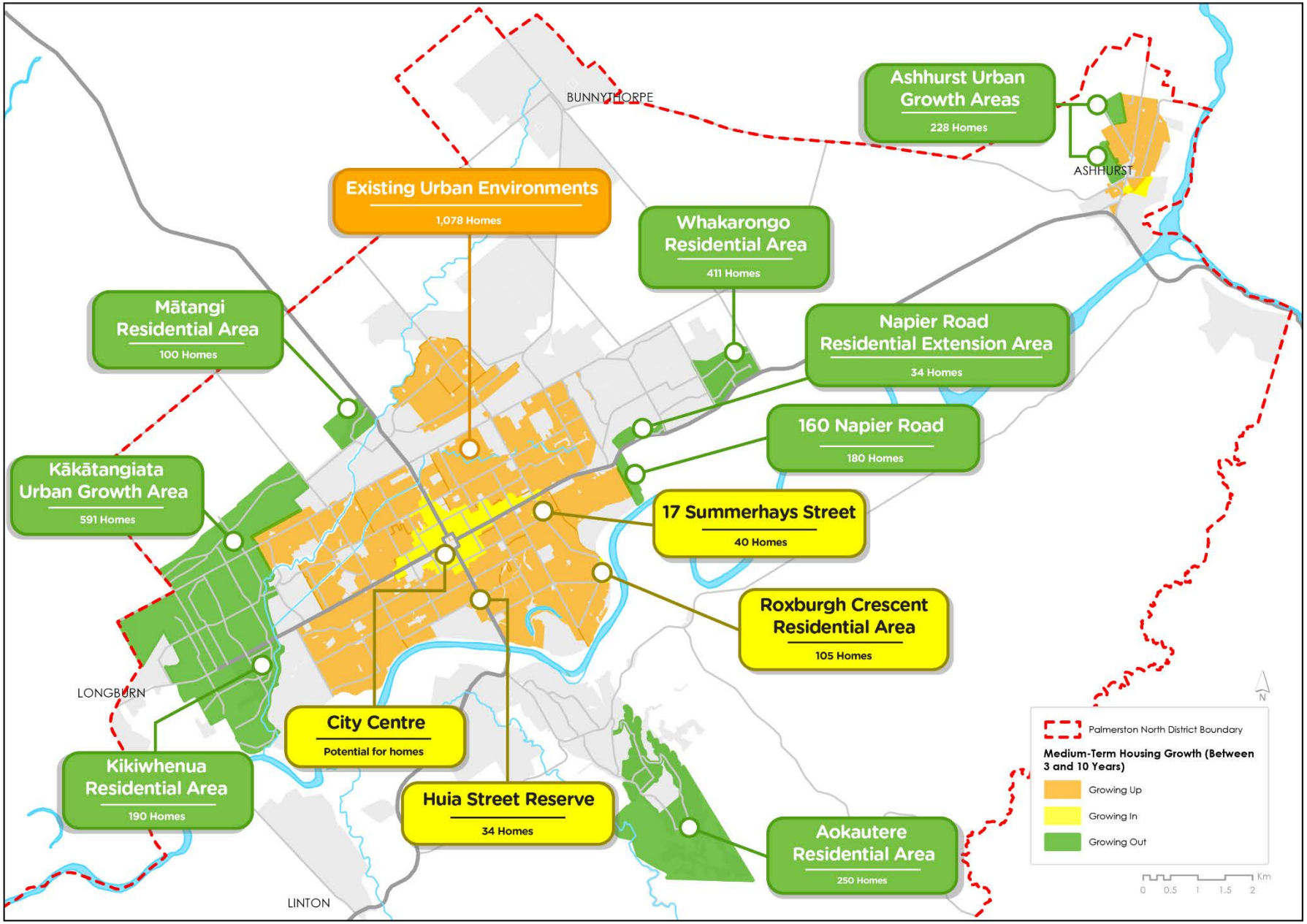
Map 2: Where housing growth will occur over the next 30 years



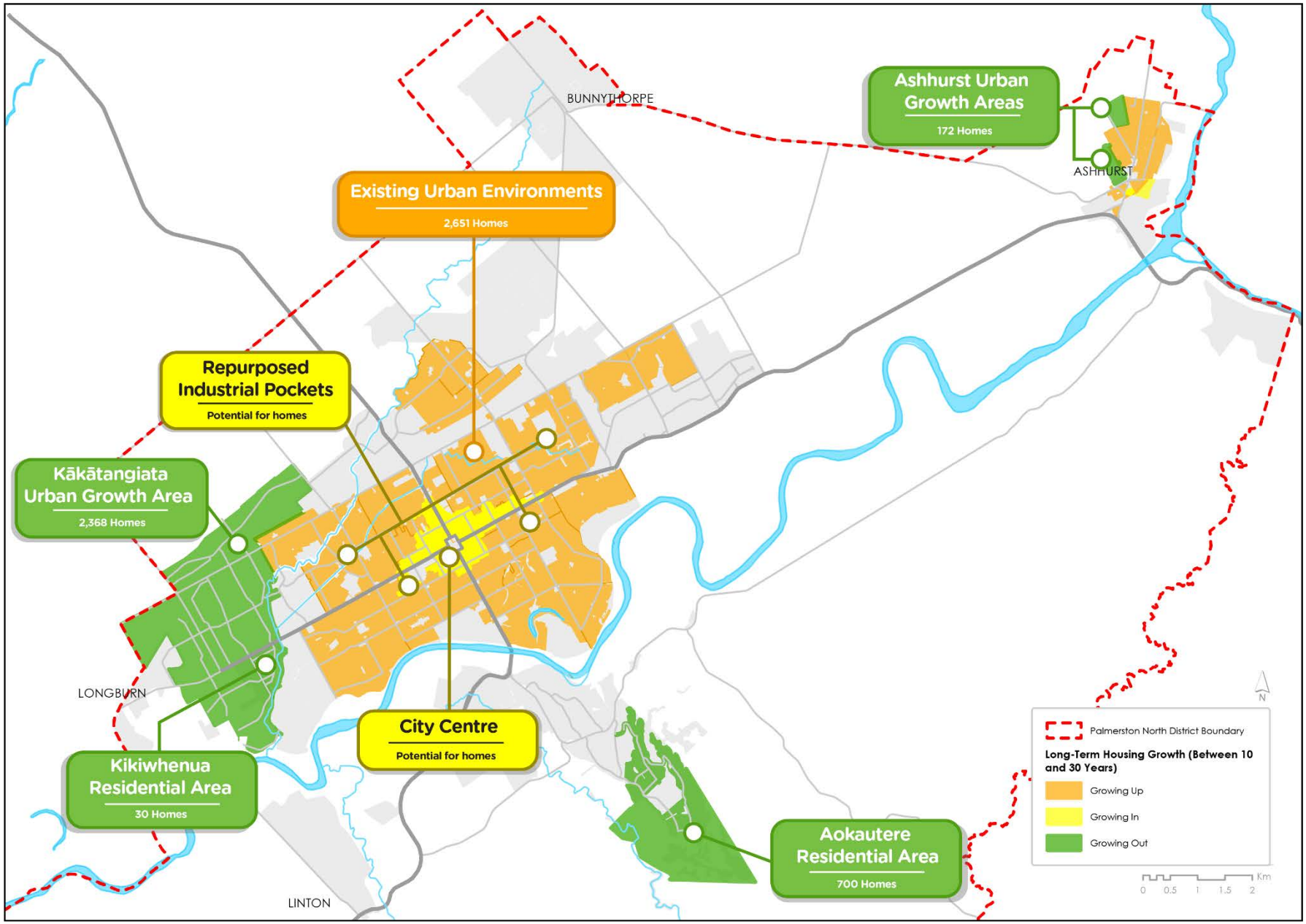
Map 3: Short term housing growth (within the next 3 years)



Map 4: Medium term housing growth (between 3-10 years)



Map 5: Long term housing growth (between 10-30 years)



Business and Industrial growth locations

Demand for business and industrial growth will be met through a balanced approach of growing the district up, in, and out over the next 30 years and beyond.

GROWING UP means meeting demand by providing for growth in our existing urban environments through increasing density. We will *grow up* throughout our existing business, airport, and industrial zones through enabling subdivision and redevelopment of existing sites at higher densities where services are already provided.

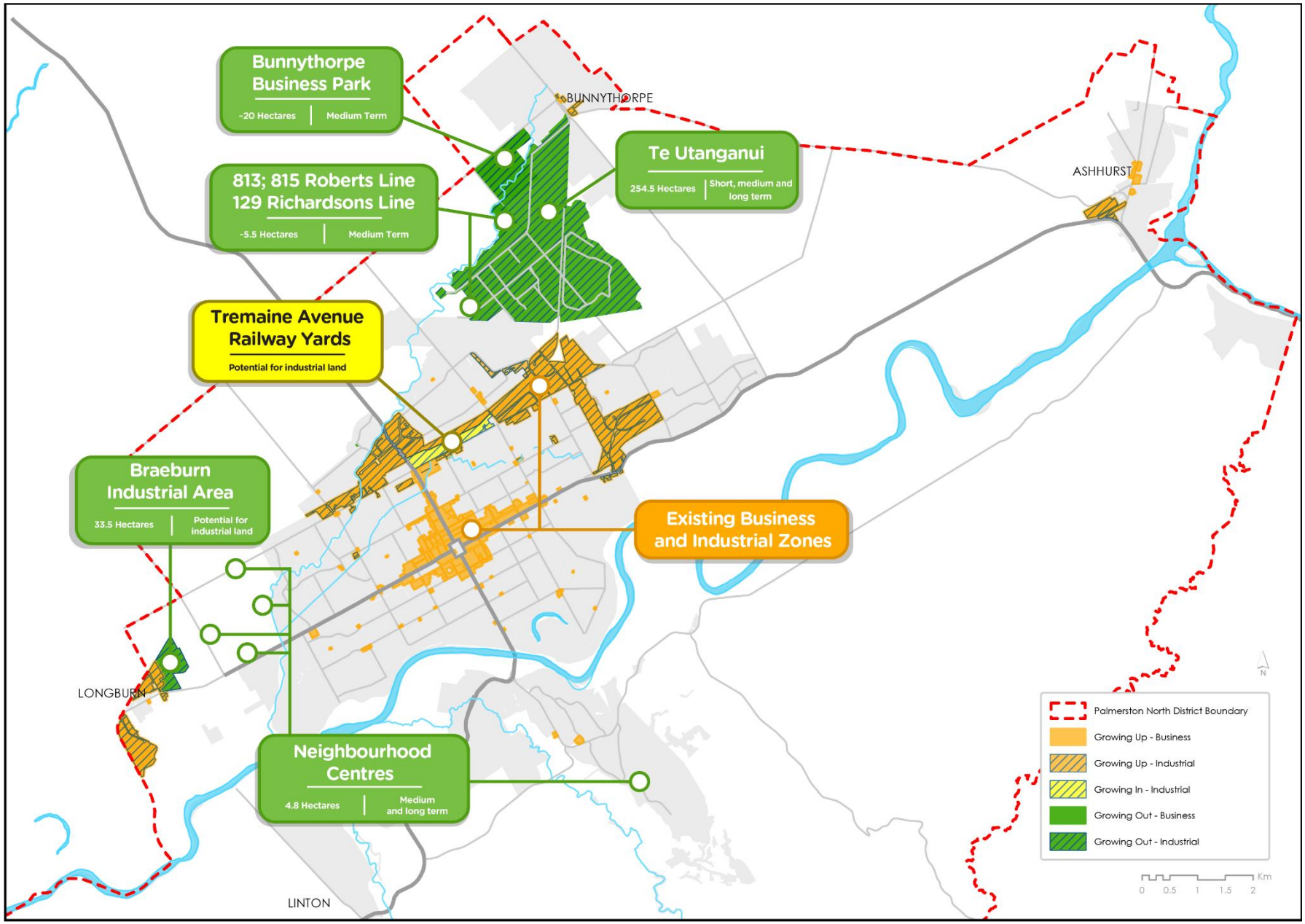
GROWING IN means meeting demand through repurposing areas of brownfield land within the city. That may include land vacated by KiwiRail following the development of the Regional Freight Hub. We will look at *growing in* at land around the Tremaine Avenue Railway Yards once the new KiwiRail Regional Freight Hub is operational.

GROWING OUT means providing for business and industrial growth via greenfield areas at the edges of the city. We will *grow out* to provide for industrial demand at our existing greenfield areas, and the North East Industrial Zone Extension Area. Te Utanganui will form a key part of expanding the northern industrial edge across the short, medium, and long terms.

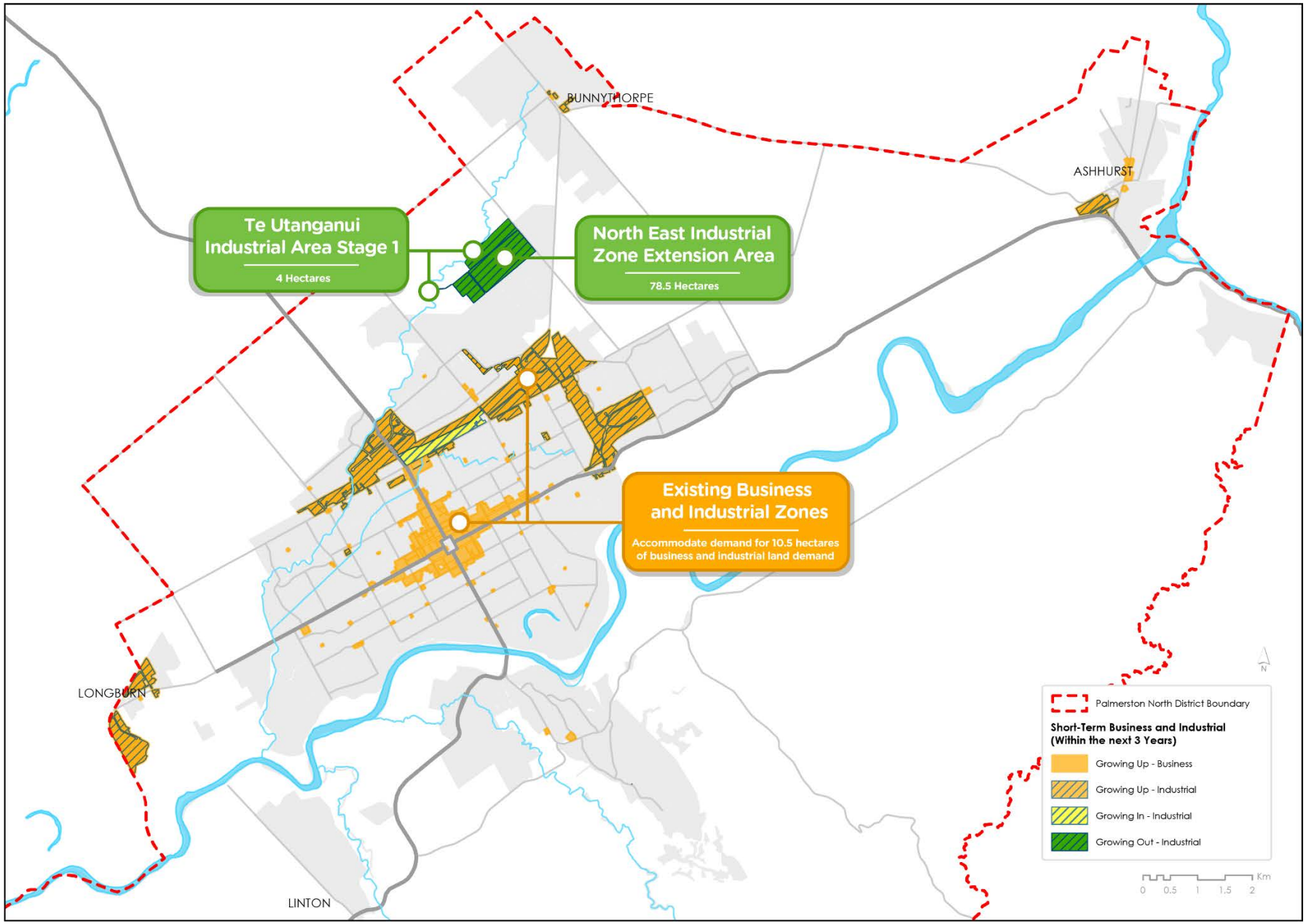
There is also the potential to *grow out* at the Braeburn Industrial Area by changing the planning rules to provide for general industrial use if required. When we rezone land for housing, particularly large greenfield housing areas like Aokautere and Kākātangiata, we will rezone areas for local businesses to serve the day to day needs of residents too.

Maps 7-10 set out where business and industrial growth will occur over the short, medium and long terms.

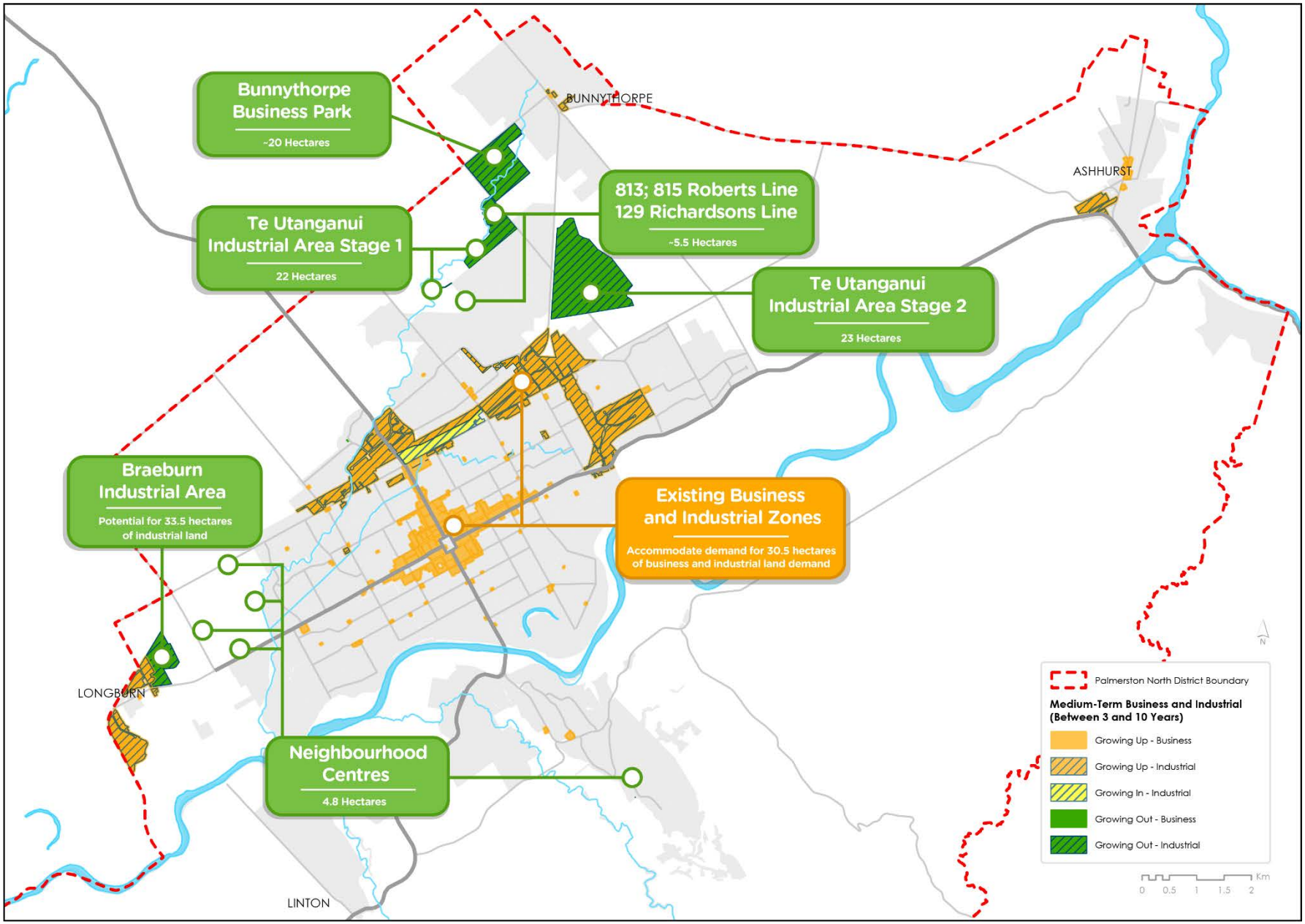
Map 6: Overall business and industrial growth over the next 30 years



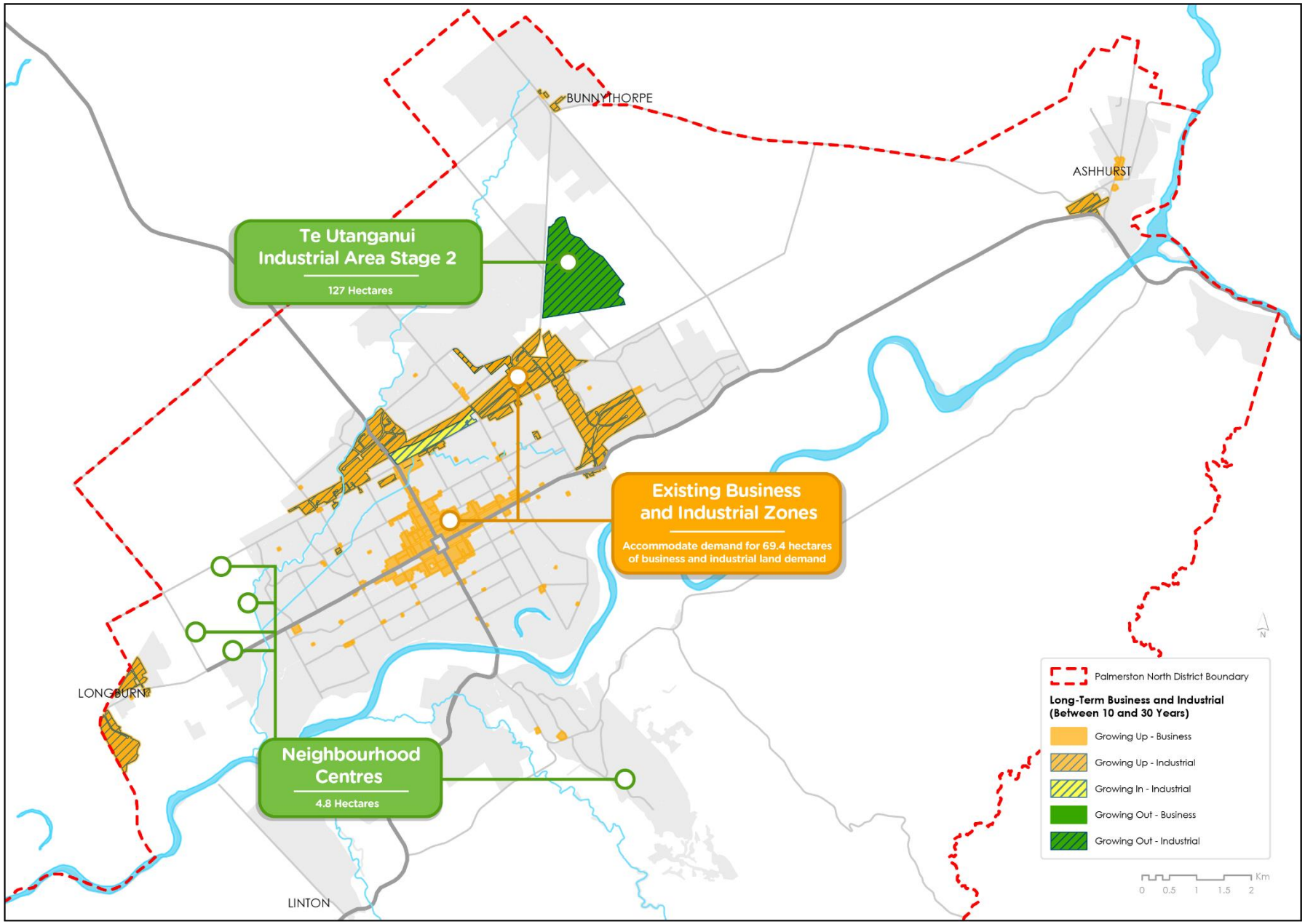
Map 7: Short term business and industrial growth (within 3 years)



Map 8: Medium term business and industrial growth (within 3 and 10 years)



Map 9: Long term business and industrial growth (between 10-30 years)



Opportunities for housing and business growth

There are a number of possible housing and business growth opportunities and proposals for Palmerston North.

Housing

Massey University is considering what the future of their Turitea Campus could look like. There is underutilised land within the campus following changes in how the university delivers its learning. The campus contains all the amenities that we usually need to provide when we rezone greenfield growth areas such as development infrastructure, walking tracks, sports fields, and commercial activities close to housing. Repurposing campus land may represent an opportunity to provide for the city's housing growth.

Council has received a private plan change request to rezone rural land located at 160 Napier Road to residential. The rezoning would provide an opportunity for around 180 new homes at the eastern edge of the city. However, the land is on class 2 soils and has not been identified for growth in any of Council's previous strategic documents. Under the National Policy Statement for Highly Productive Land, the rezoning of highly productive land is restricted unless stringent tests are met. As part of the rezoning request this opportunity and highly productive land constraints will be investigated.

There are pockets of industrial zoned land within our residential areas that, if relocated to our other consolidated areas of industrial zones in the city, over time, could be repurposed for housing. Council's Albert Street Depot (3.4 hectares), is zoned residential and if moved could be another opportunity. Similarly, reserves Huia Street Reserve and the Former Terrace End Bowling Club on Summerhays Street, which were identified as no longer required for community or recreation needs are set to be repurposed for housing.

Vacancy rates in above-ground floor levels of our inner-city commercial buildings are high. Some of our buildings in the city centre are also ageing. There is an opportunity to repurpose upper floors of our city centre buildings to provide for housing growth. When new buildings are developed in the city centre there is an opportunity for upper floors to provide for housing too.

Smaller sites and smaller homes represent an opportunity to provide for housing demand more efficiently than large homes on large sections. Smaller sections are also likely to be more affordable. Enabling smaller homes and property sizes would increase our capacity for housing growth.

Business and Industrial

Some buildings in our business and industrial zones are ageing or vacant. These buildings are likely to be redeveloped over time and, if redeveloped at higher densities, represent an opportunity to provide for business and industrial growth more efficiently.

Owners of unreinforced masonry buildings located on priority routes (around the Square, Rangitikei Street, Fitzherbert Avenue, Broadway Avenue, Main Street, George Street, and Coleman Mall) will have seven and a half years to make their buildings safe.[5] This poses an opportunity to expedite redevelopment in the city for both council-owned and private buildings, giving opportunities to refurbish old buildings and integrate inner city living and accommodation stock (e.g. Former Post Office, T&G Building).

In the industrial zone located on Works Road in Longburn, there is significant redevelopment activity occurring at the historic freezing works site. Old buildings have been demolished and contaminated land remediation is occuring. Further, the privately owned three waters infrastructure that services the entire area is being upgraded to eventually vest with Palmerston North City Council. This land has long been underutilised due to infrastructure constraints and the presence of these disused buildings. These redevelopment works represent an opportunity to meet projected industrial land supply through full utilisation of this land. Council has been approached by landowners in this area to rezone 5.5 hectares of land for industrial use. Rezoning this area could improve access to the Works Road industrial area.

The 33.5-hectare Braeburn Industrial Area is an underutilised piece of land at the edge of the Fonterra Dairy Factory in Longburn. The District Plan currently only allows dairy and dairy-related industries to occur on the site. The planning controls on this site could be changed for general industrial land use if the undeveloped land is not required for dairy factory expansion in the future.

Development of the new KiwiRail Regional Freight Hub will create opportunities for the reuse of around 25 hectares of land for industrial use within the city.

The Bunnythorpe Business Park proposed for 109 and 125 Kairanga-Bunnythorpe Road is a location with transport and proximity advantages to the Te Utanganui area. We expect that a private plan change will be explored to better understand the viability of the Bunnythorpe Business Park given the significant flood risk and potential geotechnical and ecological constraints associated with the site.

Our neighbours' future development planning

The Wairarapa-Wellington-Horowhenua Future Development Strategy 2024 sets out how to accommodate an additional 200,000 people in the 30 years in the largest metropolitan region closest to Palmerston North. The Housing and Business Assessment that informs this strategy indicates there is adequate opportunity to intensify (for housing, retail, and commercial uses) in this region, but industrial land may be a challenge. Work is underway to understand this better and this poses an opportunity for Palmerston North's growth and Te Utanganui to support this shortfall.

The Wairarapa-Wellington-Horowhenua Strategy sets out the proposal for enhancing the Capital Connection train service which connects Palmerston North with Wellington City helping support our shared goals of reducing greenhouse gas emissions.

[5] Priority routes are busy roads or footpaths where falling masonry from buildings damaged in an earthquake would pose a high risk to life and public safety; The Ministry of Business, Innovation and Employment intend to review the Building Act to include an additional 4-6 years to this timeframe.

Levin sits near the southern boundary of the Horizons region. The Wairarapa-Wellington-Horowhenua FDS supports growth in Levin in order for it to be able to support growth and connections both north and south. The strategy looks to protect important food growing areas in the Horowhenua, by restricting development of all productive land that is not already signalled for future growth. This ensures the availability of highly productive land for food and fibre production which is consistent with Palmerston North's approach. Our regions will continue to work together to support growth in the Lower North Island.

Some of our neighbouring districts have recently completed their own projections and growth strategies. These include Rangitīkei District Council's Community Spatial Plan, and Tararua District Council's Urban Growth Strategy. Manawatū District also has plans for an urban development framework to identify new growth areas. As these districts assess how much capacity they have to cater for housing and business demand, we will be able to better understand possible additional pressures on our city.

Section E

Development and additional infrastructure requirements

The Future Development Strategy must spatially define the development infrastructure and additional infrastructure required to support and service the growth.

Development infrastructure is:

- network infrastructure for water supply, wastewater, stormwater controlled by Palmerston North City Council
- infrastructure for the land transport network controlled by Horizons Regional Council and Palmerston North City Council

Additional infrastructure is:

- land transport not controlled by Horizons Regional Council or Palmerston North City Council such as the State Highway network,
- public open spaces, including city-wide and local reserves,
- community infrastructure,
- schools,
- healthcare facilities,
- telecommunications network,
- the national grid,
- local electricity and gas networks, and
- flood protection infrastructure.

The development and additional infrastructure required to support growing Palmy are set out in the sections that follow.

Funding of council-controlled infrastructure to service growth

Palmerston North City Council's 30-year Infrastructure Strategy, Strategic Asset Management Plan, Activity Asset Management Plans (Water, Wastewater, Stormwater, Transport and Recreation) and Development Contributions Policy collectively establish the platform to plan and develop growth programmes to support the city's urban growth strategy.

These growth programmes are funded by debt in the Long Term Plan and Council's Development Contributions Policy collects the cost of this when development occurs on the ground. The planning and development of growth programmes, funding of growth infrastructure and the collection of costs associated with new development are all aligned with the city's urban growth strategy and have been for many years.

Palmerston North City Council has had a Development Contributions Policy in place since 2004. The 2024 policy and 30-year Infrastructure Strategy has in place an estimated $616 million (uninflated) to fund growth over the next 30 years (this has been proposed to be funded from a range of funding sources).

- The total capital expenditure Palmerston North City Council has incurred on growth infrastructure in anticipation of growth since 2004 is $77.6 million. The package of 55 growth programmes have evolved over the 20 years in response to the city's growth needs and Council's urban growth strategy.

Growth programmes have been developed for specific growth areas (Whakarongo, Napier Road Industrial Area, Aokautere, Kākātangiata, Kikiwhenua, Mātangi, Roxburgh Crescent, Ashhurst, Longburn and North East Industrial) and for city-wide growth needs within the existing urban area.

Palmerston North City Council's Infrastructure Strategy and 2024 Long Term Plan has scheduled funding of development infrastructure in particular years. The timing when growth areas will be infrastructure-ready is broadly shown in *Figure 2*, page 25.

Flood protection is an important element of supporting urban growth. Horizons Regional Council's 30-year Infrastructure Strategy and 2024 Long-term Plan identifies planned flood protection works for the City over the course of this Strategy. Flood protection levels and any future improvements will likely influence the timing of growth for the city.

Development Infrastructure

Water supply

Water supply infrastructure, including the pipes to supply water, new bores, and plant and equipment to ensure we have enough water, will be required to support growth.

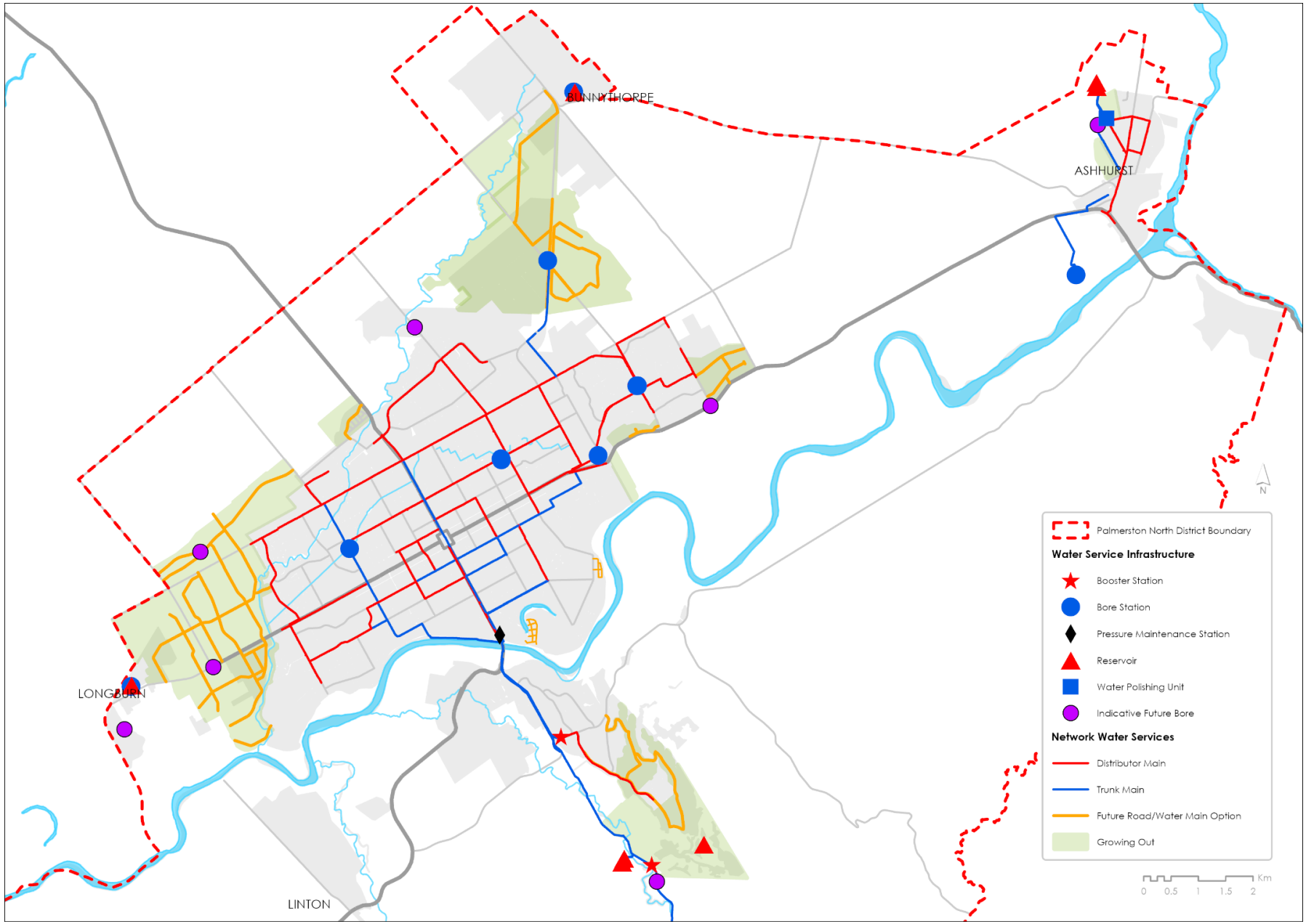
We have assumed that new pipes will be required to support *growing out* locations. These would follow road corridors within the growth areas and are shown on the structure plans and draft structure plans for the areas in Appendix 5 and Map 10. The Ashhurst Urban Growth Areas' network requirements are yet to be determined. We have assumed that any upgrades to the existing network would occur to our trunk and distributor mains.

For *growing in*, new pipes will be required within the Roxburgh Crescent Residential Area and Hokowhitu Lagoon Residential Area. We have assumed these would be within the roading corridors shown in the structure plans in Appendix 5 and Map 10. Other growing in locations are subject to investigation so we do not know broad locations for water supply infrastructure.

For *growing up*, upgrades to our existing water supply infrastructure will likely be required throughout the existing urban environment too. Upgrades to non-trunk and distributor mains may also be required on an as-needed basis but we are unlikely to know where this will be needed until growth occurs. For this reason, trunk and distributor mains only are shown in Map 10.

New bores will be required to support growth. Indicative locations for the bores are shown in Map 10. At the present time, we understand that there is water available for abstraction within the Manawatū Groundwater Management Zone. Demand for groundwater associated with the growth areas is not yet fully known, nor the impacts of the bores on groundwater users and groundwater fed waterbodies. This is further discussed in the constraints section in Appendix 1.

Map 10: Water supply network



Wastewater

Nature Calls is one of the biggest environmental and financial decisions for the city – it is about how we will treat and discharge our wastewater over the next 30-50 years. This will be one of the most significant pieces of development infrastructure we will need to support growth.

Palmerston North City Council have lodged consents for the Nature Calls project. Once consents are granted, Council will work towards upgrading its treatment plant at Totara Road to discharge wastewater and resource water to one of the highest treatment standards in New Zealand, to a combination of river and land. Nature Calls has indicative capital costs of $556 million (uninflated cost) and annual operational costs of $7 million dollars. 760 hectares of land will also be required for the discharge to land.

Wastewater infrastructure including pump stations and pipes to carry wastewater will be required to support growth. Upgrades to our existing wastewater infrastructure, particularly the pumping stations and pipes, will be required throughout the existing urban environment too. The broad locations of wastewater infrastructure are shown in Map 11 below.

For growing out areas, we have assumed that new pipes would follow the roading corridors within the growth areas (noting that the Ashhurst Urban Growth Areas' network is yet to be determined).

We expect most upgrades to the existing network to occur to our pumping stations, trunk, and collector mains. Upgrades to non-trunk and collector mains may also be required on an as-needed basis but we are unlikely to know where this will be needed until growth occurs. These broad, indicative locations are not shown on the map.

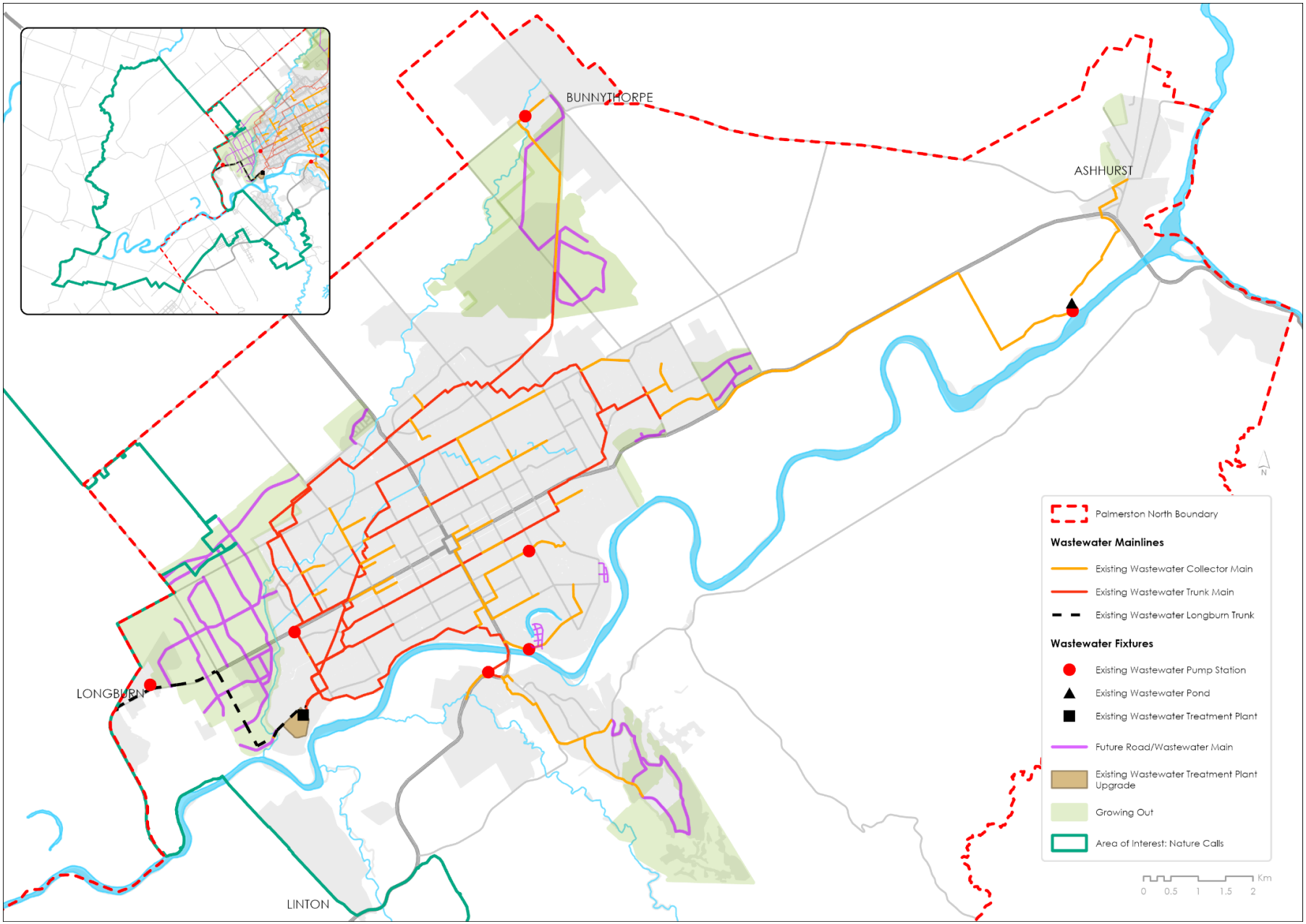
Due to the higher distance from the wastewater treatment plant and most growth areas having some degree of liquefaction constraint, most servicing reports at the plan change stage recommend the use of pressure sewer systems. We expect this would form part of the required wastewater development infrastructure.

For *growing in* we have assumed new pipes would also follow the roading corridors within the Roxburgh Crescent Residential Area and Hokowhitu Lagoon Residential Areas. The wastewater development infrastructure of all other potential growth areas is subject to further investigation.

The area of interest for land suitable to discharge treated wastewater for Nature Calls is shown on Map 11[6]. The requirement for land for Nature Calls has the potential to conflict with latter stages of Kākātangiata, which we would expect to explore further along with any potential reverse sensitivity effects in a wastewater servicing assessment as part of a District Plan change.

[6] Note that this is the study area. We estimate needing 500-1200ha of land within this area for wastewater discharge to land, and extra to provide setbacks from homes, schools, marae and waterways.

Map 11: Wastewater network



Stormwater

Stormwater infrastructure, including stormwater ponds and corridors, will be required to support growing out areas. Alongside existing work, further investigation into our existing urban environment is required to fully understand the infrastructure requirements and stormwater constraints.

Broad locations for the stormwater infrastructure including stormwater ponds and corridors for Te Utanganui, Aokautere, and Kākātangiata are all shown in Map 12 below.

Stormwater infrastructure will also be required in our existing greenfield growth areas with stormwater areas for detention ponds required at Whakarongo, Kikiwhenua, Mātangi and the North East Industrial Zone Extension Area. The broad, indicative locations are shown in the structure plans for the areas in Appendix 5 and Map 12. The stormwater infrastructure requirements for Ashhurst are still subject to investigation.

Within the Napier Road Residential Extension Area, a stormwater corridor is required. Stormwater retention areas at Norton Park, Tamakuku Terrace and Palmerston North Airport retention are current examples of these. The broad location for the corridor is shown in Appendix 5 and Map 12.

For the Roxburgh Crescent Residential Area an upgrade to the stormwater outfall is required before growth can occur. The location of this is shown on Map 12.

For growth in our existing urban environment, minimum floor levels, limits on hard surfaces along with site specific stormwater management are methods likely to be used to manage stormwater citywide. Upgrades to our stormwater infrastructure are likely to be required citywide to enable medium density housing. The outcome of investigations and modelling is pending, so we do not yet know where in the network these upgrades will be required. This uncertainty is further discussed in our constraints section in Appendix 1.

Management of stormwater is one of our most significant constraints to *growing up* development. This is discussed in Appendix 1.

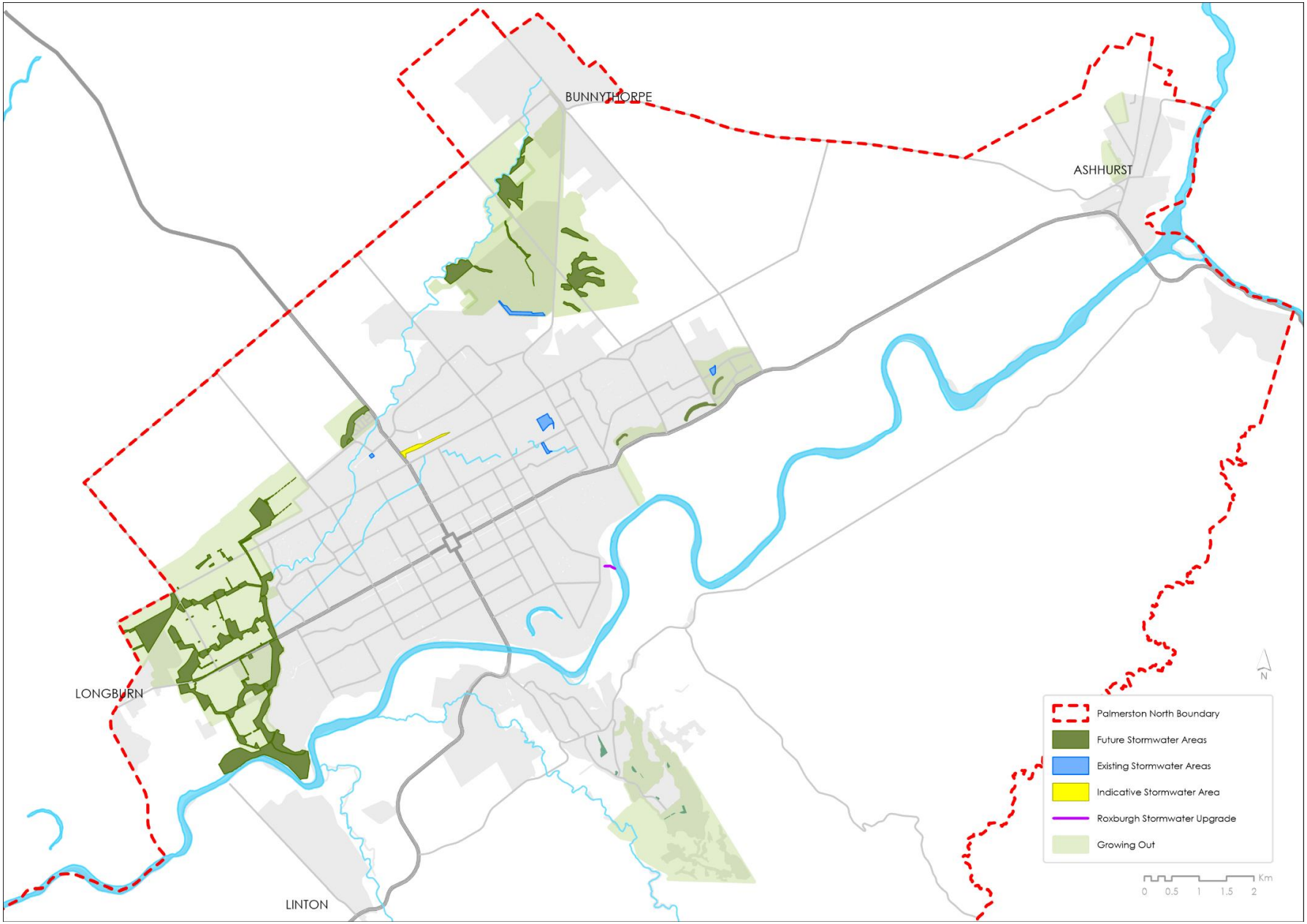
We have signalled an opportunity for the provision of stormwater infrastructure in the naturally low-lying part of the Tremaine Avenue Railyards when the new KiwiRail Regional Freight Hub becomes operational. If acquired, this could add to infrastructure capacity to better manage stormwater flows in this catchment of the city. The extent of the stormwater holding potential is not yet known so we have shown the full extent of the railyard.

For the potential growth areas, which includes the other *growing in* locations and the Braeburn Industrial Area, any stormwater infrastructure requirements will be subject to investigation.

As part of delivering well-functioning urban environments, we have said we need to work with, not against, the natural characteristics of our location to promote community and environmental wellbeing. For stormwater, this may look like restoring urban streams and nature-based stormwater management where possible.

Finally, vegetation forms a key part of our stormwater infrastructure given its ability to intercept and mitigate impacts of frequent rainfall, reduce and slow stormwater peak flows and improve water quality, and for that reason is included in our stormwater detention and management areas. Palmerston North City Council is currently reviewing the Vegetation Framework 2016, which will provide greater direction to the appropriate extent and types of vegetation required within stormwater infrastructure, both new and upgraded.

Map 12: Stormwater network



Land transport

Land transport infrastructure (including roading, active transport, and public transport) will be required to support growth in our growing up, in and out areas.

For our existing greenfield areas – Mātangi, Whakarongo, Napier Road Extension, and Kikiwhenua Residential Areas, and the North East Industrial Zone Extension Area - the Structure Plans show the broad locations of land transport infrastructure.

To support growth in the existing urban environments our land transport infrastructure will likely require upgrading on an as needed basis. Programmes identified in PNITI and changes to our transport networks' priorities through Strategic Networks (Network Operating Plan) will also be required to support growth and improve and protect our land transport over time.

As for our other growth areas – Roxburgh Crescent, Kākātangiata, Aokautere and Te Utanganui – broad locations for land transport infrastructure are shown in the operative (for Aokautere) and draft structure plans (for other areas) in Appendix 5 and maps 14 - 19 below.

For all growth areas, road design and layout will be key to enabling provision of public transport services and active transport to support a well-functioning urban environment. In existing urban environments, consideration of options for public transport priority infrastructure will support our communities by enabling transport choice where possible.

The provision of vegetation will be relevant to our land transport infrastructure given the role of vegetation in the land transport network to assist with reducing heat, improving air quality, increasing shade and comfort for active modes, reducing vehicle speeds, and supporting wayfinding. These include amenity plantings, street trees and stormwater bioretention devices (e.g. swales, rain gardens, filter strips etc). Palmerston North City Council is currently reviewing its Vegetation Framework 2016, which once updated will further provide greater direction to the appropriate extent and types of vegetated spaces within land transport network infrastructure, both new and existing.

Roading network

Roading infrastructure will be required to support growth in our already zoned greenfield areas and the Hokowhitu Lagoon Residential Area. Broad locations are shown on the structure plans for the areas in Appendix 5 and Map 13 below.

For Aokautere, roading will be required along with some upgrades to existing roads. These are shown in the structure plan in Appendix 5 and Map 13. For the Roxburgh Crescent Residential Area, Kākātangiata and Te Utanganui, roading will also be required. Broad locations are shown in Map 13 and within the draft masterplans in Appendix 5. It should be noted that broad locations and required upgrades are subject to change as plan changes progress.

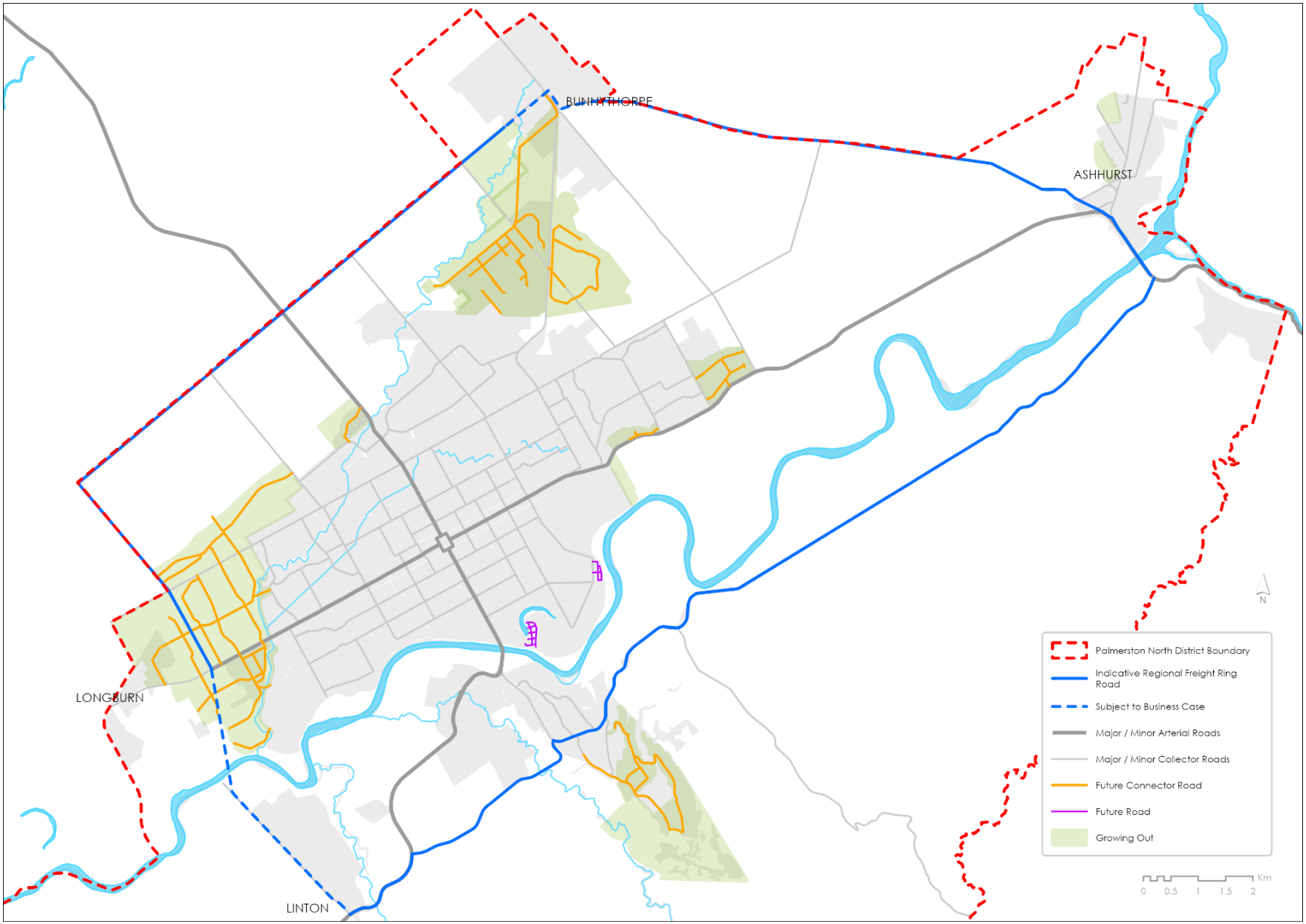
For Ashhurst and our potential growth areas – including Braeburn Industrial Area and repurposed industrial pockets and reserves, roading requirements are subject to investigations and will be confirmed once these are complete.

To support growth in the existing urban environments roading may require upgrading. We have assumed that this will occur in the existing roading corridors. Progression of Strategic Networks and programmes in PNITI will be important to supporting growth in our existing urban environments too.

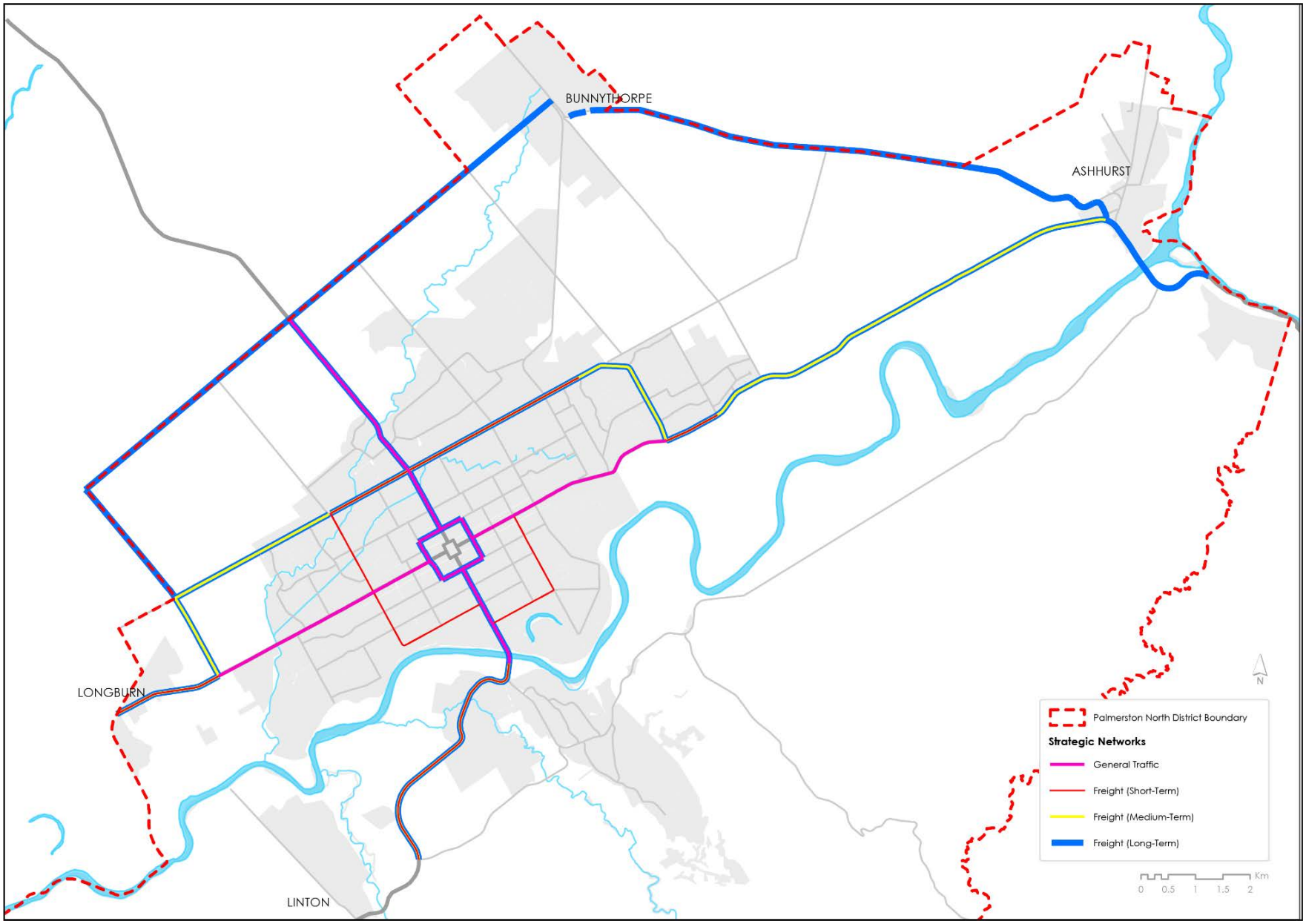
Strategic Networks, Palmerston North City Council's Network Operating Plan, sets out what transport modes and activities are prioritised across the transport network overtime. To ensure that our roading network responds to planned growth and addresses existing issues around road safety, how our roads are used, transport emissions and congestion at peak times. The Strategic Networks related to roading are shown in Map 14. Most relevant will be the shifting of freight priority routes out of residential areas over time and to more efficient routes.

The PNITI programmes are discussed in the additional infrastructure section but will be key to supporting growth too – particularly industrial at Te Utanganui. The indicative route for the Manawatū Regional Freight Ring Road is shown in Map 13 below.

Map 13: Land transport - roading network



Map 14: Strategic Networks roading – general and freight traffic priority routes across the short, medium and long term



Active transport network

Active transport infrastructure will be required to support growth in our already zoned greenfield areas and proposed growth areas. Broad locations are shown on the structure plans for the areas in Appendix 5 and Map 15 below.

There are also requirements in greenfield areas, via cross sections incorporated into the District Plan, that roads are built to incorporate active transport infrastructure such as cycle lanes and shared paths.

Linton and Longburn Villages are already connected to the city, and we have seen the commuter and recreational benefits from creating these village connections. We plan to connect Bunnythorpe and Feilding to Palmerston North within the next 10 years and are working on connecting Ashhurst and southern Kākātangiata to the city in the future.

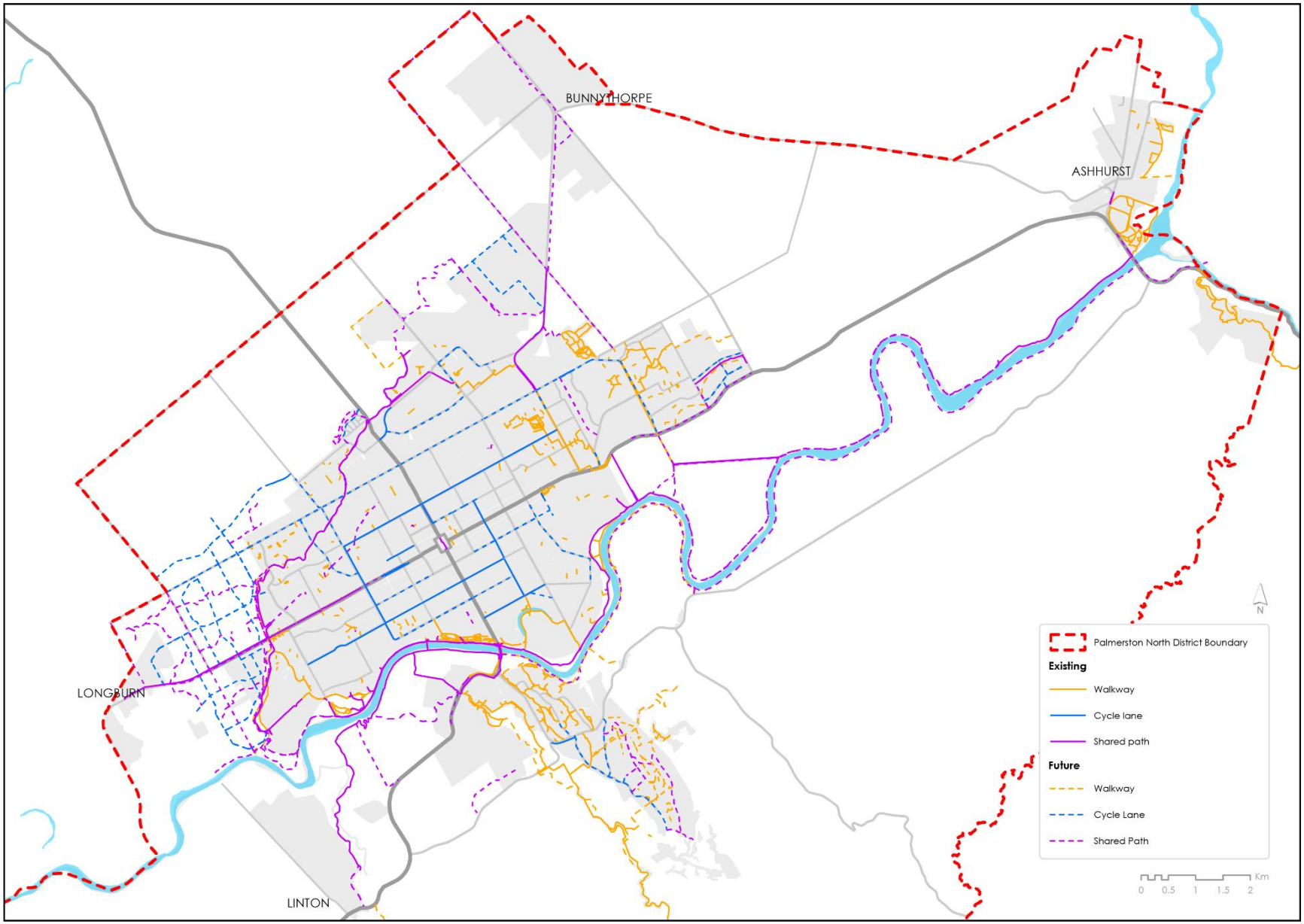
Esplanade reserves on the reaches of the city and integrated stormwater corridors create an opportunity to extend the recreational shared path network along our streams. Te Utanganui, Aokautere, and Kākātangiata involve the management of stormwater through stormwater infrastructure near waterways, so could be a further opportunity for this approach. Local reserves serve as opportunities to create mid-block walking and cycling links within the neighbourhood.

The Urban Cycle Network Masterplan 2019 also contains plans for active transport network upgrades, broadly indicated in Map 15 below. Palmerston North City Council is currently updating the masterplan to better align with Council's other strategic transport documentation.

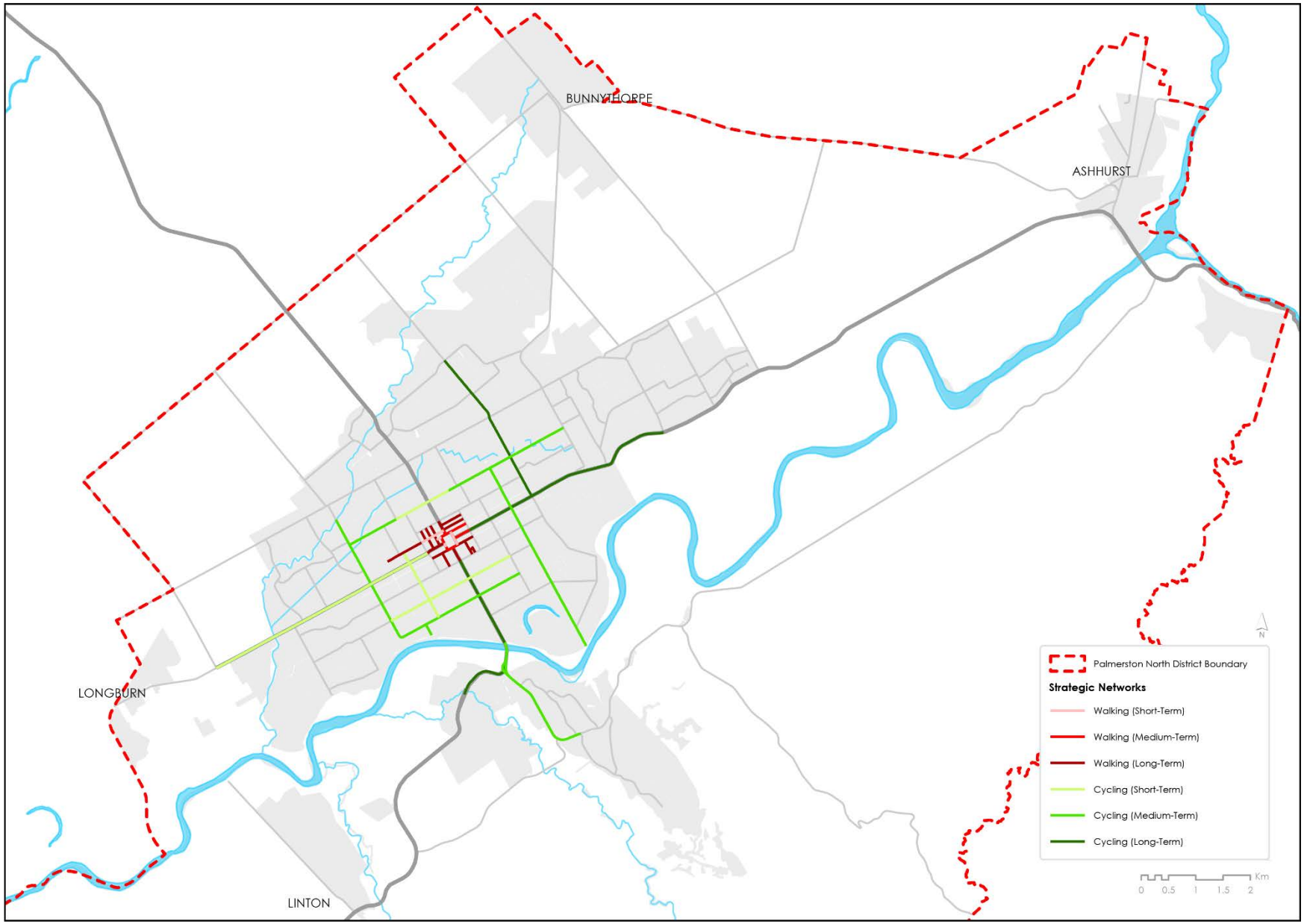
Within our existing urban environments, minor improvements to crossing points, traffic calming, and key intersection upgrades can enable the network to meet expected standards in new greenfield areas.

Strategic networks will be relevant to supporting growth too as some of our networks' priority modes will shift to active transport over time. Our active transport priority mode networks are shown in Map 16 below.

Map 15: Active transport network



Map 16: Strategic Networks active transport - priority routes across the short, medium, and long term



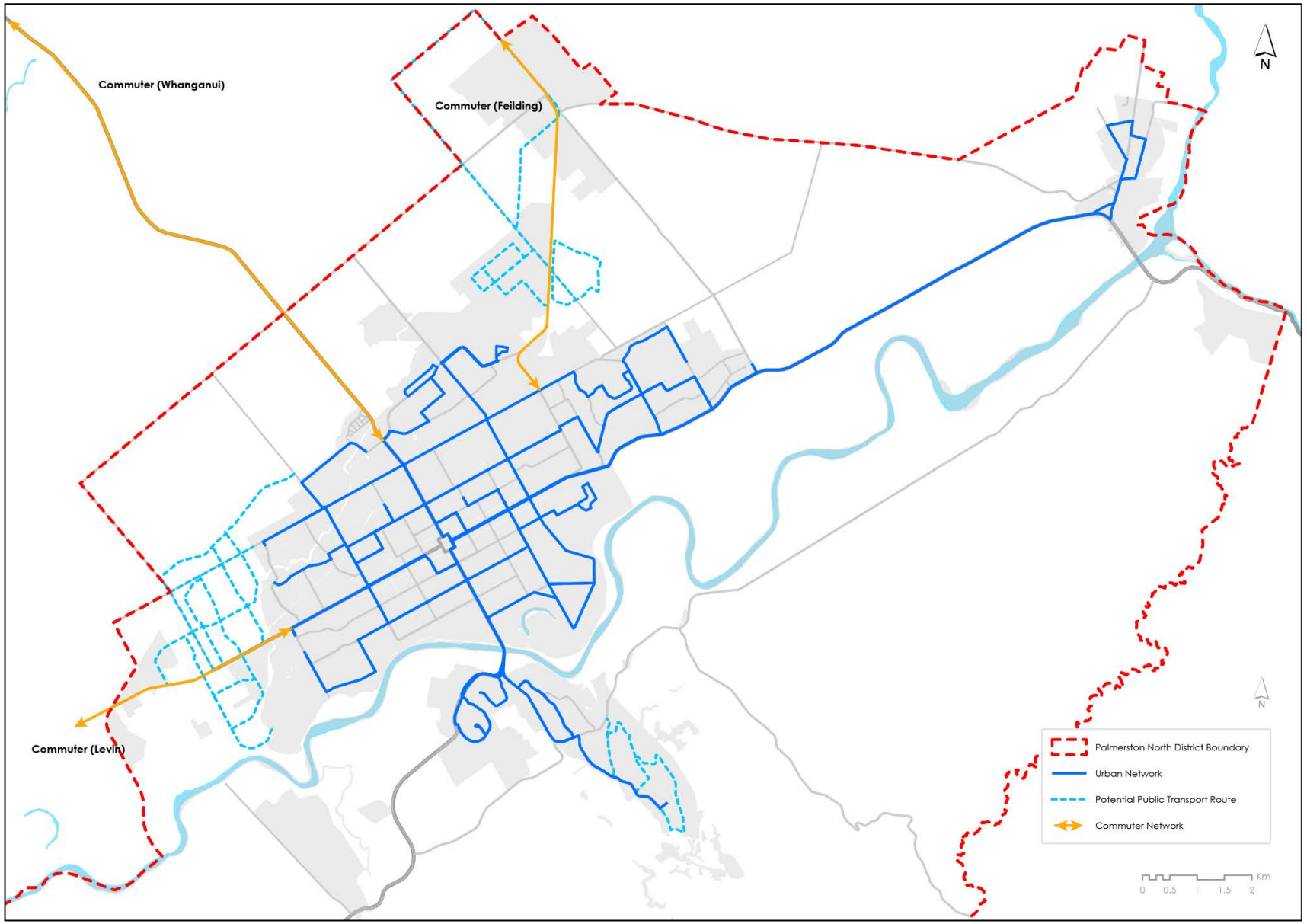
Public transport network

New public transport routes will be required to support growth at Te Utanganui, Aokautere, Ashhurst and Kākātangiata. The broad locations are shown in Map 17 below. All routes are subject to further investigation as these areas develop.

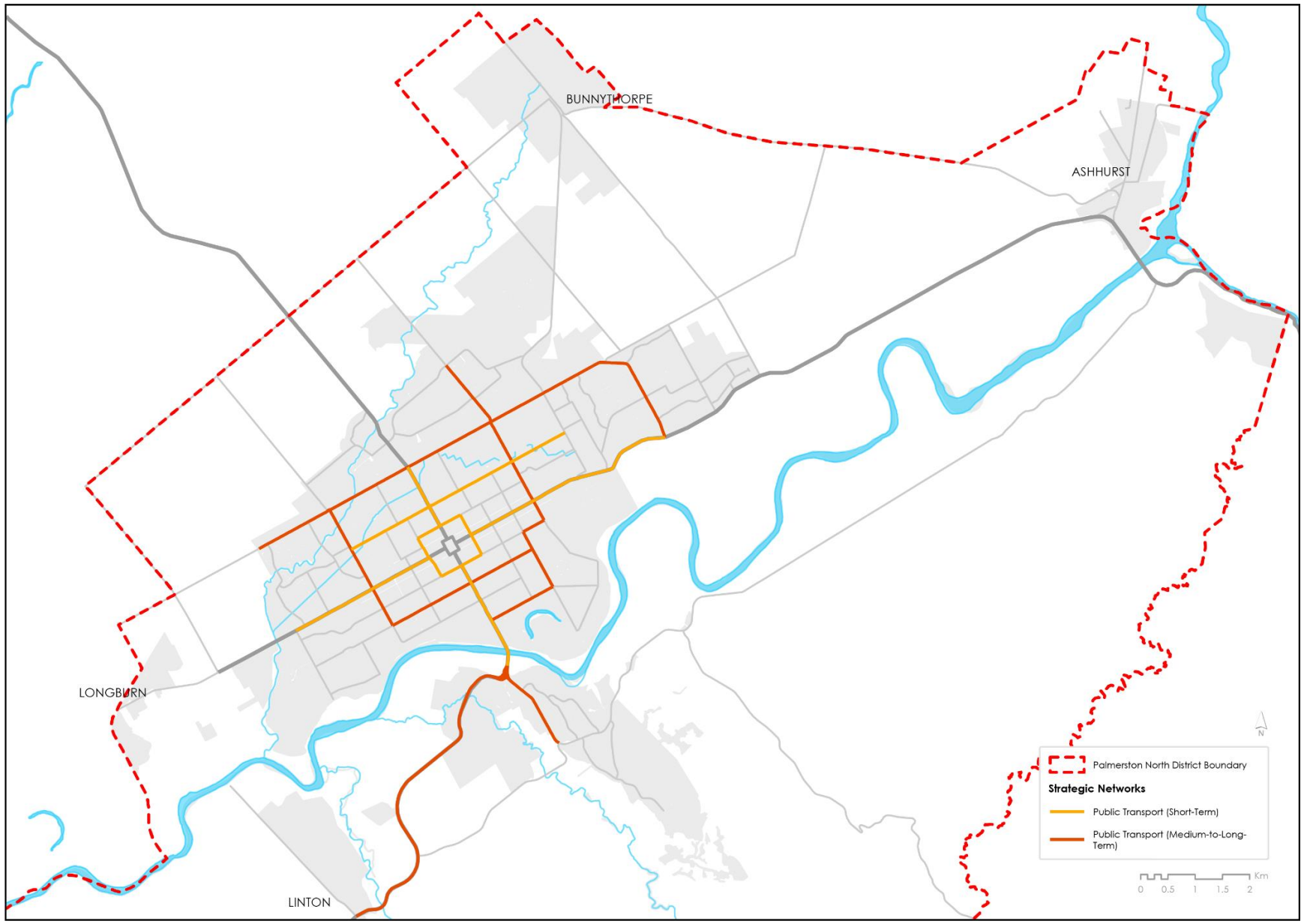
For growth in our existing greenfield areas, public transport routes are existing or planned for Whakarongo, Kikiwhenua, Mātangi, and the Napier Road Residential Extension Area. For Ashhurst and our potential growth areas like the Braeburn Industrial Area, any public transport requirements will be subject to investigation.

To support growth in the existing urban environments, public transport routes are in place and the broad locations are shown below. Horizons Regional Council is introducing an all-electric bus fleet and new routes to make its public transport system more efficient. Palmerston North City Council is working on bus stop upgrades throughout the city to support this, along with investigations to upgrade the existing main street bus terminal. In response to the road network changes introduced through PNITI, Horizons Regional Council will likely need to adapt and improve the public transport network over the next decade, to ensure the city's public transport network remains fit for purpose.

Map 17: Public transport network



Map 18: Strategic Networks - Public Transport priority routes over the short, medium, and long term



Additional Infrastructure

State Highway Network Improvements

The Palmerston North Integrated Transport Initiative (PNITI[7]) is a package of projects estimated to cost between $335 – $370 million. It is designed to support growth of freight distribution in Palmerston North whilst improving transport safety, access and choice for the whole community. It is being progressed jointly between Waka Kotahi NZ Transport Agency, Horizons Regional Council, Palmerston North City Council and Manawatu District Council.

PNITI was adopted as the integrated transport and land use plan for the city in 2022. The Future Development Strategy is aligned with the growth shown in PNITI. The package of projects is estimated to cost between $335 – $370 million and is funded through council funding and the National Land Transport Fund. The investment objectives are:

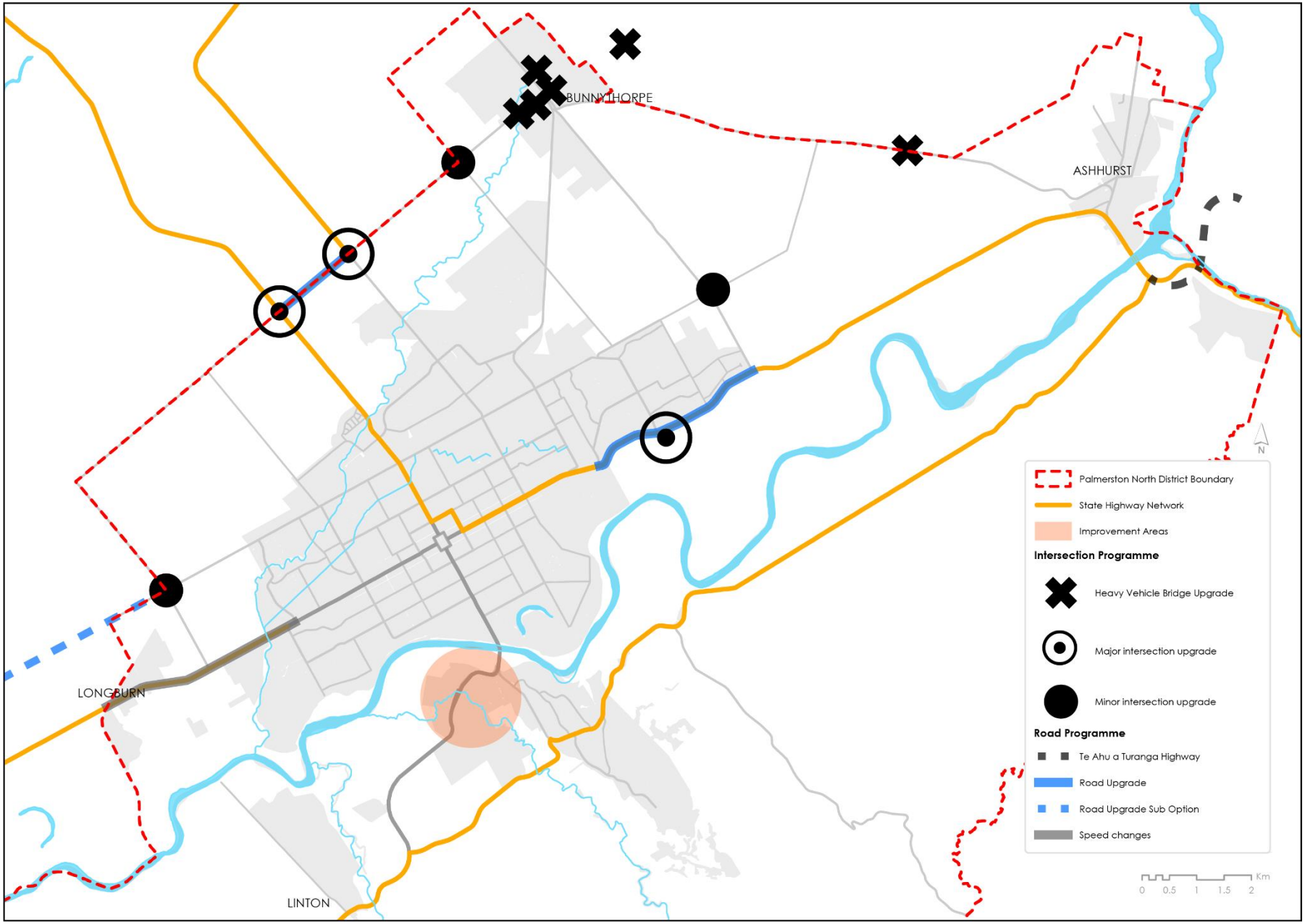
- Reduction in severance and increase in amenity
- Improve safety in the network
- Improve access to and from key destinations

The programme, comprising over 70 different projects, addresses safety, amenity and access problems in the city. Projects range from operational and investigation work such as business cases, to the delivery of transport services and physical infrastructure, such as improved active transport facilities, public transport, safer intersections, and works to slow down vehicles in the city centre and create more reliable freight corridors.

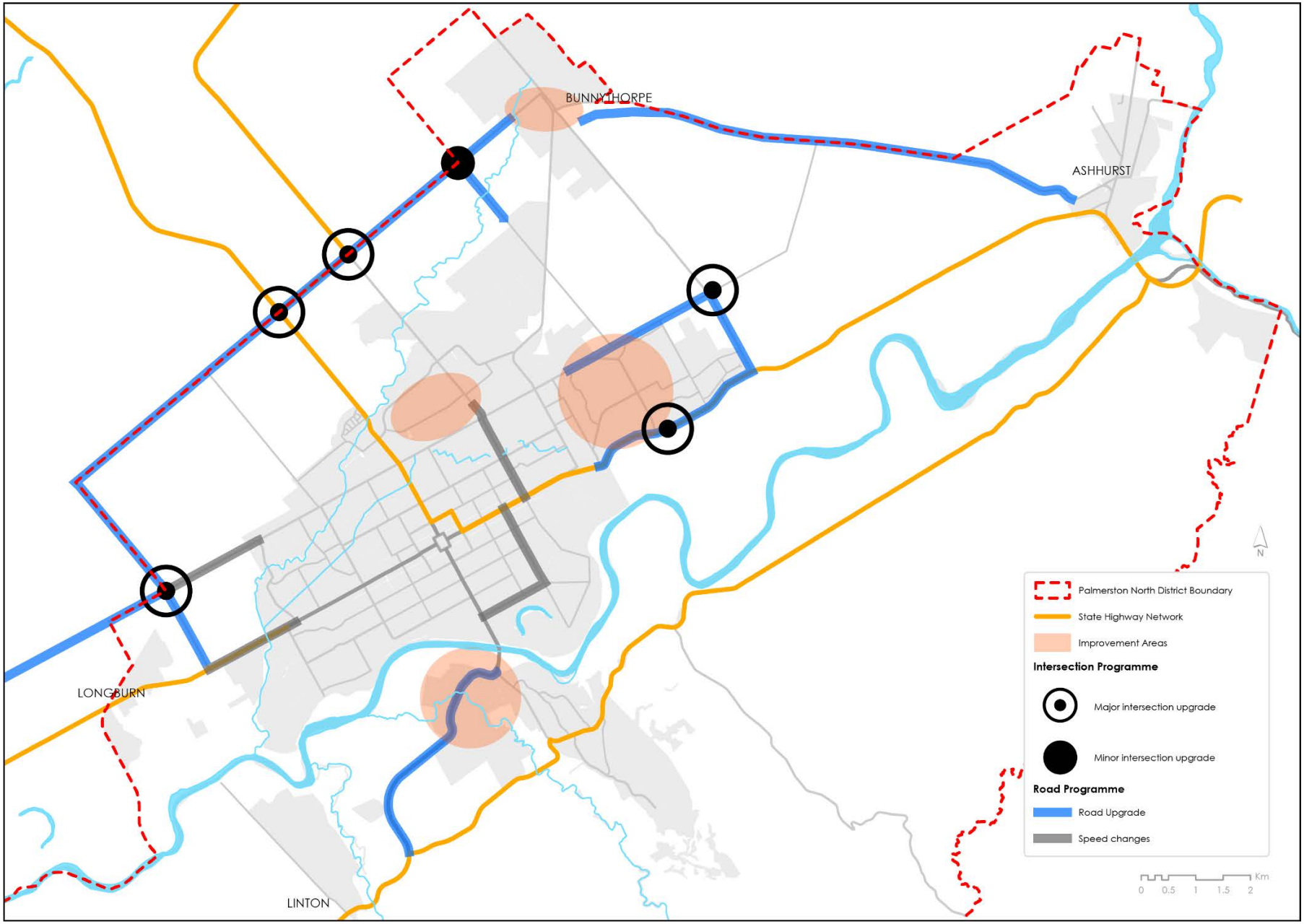
The programme concludes in a new route around the east, north and west of the city that will link the state highway network to Te Utanganui. Once the new freight route is operational, we will explore the advantages of revoking the state highway status of State Highway 3 and managing Rangitīkei Line as a local road. A number of projects are expected to be completed within the next five years, whereas others are scheduled for the medium term (10-15 years) or long term (15-30 years). The projects will be pivotal to achieving well-functioning urban environments and ensuring our growth plans are realised. The broad locations of the improvement related projects across the short, medium and long term are shown in maps 20-24 below.

[7] https://www.nzta.govt.nz/projects/palmerston-north-integrated-transport-initiative/

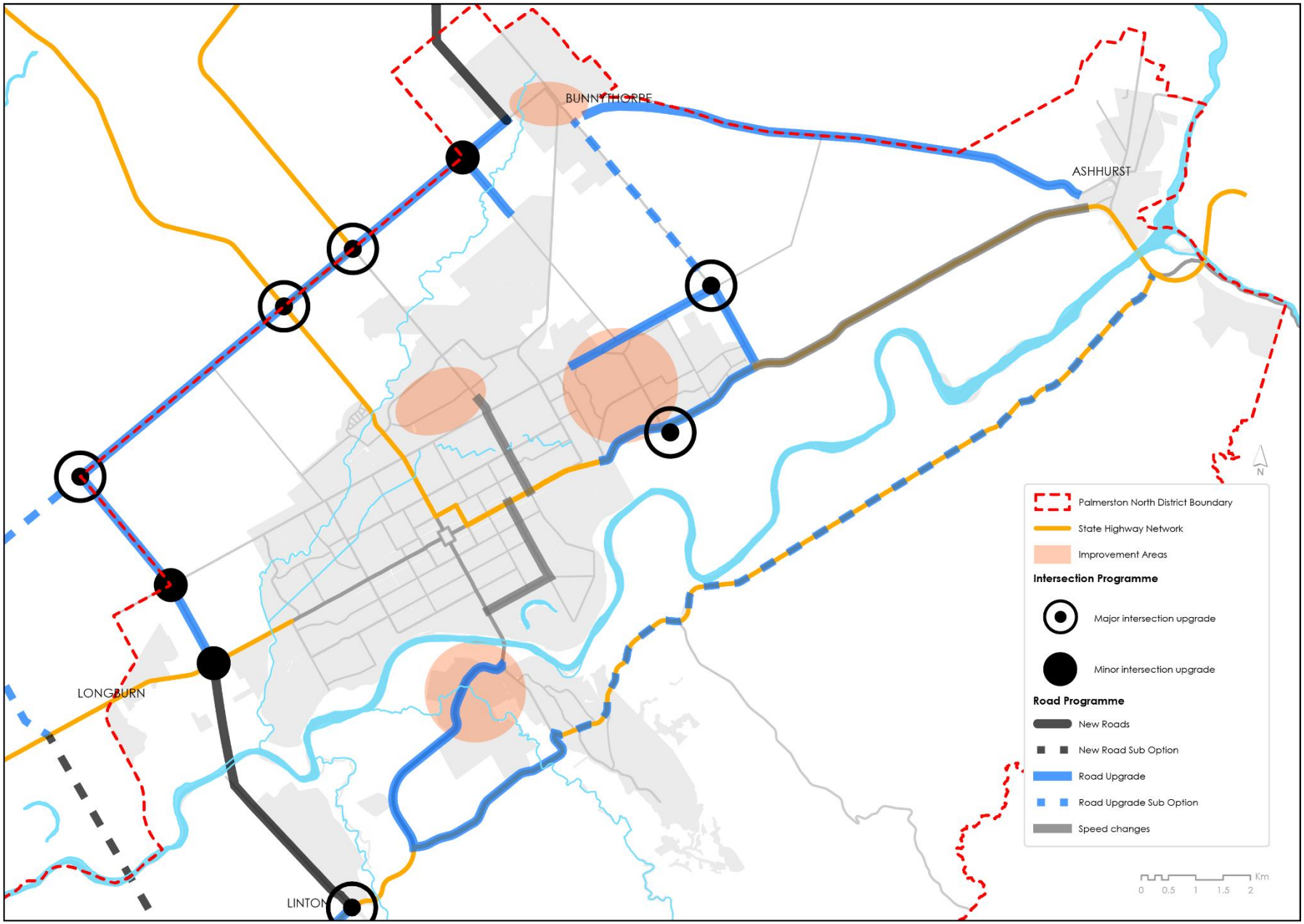
Map 19: Short term state highway improvements



Map 20: Medium term state highway improvements



Map 21: Long term state highway improvements



Public open spaces and community infrastructure

Public open spaces

New public open spaces will be required to support new growth areas at Te Utanganui, Aokautere, and Kākātangiata. The broad locations are shown in Map 22 below. The public open space requirements for Ashhurst and potential growth areas like the industrial pockets are still subject to investigation.

For growth in our existing greenfield areas, public open space will be required at Whakarongo, Kikiwhenua, Mātangi and the Napier Road Residential Extension Area. The broad locations of the public open space are shown in Map 22 and the areas' structure plans are in Appendix 5.

Aside from development of currently undeveloped parks (Clearview, Adderstone, and Oriana) in the Aokautere area, there are no new public open spaces planned within the existing urban environment. However, given our urban environments will be well-functioning when "moving between home, work and recreation spaces is straightforward and safe" (see Section C), and the role of intensification in providing for housing growth, we will keep an eye on the need for new public open spaces. Upgrades to existing public open spaces may be a part of this picture or acquisition of land for new parks may be required. We are unlikely to know until we finalise the extent of the Medium Density Residential Zone.

Citywide parks and reserves like the Te Marae O Hine/The Square, Manawatū River Park, Victoria Esplanade, Te Āpiti Manawatū Gorge, and Kahuterawa Outdoor Recreation Hub to name a few will be key to provision of public open space. The masterplans, frameworks and development plans for these places will be a key part of ensuring these spaces are fit for purpose. These will continue to be used, reviewed and updated into the future as growth occurs.

As with stormwater and land transport infrastructure, vegetation will be a key part of public open spaces (e.g. parks, reserves and other civic spaces) given the role vegetation plays in the experience of public open spaces, overall health and well-being, identity and sense of place. Palmerston North City Council is currently reviewing the Vegetation Framework 2016, which will further provide greater direction to how vegetation is provided within our public open spaces. This will be a key consideration when public open space to support growth is required, be it through the provision of new public open spaces in our growing out areas or upgrades to our existing spaces to support growing in.

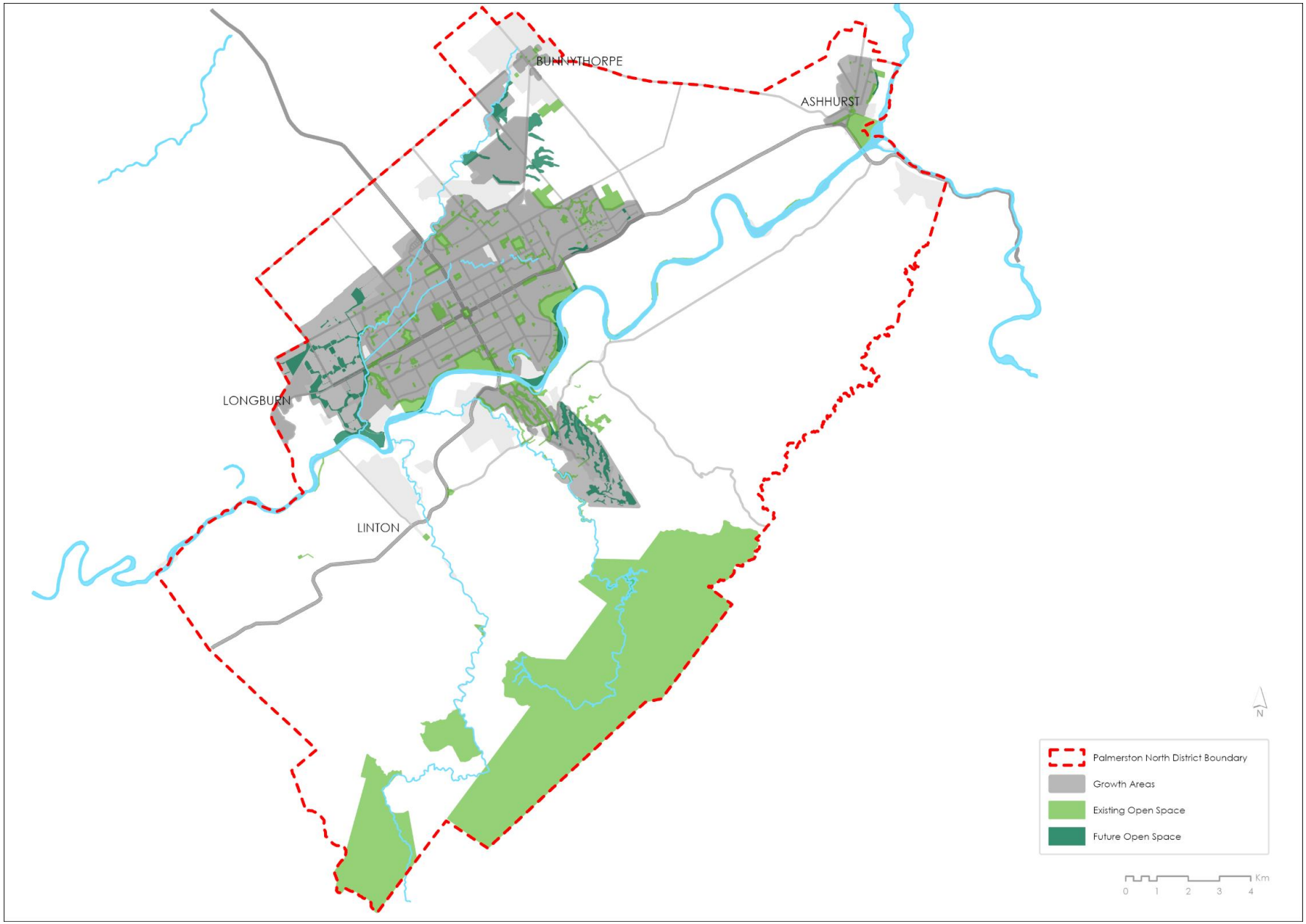
Community infrastructure

Community infrastructure means the land or assets, both present and future, on land owned by Council for the purpose of providing public amenities. Community infrastructure includes things like our parks, libraries, and other community facilities such as Te Manawa Museum, and Lido Aquatic Centre.

Our libraries and other community facilities will be the subject of ongoing community needs reviews, which will identify whether we need to upgrade our existing facilities and when and where we need new ones.

In Kākātangiata and Aokautere, given the scale of the growth areas, we have included Local Business Zone areas to meet the everyday needs of residents who live in these areas. In these Local Business Zone areas, land for community infrastructure – such as community libraries – could be acquired if required.

Map 22: Open Space Network



Schools

Based on our population projections for school-aged children, the Ministry of Education will not require any additional schools in the Palmerston North area over the 30-year period of the Strategy.

There is a vacant site in Aokautere currently designated for education purposes, which could be developed for a future school to serve the Aokautere community.

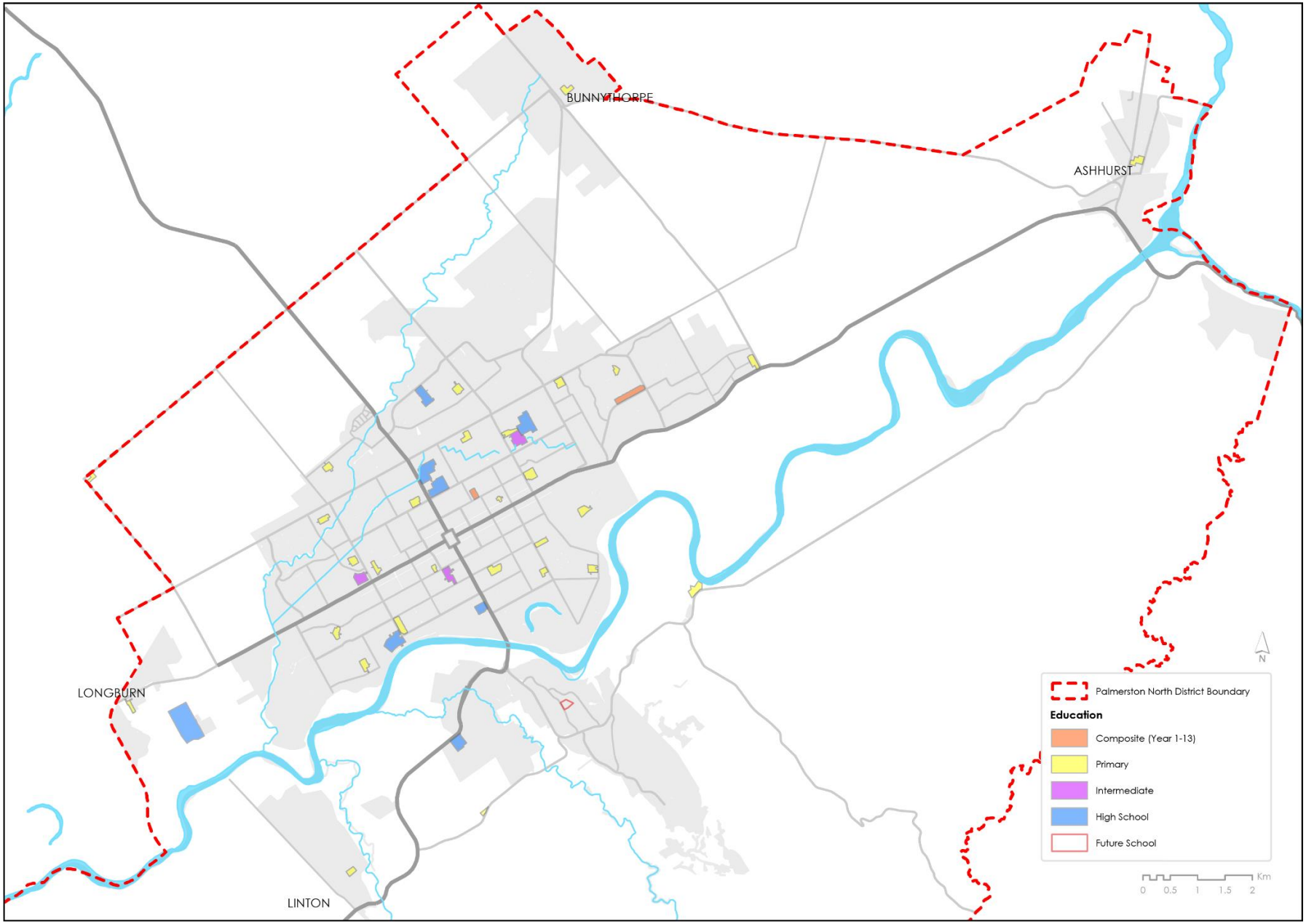
The Ministry of Education will continue to carefully monitor growth and other trends which may impact the school network. Growth in the Kākātangiata area will require careful consideration of network provision.

It is noted that there is a large number of people who reside outside of the Palmerston North district but work and attend school within the area and vice versa. This impacts the operation of the school network.

The locations of existing schools, and the designated site in Aokautere, are shown in Map 23, below.

Rangitāne aspires to plan and develop kura-a-iwi (schools with localised curriculum based on iwi values) and grow the number of opportunities for tamariki o Rangitāne and tamariki Māori in Palmerston North.

Map 23: Schools

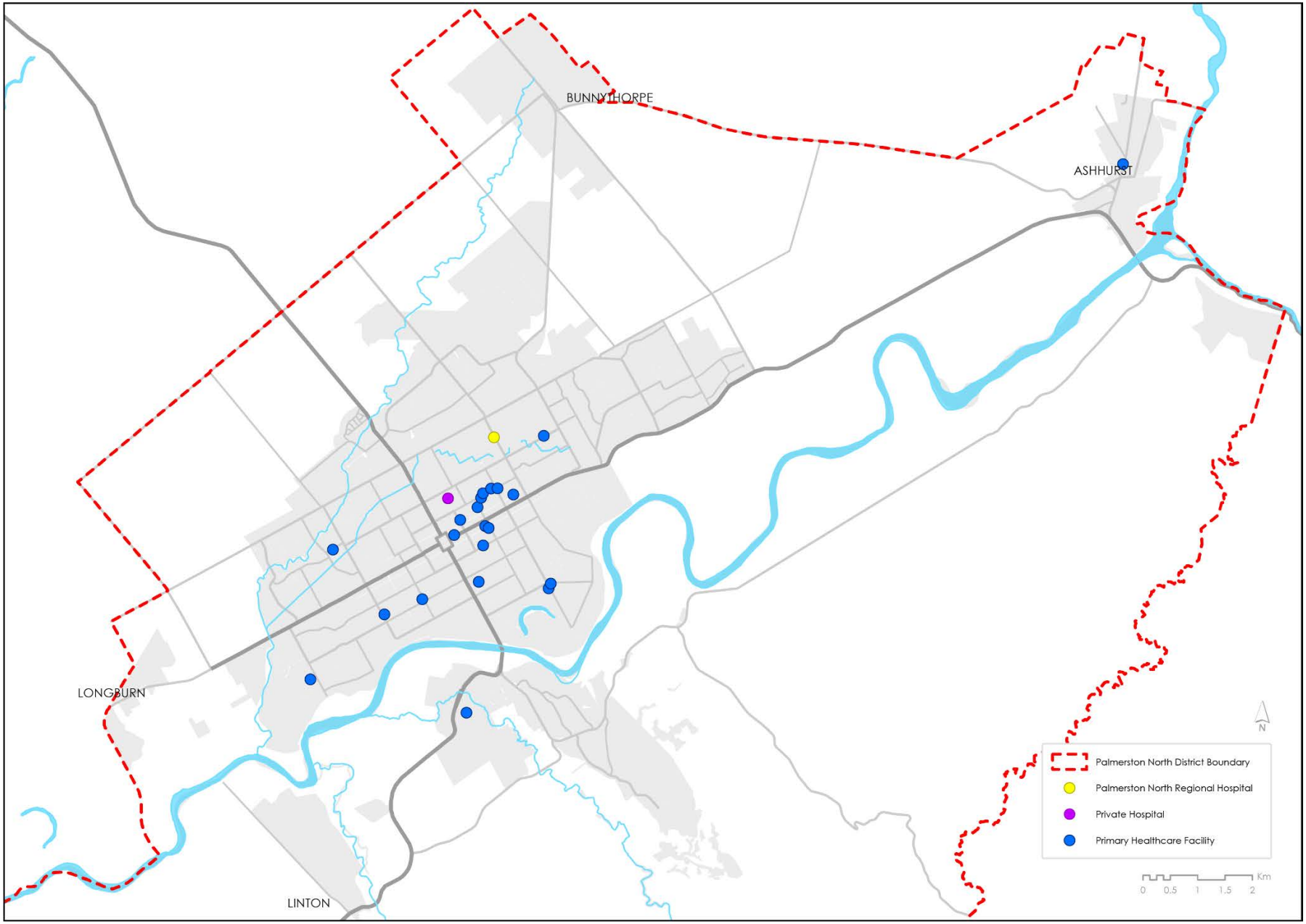


Healthcare facilities

Te Whatu Ora have signalled that Palmerston North Regional Hospital will be upgraded and redeveloped within their existing site over time to support growth.

Existing primary and secondary-tertiary healthcare facilities in the city have been identified in Map 24 below.

Map 24: Healthcare



Telecommunications network

Chorus operates a nationwide network of fibre optic and copper telecommunications cables connecting homes and businesses together.

Telecommunications infrastructure is significant and essential to modern society, and the safe, reliable, and efficient functioning of telecommunication networks is vital for the national, regional and local economy and is in the public interest both in terms of allowing people and communities to provide for their wellbeing, and also to ensure their health and safety.

Having access to world class broadband is critical to the way New Zealanders work, learn, live and play. The fibre network built under the government's Ultra-Fast Broadband project ensures that 87 percent of New Zealanders will receive access to world-class connectivity, with up to 1 gigabit broadband speeds and includes over 35,000 premises within the Palmerston North district.

Chorus have told us that existing telephone exchanges are positioned to meet current and future demand from their local communities. The physical fibre network is continually developed and expanded as residential and business areas grow. These expansions require additional funding and are subject to economic viability and customer demand.

Fibre should be provided to the boundary of new allotments at the time of subdivision alongside other utilities. Not providing fibre at the time of subdivision can result in unnecessary and disruptive effects from retroactively installing fibre optic cables in newly created roads, footpaths and berms as well increased costs to the end user.

It is recommended that Chorus are engaged early in the planning stages of the development to facilitate the fibre expansions required for the increased growth.

Major growth projects currently being undertaken by Chorus to support growth are:

- Turitea, Atlantic Drive area, additional fibre feeder capacity to meet demand from general development and future subdivisions initially established from Atlantic Drive
- Fitzherbert Avenue area, bulk fibre feeder capacity upgrades
- West End, College Street/Botanical Road area: bulk fibre feeder capacity upgrades
- West End, Pioneer Highway: bulk fibre feeder capacity upgrades
- Napier Road/Roberts Line area: bulk fibre feeder capacity upgrades.

Local electricity and gas networks

Upgrades to, and expansion of, Powerco's local electricity network will be required to support future electricity demand from housing and business and industrial growth in Palmy.

Over the course of the next 10 years alone, future demand is forecast to exceed the capacity of six of the substations currently supplying the city with power. Powerco's asset management plan sets out their 10 year capital works program that responds to asset replacement, supply demand, network upgrades and supply security. Within the next ten years it is anticipated that the following upgrades will be required within Palmerston North:

- A new 33kV circuit from the Bunnythorpe Grid Exit Point to supply a new substation in the North East Industrial Zone
- Construct a new seismically compliant switch room at the Kelvin Grove substation
- Establish a new substation in the Linton area to meet anticipated load growth in the area
- Upgrade the Kairanga Substation transformers to meet anticipated load growth in the area, including a new switch room
- Upgrade the Turitea Substation transformers to meet anticipated load growth in the area
- Upgrade the Milson Substation transformers to meet anticipated load growth in the area
- Establish a new substation in the Ashhurst area to meet anticipated load growth in the area
- Construct a new substation to replace the existing Rongotea substation
- Upgrade the Pascal Street Substation transformers to meet anticipated load growth in the area
- Upgrade the Main Street Substation transformers to meet anticipated load growth in the area

The execution and scope of these network upgrades can be impacted by demand requirements coming online sooner than expected, in areas where the network is constrained or load requirements exceed initial expectations. Distributed generation and decarbonisation projects may also affect planned network upgrades.

Upgrades to Powerco's local gas network will also be required to support demand for gas from housing growth.

Powerco is planning to reinforce the Aokautere area in 2031 to ensure performance of the network is maintained with expected demand on supply. Aside from this network upgrade, the delivery points supplying the Palmerston North City area will be monitored and pressure increase projects implemented if demand for supply increases in line with population growth projections.

Decarbonisation projects and or alternative gas generation projects within the region may also affect planned network upgrades.

National Grid

Transpower owns, builds, maintains, and operates the National Grid, which transmits high voltage electricity from where it is generated to our local electricity network.

Any future growth will need to protect the long-term maintenance, operation and upgrading of the National Grid to ensure that it can meet the current and future energy needs of the city and beyond. A 12-metre setback from the transmission line centreline is required to protect the National Grid. This would be factored into housing growth at Kākātangiata and Aokautere and any industrial growth in the Braeburn Industrial Area.

The National Grid will continue to play an important role in electrification of the economy. Long term planning for the maintenance, operation, upgrading and development of the National Grid needs to be facilitated and supported. While existing National Grid assets are identified in Map 35, increasing demand for electricity will necessitate new assets in the future, particularly to connect to new generation where required.

Planned upgrades to the national grid will cope with the city's growth.

Transpower's Transmission Planning Report 2023[8] identifies that the regional peak demand for the Central North Island is forecast to grow by an average of 3% per year over the next 15 years. This is greater than the national average growth rate of 2% per year. Transpower does not anticipate that any additional work on the National Grid will be required (over and above its existing plans) to address electricity supply constraints arising from growth planned under this strategy. Transpower undertakes annual planning studies to assess the current and future capability of the national grid. The implementation plan for the Future Development Strategy may help to inform these studies.

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[8] https://www.transpower.co.nz/our-work/industry/transmission-planning

Flood protection structures

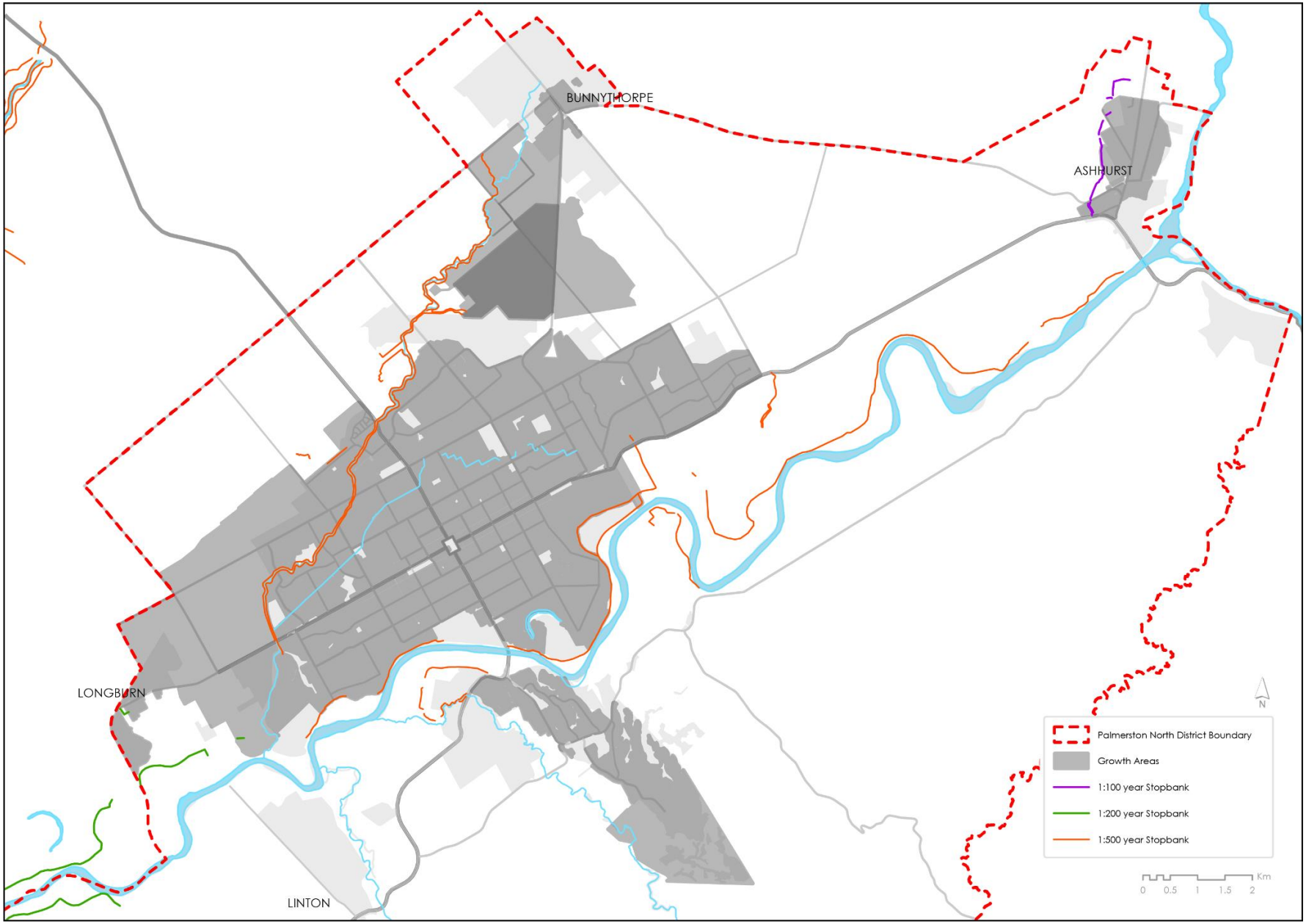
Horizons provides urban flood protection through a network of stopbanks within and adjacent to the Palmerston North city boundary (see Map 25).

These stopbanks provide protection from the Manawatū River, the Mangaone Stream and the Ashhurst Stream. The city stopbank network was upgraded to 1 in 500-year protection plus 600mm freeboard (room for uncertainty) following the 2004 floods, while the Ashhurst Stream stopbank provides 1 in 100-year protection plus 300mm freeboard. Some areas we have identified for future growth (for example Ashhurst), are not included for investigation, scoping, increasing, or building of flood protection in Horizons' Infrastructure Strategy for the next 30 years. As such, there are currently no plans for new stopbank development within the city boundary. Horizons' Infrastructure Strategy identifies minor works planned that relate to increasing the resilience of the network rather than increasing the current level of flood protection. Given there are no plans for new or upgraded stopbank development this may be a constraint to our growth, particularly in Ashhurst where we know some of the growth areas require a stopbank upgrade. To address this constraint, both Councils, landowners, the community, and infrastructure providers will need to work together to establish ways of addressing these constraints (for example access to alternative funding). In some cases, these growth areas need to be reconsidered in future versions of this strategy.

Rules in the Regional Plan prevent development (particularly intensification) in close proximity to the protection structures, which growth will need to take into account.

Flood protection structures do not guarantee that communities are safe from floods that exceed the protection level indicated on Map 30, so flood risk is never eliminated. Increasing severity and frequency of rainfall events due to climate change is likely to diminish the expected protection levels of the stopbanks in future years.

Map 25: Flood protection structures



Appendices

Appendix 1: Growth constraints

There are a number of constraints to Palmy's growth, from natural characteristics, to protecting our regionally and nationally significant infrastructure and the ability to operate, maintain and develop it. The affordability of funding growth infrastructure is also a significant constraint (see also page 15).

Affordability and funding of growth

The costs of growth – whether it be in the existing urban environment or greenfield areas – are different (see page 15). This reflects the infrastructure investment required between the two different types of growth.Constraints associated with funding infrastructure to support urban growth, particularly greenfield areas, is an emerging issue.

To stay within debt limits Palmerston North City Council has delayed funding of development and additional infrastructure for Kākātangiata and Ashhurst and is proposing to use a mix of Council debt (Long Term Plan funded) and external funding mechanisms to fund the infrastructure.

The approach taken by the Palmerston North City Council 2024-34 Long Term Plan to funding growth infrastructure differs based on whether growth is development in future greenfield areas, land about to be zoned and the existing urban area, or development in already zoned land.

At the time of writing, the change in timing and funding approach has implications for the city's greenfield areas:

- For Kākātangiata and Ashhurst, all growth programmes sit in the medium and long term. Funding has been proposed to be provided through an external funding mechanism (such as an Infrastructure Funding and Financing Levy or developer agreement).
- For Aokautere, growth programmes will be funded by a combination of Council debt (Long Term Plan funding for water, wastewater and transport) and an external funding mechanism such as an Infrastructure Funding and Financing levy or developer agreement for stormwater and local reserves.
- For development in already zoned land (which includes our existing urban environment and zoned greenfield areas) and soon-to-be-zoned land at Roxburgh Crescent, development infrastructure will continue to be funded by the City Council's 2024-34 Long Term Plan.

Funding of infrastructure in growth areas through Infrastructure Financing and Funding levies is still subject to an application to Crown Infrastrucutre Partners. If the application was to be unsuccesful this may impact the shape of our growth strategy. In addition, these changes do not prevent developers lodging private plan change applications or entering into developer agreements to enable development sooner than we have scheduled the funding to support growth. If private plan change applications were received this may also impact the shape of our growth strategy.

On a similar note, many of the projects in the PNITI programme are still subject to securing funding. For projects led by Palmerston North City Council, these have been included in Council's Long-Term Plan with proposed timings and budgets. Projects requiring funding or co-funding

from NZ Transport Agency, Waka Kotahi will be funded as part of the National Land Transport Programme.

Funding for transport changes in the State Highway network anticipated for growth is significantly constrained. Funding commitments can change to adjust to national priorities. We need a variety of land-use, structure plan, staging, and local funding options to hedge against this risk. This risk is more acute in our greenfield areas than our existing urban environment. The business case process can assist in demonstrating value for money compared to other competing interests in the National Land Transport Fund.

It is important to highlight that Council's long-term growth plans will need to be mindful of funding constraints, and this will continue to present a challenge to Council in terms of growth decision moving forward.

Rural-residential development

Historical subdivision and development of rural land for rural-residential housing has resulted in a number of pockets of rural-residential properties surrounding the city. These are mostly around the Anders Road and Greater Bunnythorpe area. Demand for rural-residential subdivision can risk setting expectations of a rural-residential neighbourhood in areas where urban growth is more likely to be an efficient use of land, particularly for medium and long-term growth areas such as Kākātangiata, Te Utanganui, and Ashhurst.

Greenfield growth requires acquisition and agglomeration of land for development and additional infrastructure such as roads, parks, and stormwater infrastructure, which will be more difficult to fund and stage in an integrated way if fragmented by lifestyle blocks. Palmerston North City Council's Rural Residential Overlay in the Rural Zone provides for sufficient capacity to meet future rural-residential demand and directs the fragmentation of land away from more productive rural land unless needed on balance for the growth of the city. The City Council's 2012 Rural Residential Land Use Strategy states that rural residential land use should not undermine Council's residential growth planning or become an alternative form of greenfield residential development. With this in mind, we will continue to direct and approve rural-residential subdivision and development within the rural-residential overlay only.

Furthermore, the National Policy Statement for Highly Productive Land 2022 requires protection of highly productive land from inappropriate use and development and for subdivision of it to be avoided where it is not identified for future urban development. Greenfield growth areas identified in this Future Development Strategy should be protected from uncoordinated development by avoiding the consenting of rural-residential development in these areas.

Geographical and other physical constraints

There are several key geographical features surrounding Palmerston North that act as a naturally occurring city boundary. The Manawatū River floodplain and Taonui Basin floodway to the northwest and southeast of the city, highly productive land wrapping around the west, north and east of the city, and the river terraces and gully systems in the Aokautere area to the south, all limit options for future greenfield urban growth.

We also need to provide for our network utility providers' ability to develop, maintain and operate their assets, which are in most cases regionally, and sometimes nationally, significant. This includes the Palmerston North Airport, NZ Transport Agency Waka Kotahi's State Highway network, Transpower's national grid and Powerco's electricity and gas networks, KiwiRail's railway network, and Horizons Regional Council's flood protection scheme. Careful consideration also needs to be given to protecting our communities' health and safety and their amenity when planning for growth in proximity to these assets.

Utilising data and information from both Councils as well as infrastructure providers, we have mapped the constraints to the city's growth below. Some constraints are likely to affect development, others influence the design and layout of a development.The identified constraints on growth options and

what we will do to manage them are discussed below and a summary is included at the end of this appendix.

Aggregate is an essential resource for the construction of housing and business areas. Projected housing demand in the district equates to demand for 103,000 tonnes of aggregates per year. Because of the high travel costs associated with aggregates, consideration of local aggregate resources when planning urban growth is important.

Council's influence over the market

Key levers that Councils have in influencing community outcomes for housing and business growth are limited in their scope. Our communities of interest have told us in the Housing and Business Needs Assessment 2023 that there are limited options for inter-generational living, accessible housing, and larger homes. These options either don't represent projected household sizes that our market is driven to cater for, or represent possible increased costs to, construction that reduce a developer's ability to remain market-competitive. Diverse housing tenure models and sustainable construction are areas of interest to our community, but there is limited scope for the City Council's District Plan, Development Contributions Policy, and our administration of the Building Act to be able to encourage or require these outcomes.

Landfill capacity

Bonny Glen landfill in Turakina services the greater regions solid waste needs and is privately owned. Bonny Glen is a Class A municipal solid waste facility that is consented till 2055 and at current filling rates has airspace remaining for disposal for a projected 25-30 years. Risks to this projected landfill capacity include:

- Growth in districts serviced by Bonny Glen (Whanganui, Taranaki, Ruapehu, Rangitikei, Manawatū, Kapiti, Horowhenua and Wairarapa).
- Contractual arrangements with the landfill company (who has contractual access, for what and over what period).
- Inert construction and demolition waste or other bulky materials competing for premium disposal airspace. There are no outlets of significance in the lower North Island for treated timber or other demolitions materials, with the exception of concrete to crushing outlets.
- Future changes to waste acceptance criteria from central government or the landfill regulator Horizons. Eg. Organics or consent condition changes.
- Future changes to waste recyclables.
- Reducing capacity in surrounding Wellington, Tararua and Hawke's Bay regions.

Stormwater ponding

Heavy rainfall events result in increased surface flooding and stormwater ponding. With climate change increasing the amount of rainfall, this is likely to worsen. The impact of growth in the existing urban environment and the way we manage stormwater needs to be investigated further, building on existing knowledge and recent physical works. Until we know more, this could constrain the extent to which we can grow up.

Stormwater can increase soil erosion and damage homes, businesses and infrastructure. The following maps show predicted stormwater ponding/flooding depths during 50 year, 100 year, and 200 year rainfall events. We have a district wide rapid stormwater model built in 2017 that shows depths in a 200 year rainfall event (Map 28), and a more recently built model for the Palmerston North city urban area, which shows the 50 and 100 year rainfall events.

The depths have implications on whether development can occur with mitigation, or not at all, as follows:

- 50 year rainfall event - 100-300mm deep – development can occur, but minimum floor levels and standard attenuation are required
- 50 year rainfall event - 300-500mm deep – development can occur, but requires site specific mitigation and network upgrades
- 50 year rainfall event – over 500mm deep – development not recommended, flooding hazard is triggered, site specific flood assessment is required to proceed
- 100 year rainfall event – over 500mm deep - overland flow path, development not recommended, flooding hazard is triggered

With the effects of climate change, stormwater ponding conditions are likely to worsen. Further, paving and buildings over permeable surfaces will increase runoff and ponding/flooding in the city.

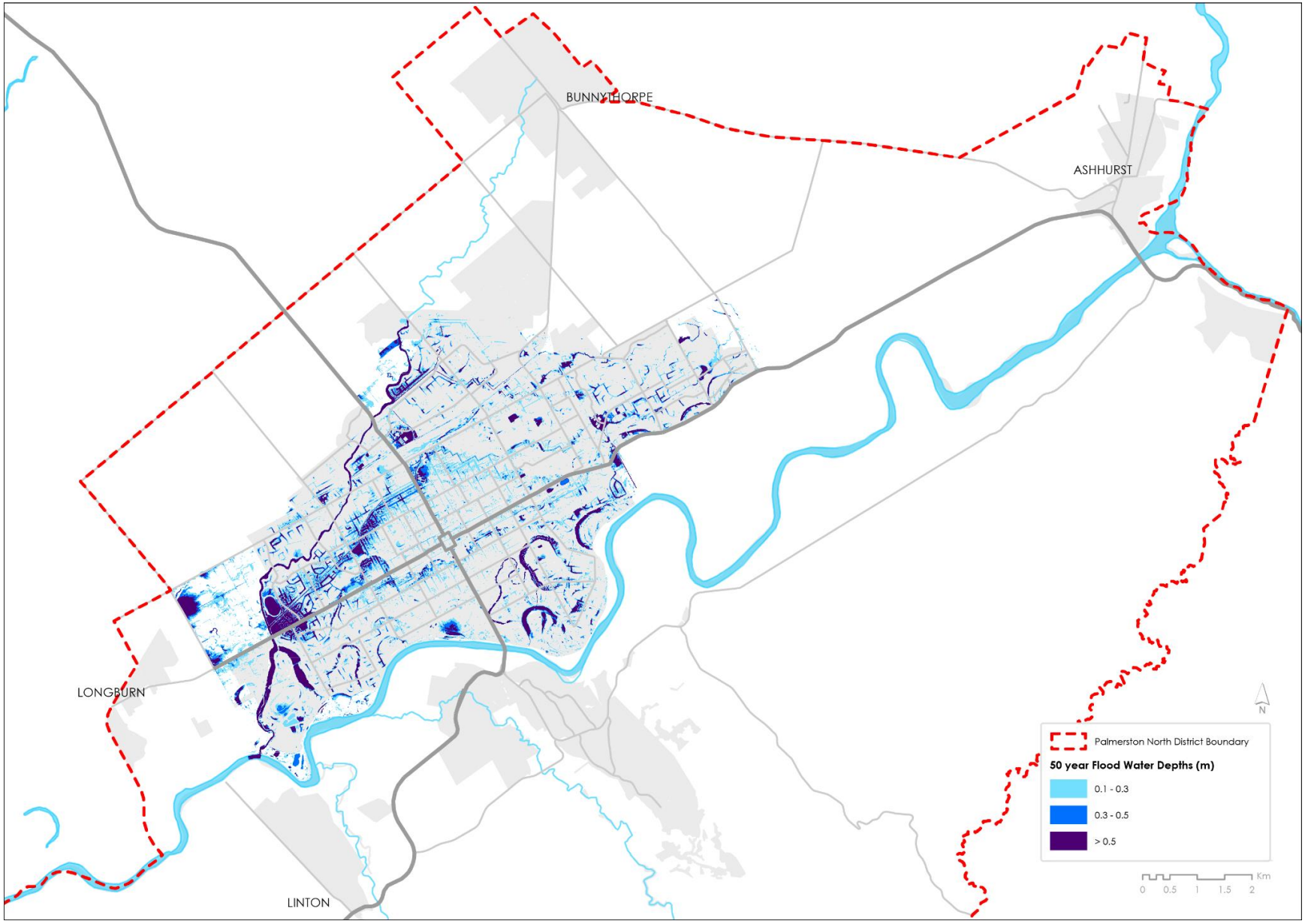
The depths that require minimum floor levels and mitigation, cover large areas of the existing urban environment in Palmerston North. The depths where development is not recommended also cover nominal areas of the city.

In most cases, minimum floor levels and stormwater management methods such as stormwater ponds or below ground attenuation systems can address this constraint. Controlled development and smart land use planning is critical in areas that are flood prone where engineering and natural solutions are unlikely to be effective. These areas need to be avoided from intensification. For parts of the city near the bottom end of the Kawau and Mangaone Streams and our old lagoons and oxbows, more intensive housing is unlikely to be appropriate without significant intervention, or perhaps at all.

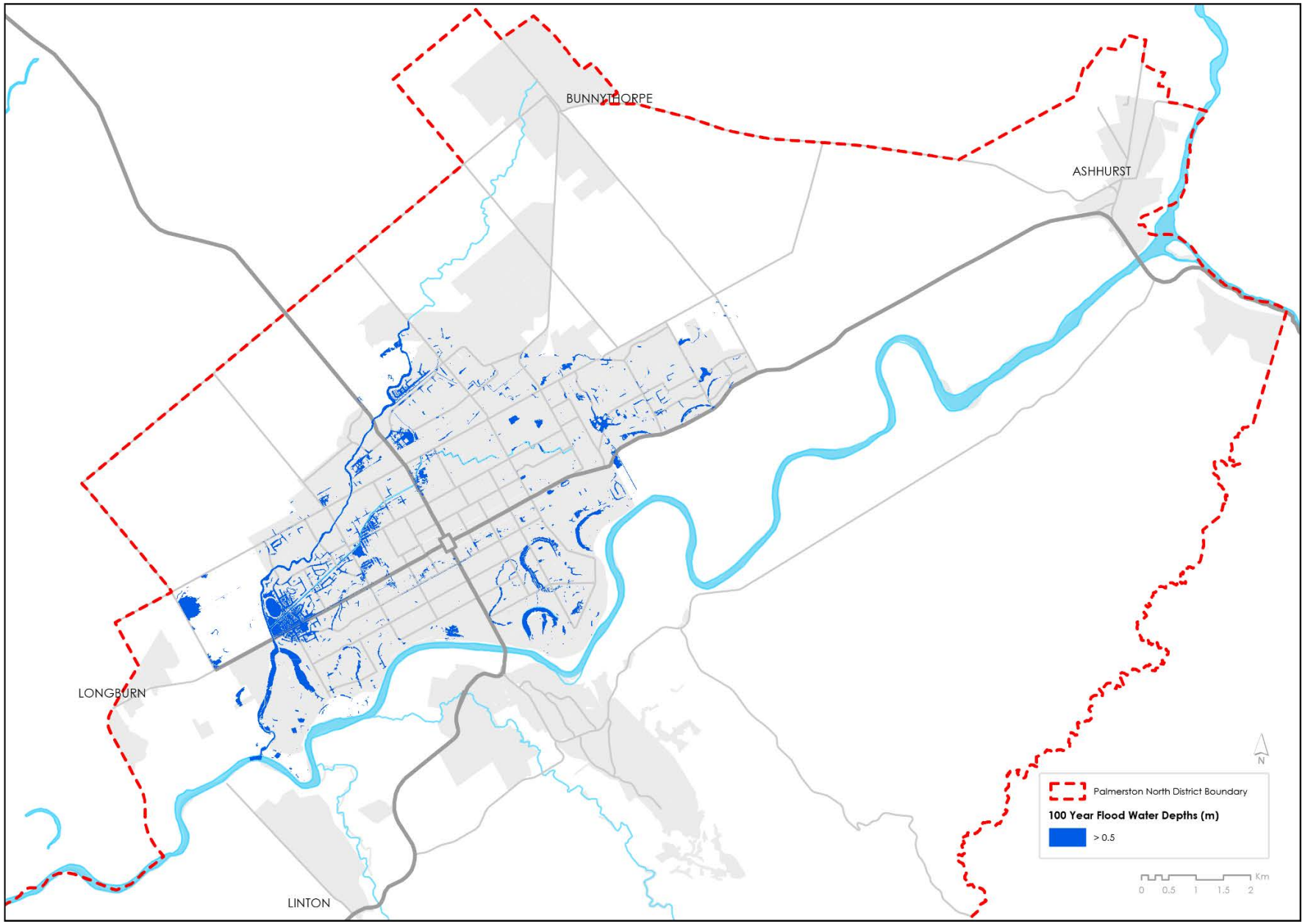
Stormwater in our greenfield growth areas, Aokautere, Kākātangiata, Te Utanganui and Ashhurst will need to be carefully managed to enable growth, but these areas present the greatest opportunity to have best practice, nature-based stormwater systems including detention ponds and stormwater corridors. The 200 year model (Map 28) shows the depths that affect our growth areas. Map 25 shows the stormwater infrastructure requirements for these areas (excluding Ashhurst, which are still subject to investigation).

As part of addressing this constraint, we will need to prepare a Citywide Stormwater Strategy for the city and are likely to need to change the City Council's District Plan to introduce permeable surface controls, stormwater management overlays, and other stormwater related performance standards for development in the city. Ultimately, investigations undertaken as part of the Stormwater Strategy may result in the extent of the existing urban environment that could *grow up* being affected. We will complete a Stormwater Strategy then revisit what this constraint means for the Future Development Strategy.

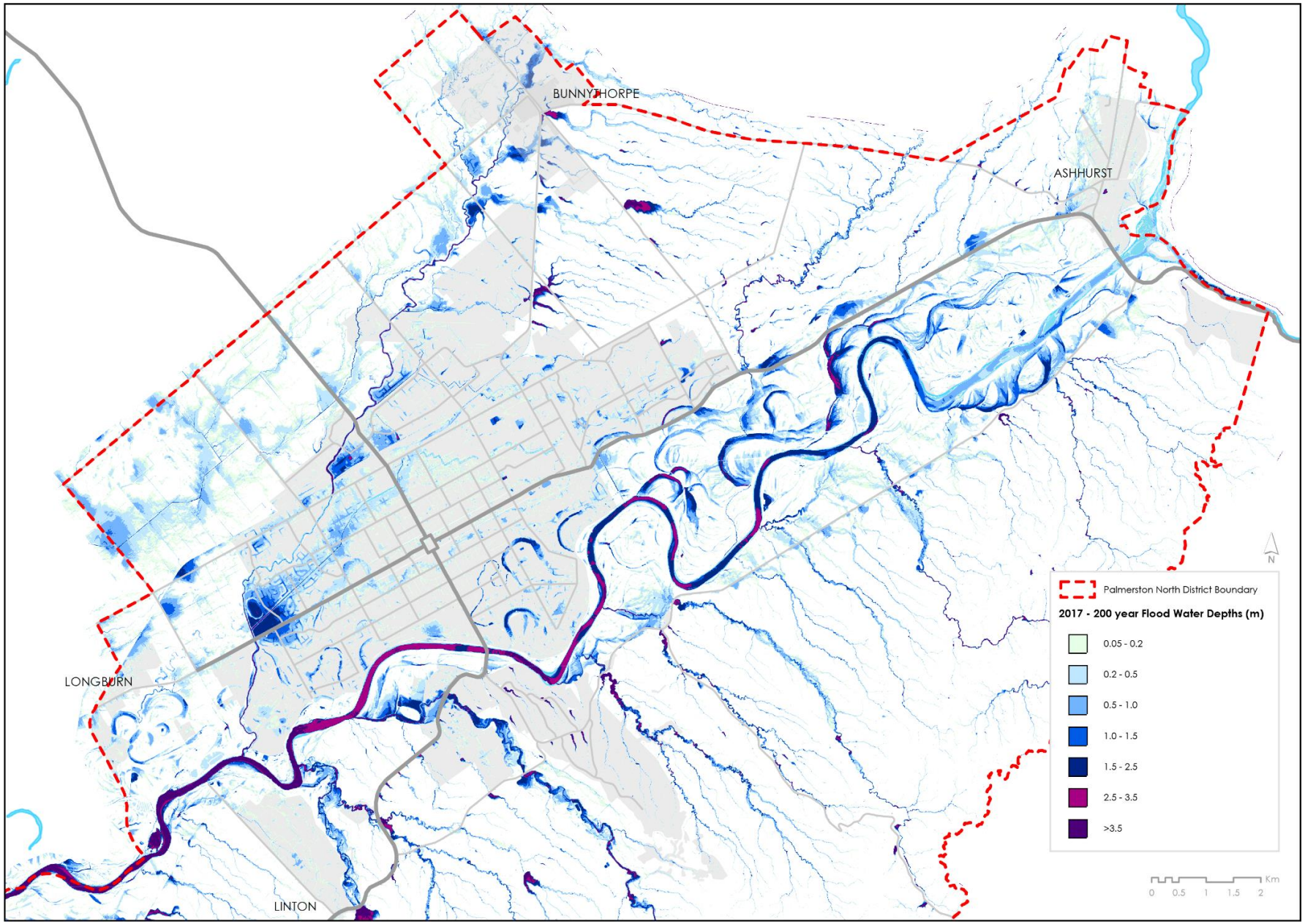
Map 26: 50 year flood event water depths



Map 27: 100 year flood event water depths



Map 28: 200 year flood event water depths (2017 model)



Flood prone areas

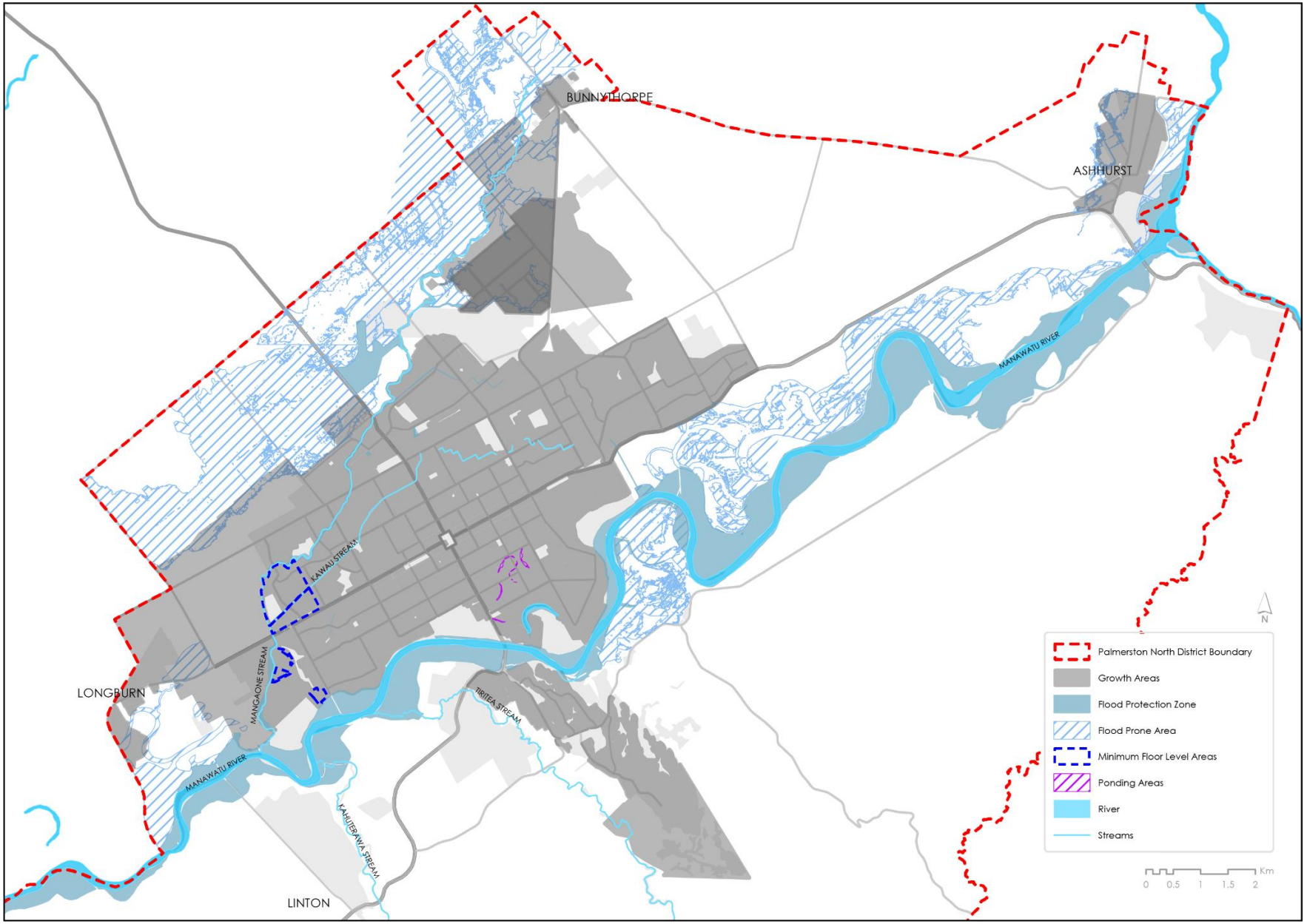
With the Manawatū River and its tributaries as a key feature of our environment, river flooding is another constraint to our growth. The climate is changing, bringing changes to long term weather patterns, and increasing the frequency and intensity of flooding. The 2004 and 2015 Manawatū floods along with Cyclone Gabrielle in 2023 show the risks and realities of flooding and the importance of avoiding any increased flood risk.

Stop bank systems were upgraded after the 2004 flood and we have identified 'Flood Prone Areas' and 'Flood Protection Zones' to manage flood risk (see Map 29, below). In addition to the stopbank and flood protection systems (see Map 25), minimum floor levels and stormwater management methods (such as attenuation systems and stormwater ponds) are other ways we manage flood risk for urban development.

Portions of Kākātangiata, Te Utanganui, and Ashhurst are constrained by 'Flood Prone Areas' which can affect how our urban environments can grow evenly or in a contiguous way. Ashhurst is likely to require a stop bank upgrade to enable development of the Ashhurst Urban Growth Areas.

Culverts in the Ashhurst Stream are also likely to require upsizing. Without the upgrades, development of the proposed areas, in particular the North Street and Winchester Street areas, will be constrained. We are currently discussing this as part of plan change investigations and will revisit the extent of the Ashhurst Growth Areas once these discussions and investigations are complete. Kākātangiata and Te Utanganui will address the risk posed by the flood prone areas by primarily seeking to avoid development within them. Some areas within the Te Utanganui area require further flood risk assessment to understand whether appropriate avoidance or mitigation measures can be put in place to enable these to be developed.

Map 29: Flood prone areas



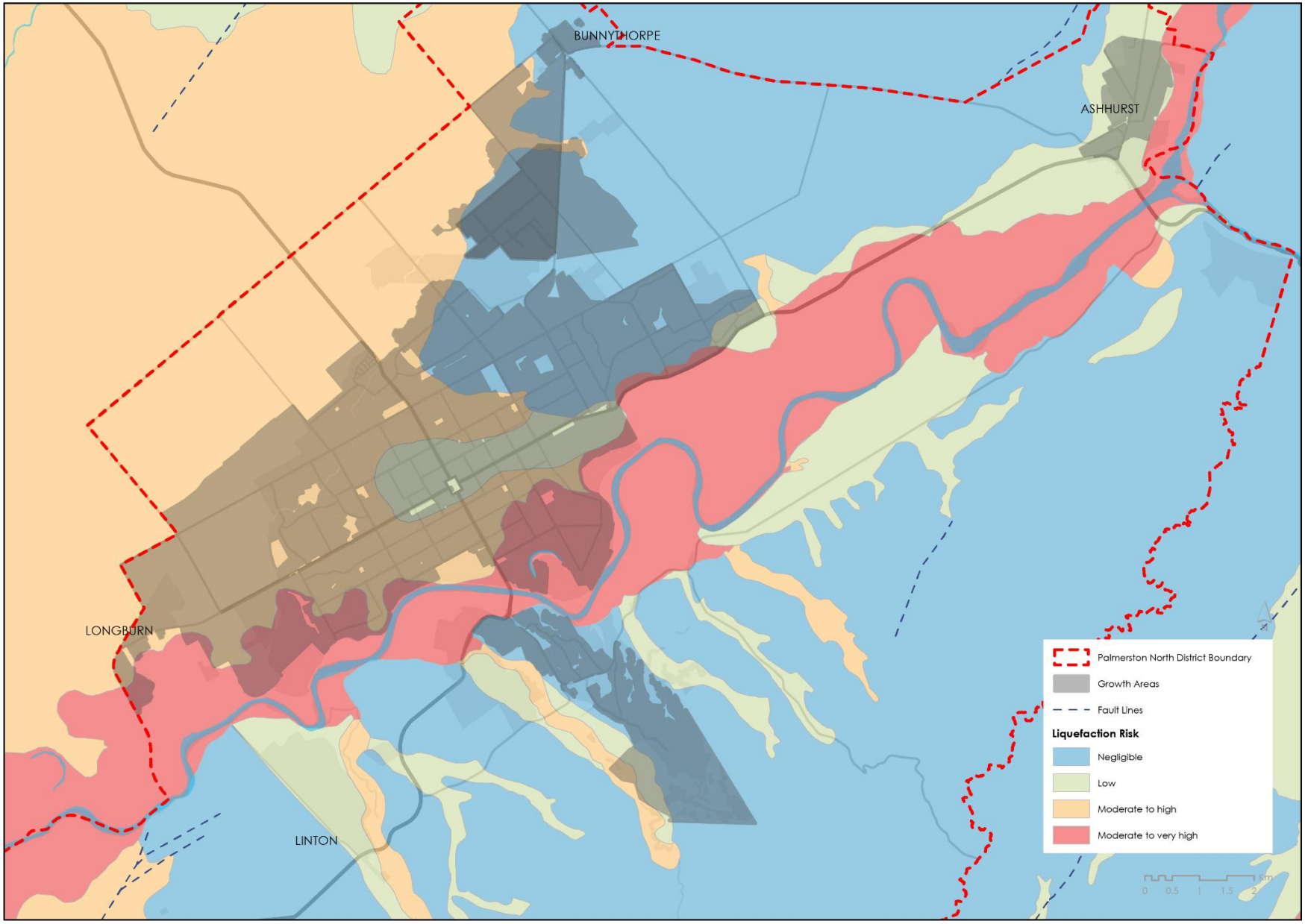
Liquefaction and faults

There are two active fault lines south of Palmerston North. As a river city, Palmerston North is vulnerable to liquefaction primarily in areas adjacent to waterbodies.

In the event of an earthquake, the Kākātangiata urban growth area to the southwest of the city is the most vulnerable to liquefaction. Parts of Hokowhitu in the existing urban environment is also subject to risk. Engineering solutions such as reinforced foundations and pressure sewer systems will be incorporated into infrastructure and housing development to mitigate the risk of liquefaction however where risk is high, development costs are likely be more expensive. Higher mitigation costs affect western parts of the city, Kākātangiata, and long-term stages of Te Utanganui.

Map 30 below shows district wide liquefaction risk. More detailed liquefaction risk assessments are undertaken as land is rezoned.

Map 30: Liquefaction risk and fault lines

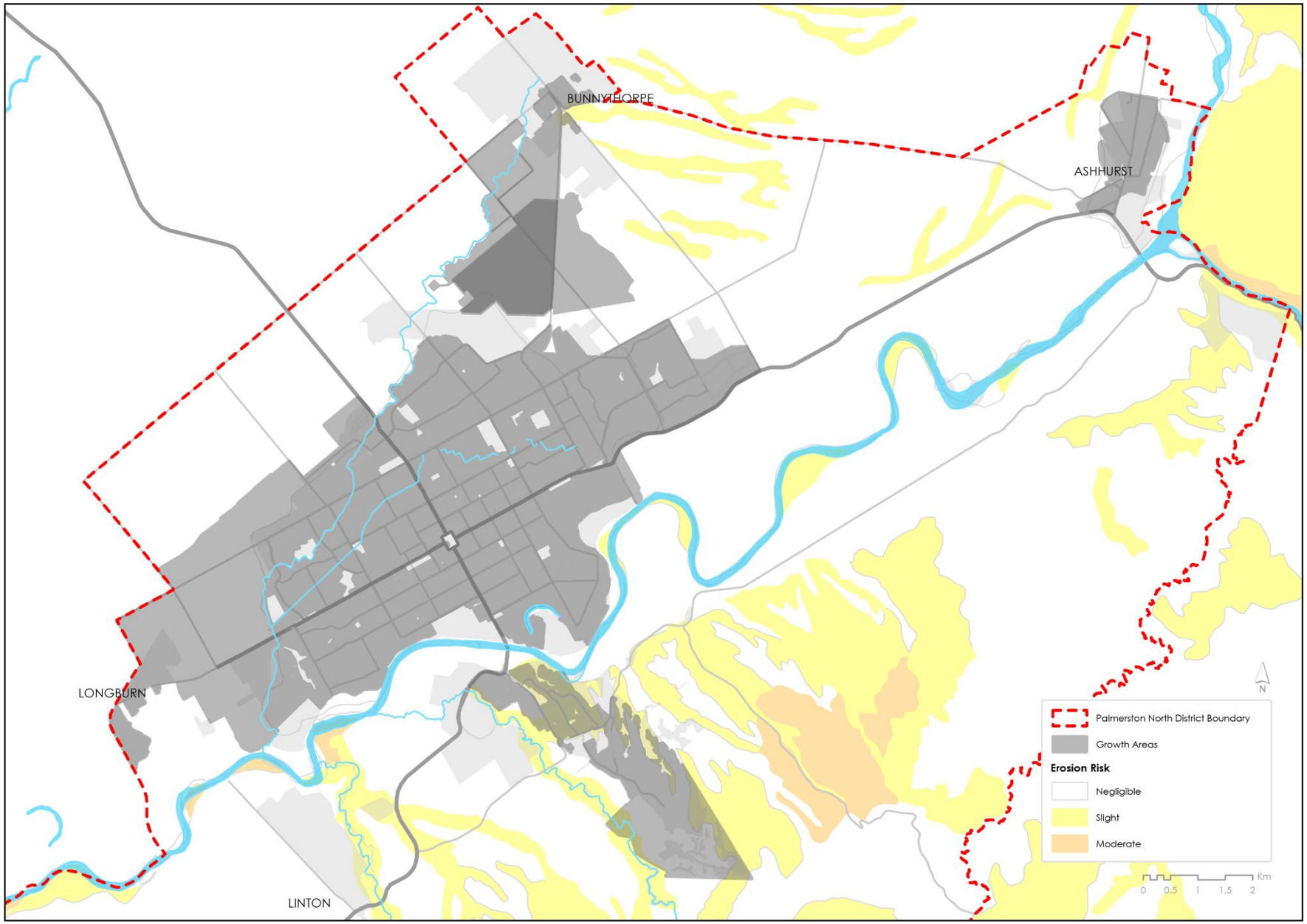


Erosion and Unstable Land

With slopes comes the risk of erosion and unstable land. This is another constraint to our growth particularly for parts of the district where gullies and slopes are present.

As shown in Map 31 the main areas of risk are Aokautere to the south. Aokautere will enable 1,000 homes over the coming years, however building setback lines, requirements for geotechnical reporting, and stormwater management are required as part of subdividing and developing this area so the risk will be managed.

Map 31: Erosion and unstable land



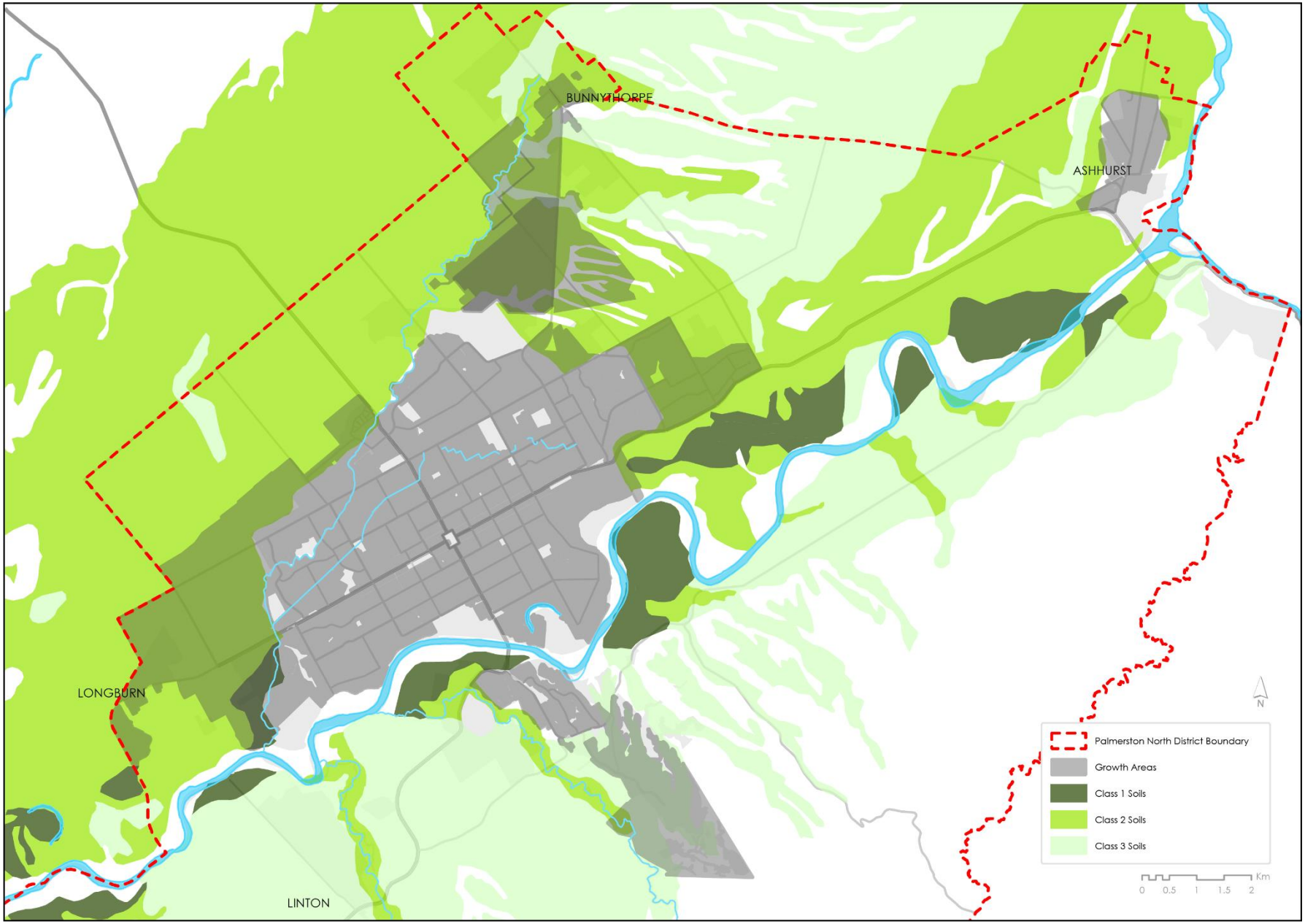
Highly productive land

Some urban growth in Aotearoa has occurred on some of our most productive land. Palmerston North is surrounded by productive land. The soils around our existing urban environments are Class 2 with some Class 1 around the Manawatū River (see Map 32).

The National Policy Statement for Highly Productive Land, released in 2022, directs new urban development away from highly productive land, where possible, to ensure the preservation of that land for food and fibre production.

Future greenfield growth areas at Aokautere, Kākātangiata, Ashhurst and Te Utanganui contain highly productive land. These areas have long been signalled for future growth to meet housing and business demand through Palmerston North's strategic planning documents. These areas are considered suitable for commencing development over the next 10 years and will represent the final extent of greenfield growth in Palmerston North. It is anticipated that there may be changes to the National Policy Statement for –Highly Productive Land under the 2023 coalition government, and this strategy will respond to any changes as necessary.

Map 32: Highly productive land



State Highway Network

NZ Transport Agency Waka Kotahi (NZTA) is responsible for the development, operation, and maintenance of the national land transport system. Its purpose is to promote an affordable, integrated, safe, responsive, and sustainable national land transport system. The state highway network is managed by NZTA, and local roads by Palmerston North City Council (with funding support from NZTA).

The state highway network is present in Palmerston North, Ashhurst, Longburn, and Linton. Urban growth in proximity to the network can result in adverse noise effects and can impact community safety, amenity, and connectedness. Growth can also increase traffic volumes and delays, travel times and trip lengths, ultimately undermining the safe and efficient operation of the state highway network.

Noise setback distances are a way in which noise effects can be managed. They differ based on the speed limits in place along the state highway. This recognises that as speed limits increase, so does noise. These setbacks are shown in Map 33 below. Required setbacks would be further investigated when they are relevant to growing near the state highway network.

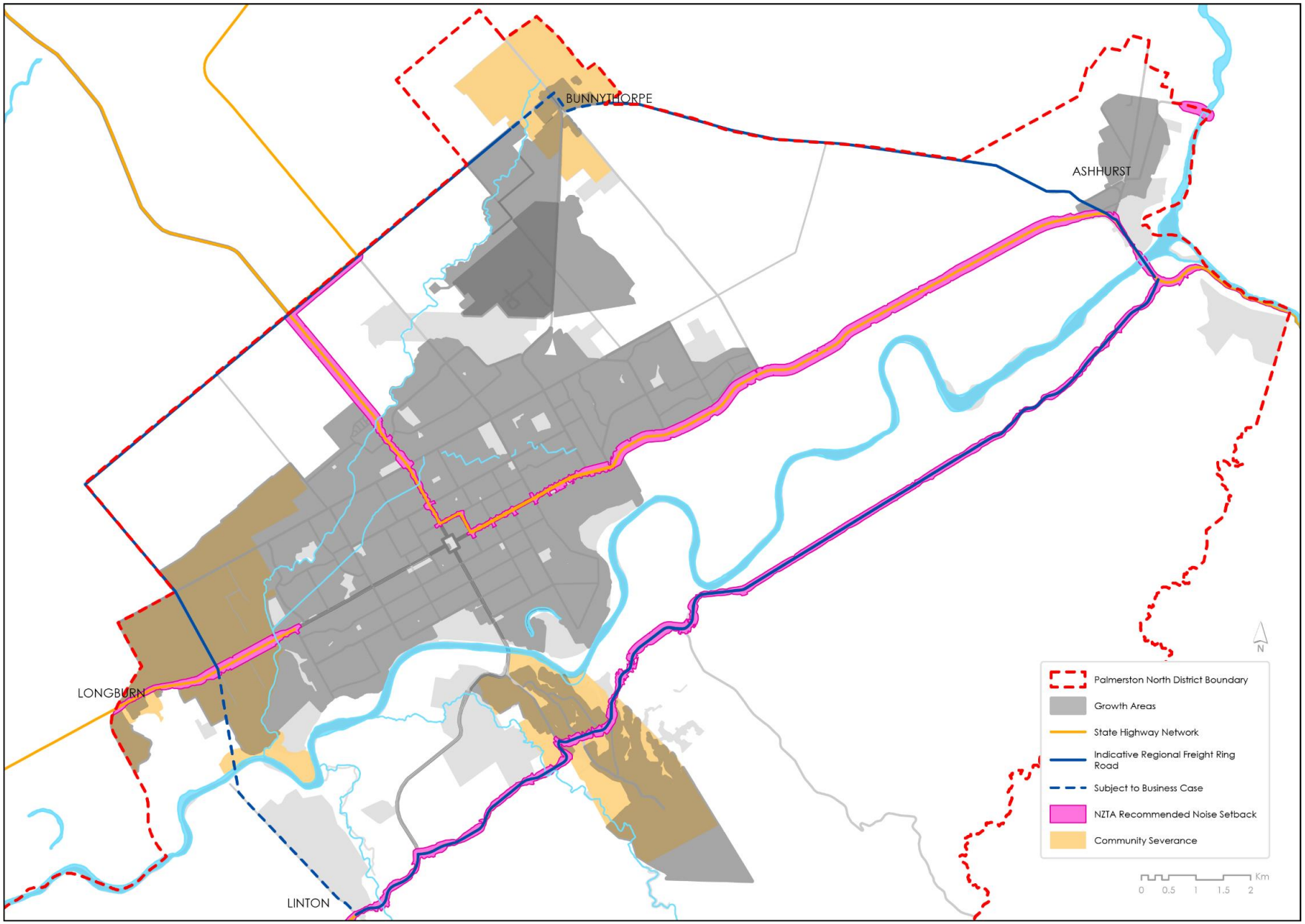
Limited-access roads are sections of the state highway network where approval from NZTA is required before any new crossing points are allowed. They are created in the interests of road user safety. Limited-access roads in Palmerston North are:

- State Highway 3 from:
  - the eastern urban edge of Palmerston North to Te Āpiti Manawatū Gorge; and
  - the northern urban edge of Palmerston North to outside of the Palmerston North district
- State Highway 54 for its entire length within the Palmerston North district
- State Highway 56 from the western urban edge of Palmerston North by Mangaone Stream, through Longburn, to outside of the Palmerston North district
- State Highway 57 from:
  - the intersection of Petersens Road to Orrs Road
  - near the intersection of Gardiners Road to Te Āpiti Manawatū Gorge
  - the intersection of Tennent Drive with State Highway 57, through Longburn, to outside of the Palmerston North district.

The restricted access roads traverse Kākātangiata and adjoin the already zoned Kikiwhenua, Whakarongo and Napier Road Extension residential areas. For the already zoned land the restricted access constraint has been worked into the areas' structure plans and performance standards in the District Plan. For Kākātangiata we will work through the restricted access road constraint as part of preparing the structure plan and plan change for the area.

The future state of the state highway network is set to change as a result of PNITI. The improvements associated with the initiative are shown in the additional infrastructure section (page 61, and Map 19 - 21). In the long-term we anticipate that the current state highway network in the district will be replaced by the Manawatū Regional Freight Ring Road and urban sections of the current network, for instance State Highways 3 and 56, will have their state highway status revoked. The potential effect of noise setbacks from the Manawatū Regional Freight Ring Road are undetermined at this stage until the speeds and alignment are confirmed in a future business case. In the planning with the Bunnythorpe Community and business case of the Manawatū Regional Freight Ring Road, concerns around village severance will be taken into account.

Map 33: State highway network



Rail network

The North Island Main Trunk (NIMT) and Palmerston North to Gisborne lines run through Palmerston North, Bunnythorpe, Ashhurst, and Longburn. The KiwiRail Regional Freight Hub is also being developed in the North East Industrial Zone and Te Utanganui Masterplan area. Currently their yards are located on Tremaine Avenue.

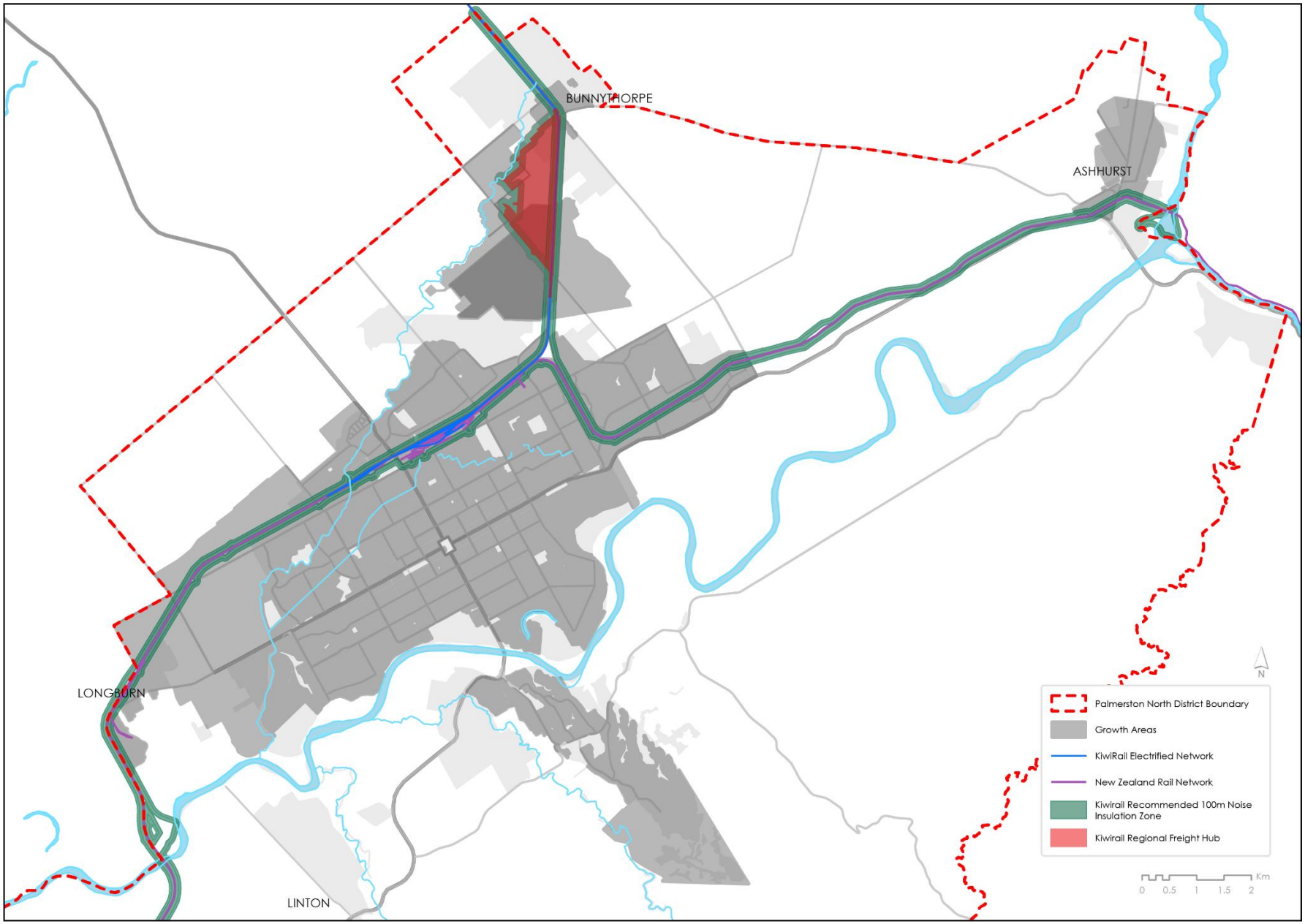
The rail network is critical to the safe and efficient movement of freight and passengers within and through the region and forms an essential part of the national supply chain network. We need to both protect and enable railway operations and protect the health and safety of our communities, so when urban development occurs nearby, we ensure that we do not compromise liveability.

To manage the operational and development interface, KiwiRail recommends that specific development controls should apply within 100 metres of the railway corridor. Buildings should be set back 5 metres from the railway corridor to permit safe maintenance. Within 100 metres they recommend acoustic insulation requirements for all new and altered noise sensitive activities and that a vibration alert be provided to 60 metres from the railway corridor boundary. These setbacks are shown in Map 34 below. We would consider these when providing for growth in proximity to the railway network.

The NIMT is electrified between Hamilton and Palmerston North, but the balance to Waikanae is not. Neither is the Palmerston North to Gisborne Line. Full electrification of these lines will reduce the noise effects for adjacent development. KiwiRail has a strong preference for reducing the number of level crossings over time to reduce crash risk. The approach to new rail crossings signalled in growth areas such as in Kākātangiata, Whakarongo, and Te Utanganui will require collaboration with KiwiRail and the community to ensure safety for road users and rail activity.

Electrification of the rail lines through the district will increase the amount of overhead clearance required to accommodate electric rail transmission lines, which will likely put pressure on the cost of development infrastructure for overbridges.

Map 34: Rail network



National Grid

A significant resource management issue in Palmerston North and across New Zealand is inappropriate development, land use and subdivision in close proximity to the National Grid, which can compromise its operation, maintenance, development

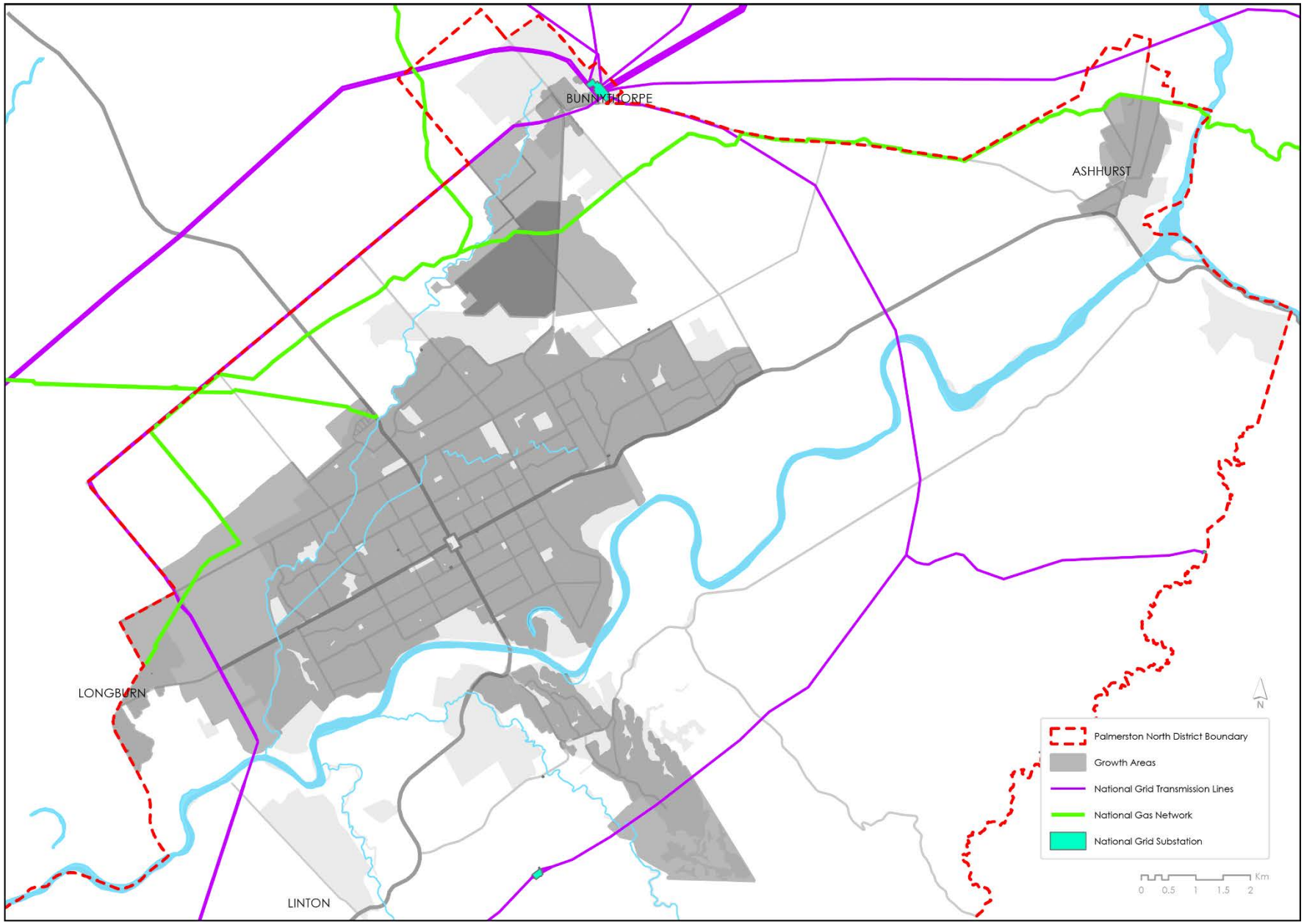
Under the National Policy on Electricity Transmission 2008 (NPSET), policies and plans must include provisions to protect the National Grid from other activities.

Specifically, the NPSET requires that district plans include a buffer corridor around National Grid lines within which “sensitive” activities such as schools, homes, or hospitals should be prevented from being too close to the National Grid.

The three primary reasons for restricting activities within the buffer corridor are electrical risk; annoyance caused by transmission lines; and restrictions on the ability for Transpower to access, maintain, upgrade and develop the lines, as well as compromising the assets themselves.

The District Plan includes rules that regulate activities and use within a National Grid Yard (10-12m from the centreline of a transmission line) and a wider National Grid Subdivision Corridor. As such, the National Grid has been identified as a constraint in assessing growth potential within this strategy and would be factored into housing and business growth at Kākātangiata, Aokautere, and Te Utanganui.The national gas network is shown on Map 37. The national gas line intersects the Te Utanganui, Mātangi, and Kākātangiata growth areas. Setbacks and structure plan design is used to avoid impacts and access needs for the national gas network.

Map 35: National Grid



Local Power and Gas Network

Powerco supplies power and gas to our communities. We will need to make sure Powerco can meet our future energy and gas needs and that our growth does not undermine their ability to develop, operate and maintain the networks that deliver our power and gas.

Our growth plan will need to manage the interface with the electricity networks so that our communities are safe and amenity effects are avoided where necessary. We will also need to ensure our growth plans are clear so that, if required, upgrades or network expansion, can occur at the right time so supply is ready to meet demand.

There are two main constraints associated with the local power and gas network:

- development setback requirements for operational, safety and amenity reasons
- capacity of the networks to meet supply demands on time

To manage the interface between development and Powerco's electricity network, safe setback standards within the New Zealand Electrical Code of Practice for Electrical Safe Distances 2001 are required as follows:

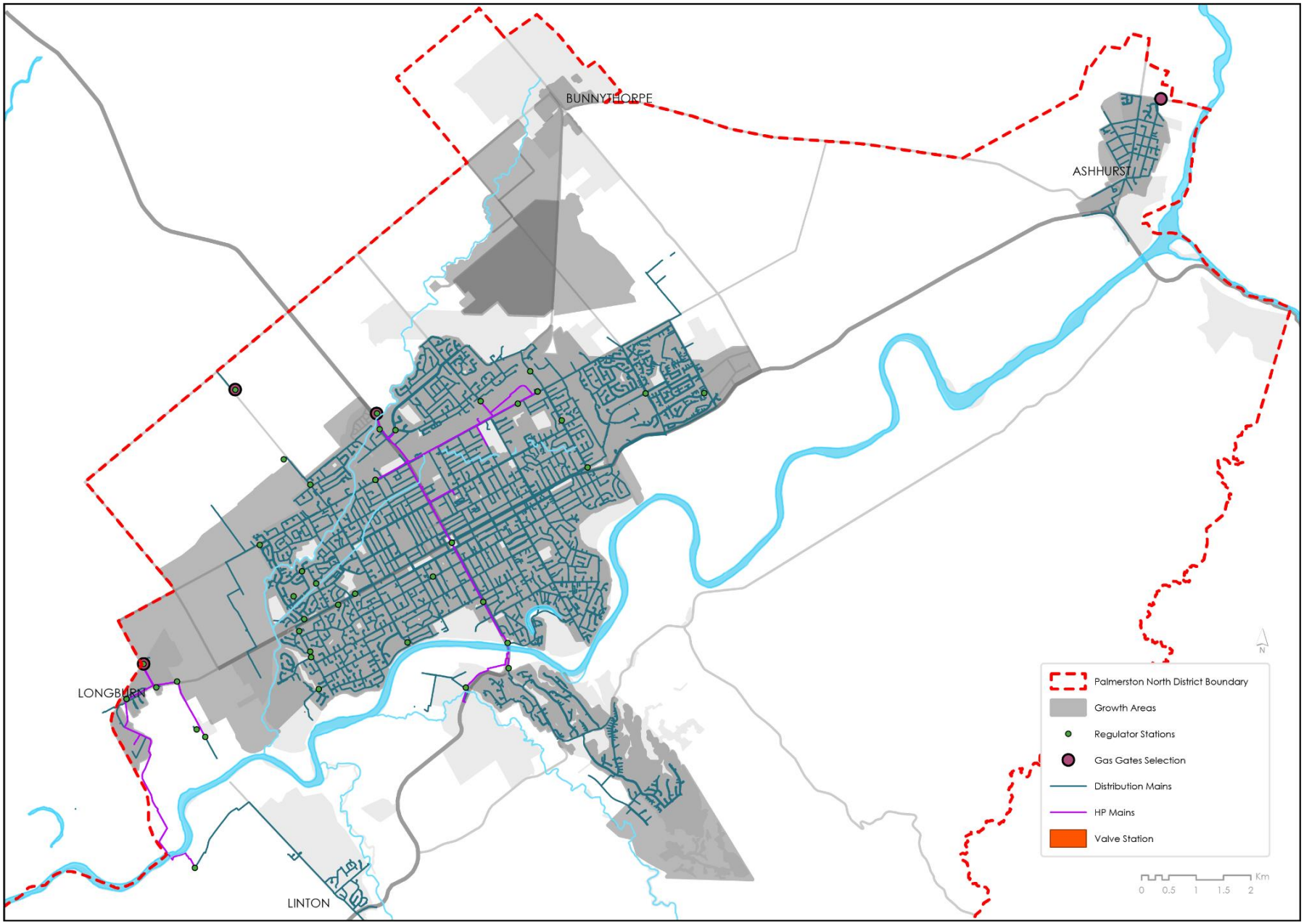
Circuit Voltage	Setback
415V	6.5 metres
11kV	8 metres
33kV	12 metres

These setbacks would be a factor in all the growth areas given the presence of these circuits as shown in Map 36 below however they are likely to be factored in at the development planning stage.

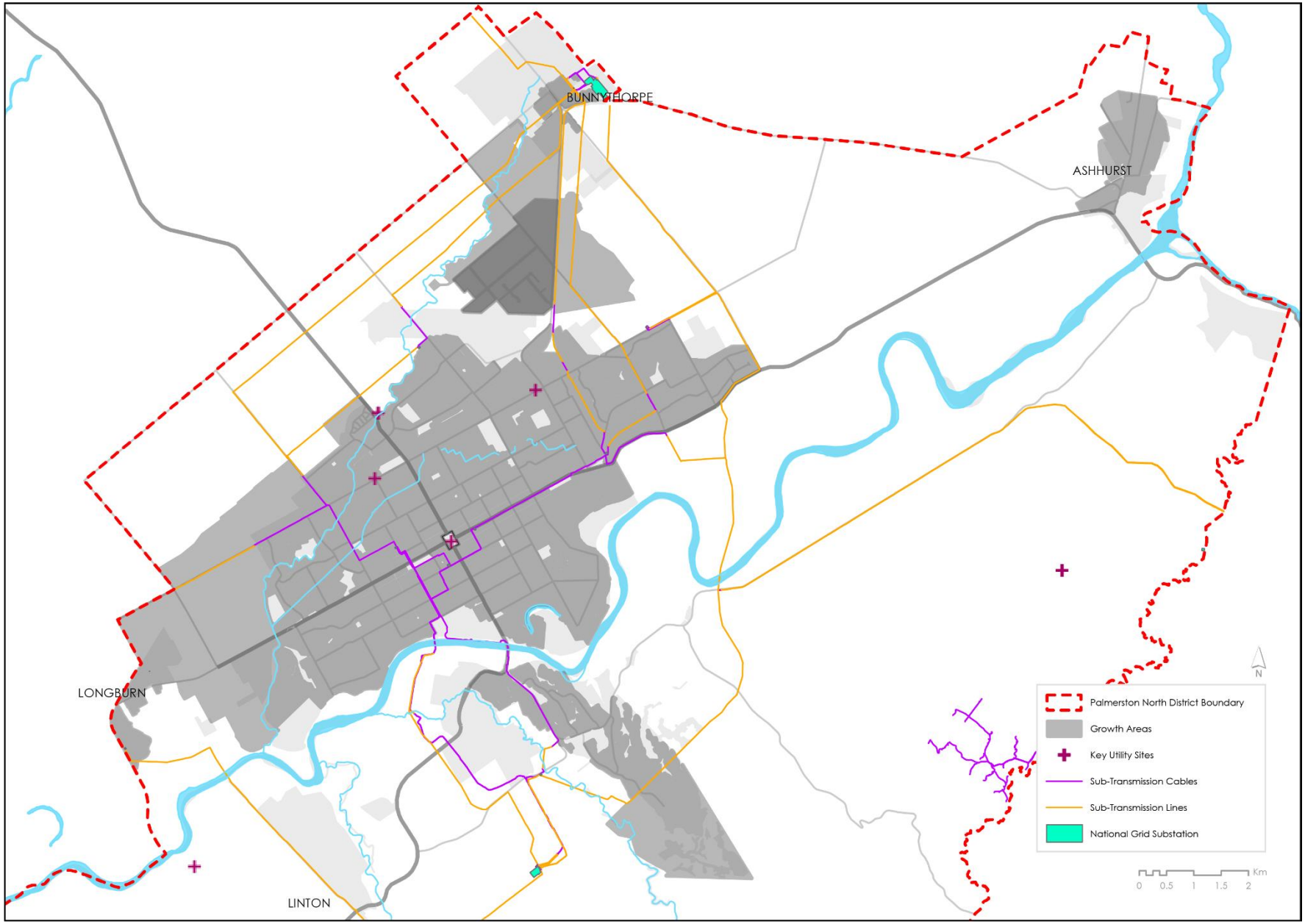
The full suite of upgrades to, and expansion of, the electricity network to supply growth areas are not yet fully known. Development stage timeframes and load requirements are not yet fully known but are required to ensure supply expectations are met. We will continue to work with Powerco on timing as we implement this Strategy.

As for gas, Powerco have stated aside from the network upgrade in 2031, constraints on supply from increased demand can be dealt with through monitoring and pressure increase projects if demand for supply increases in line with population growth projections.

Map 36: Local gas network



Map 37: Local electricity distribution network (Powerco)



Telecommunications Network

Chorus maintains, operates and develops a cable and duct network to provide internet connectivity to customers within Palmerston North and the villages.

Constraints associated with capacity and future demand, largely overcome by either installation of additional capacity, or transfer of demand to another exchange.

Other constraints Chorus has identified mostly result from the incomplete identification of future growth areas, and not installing fibre infrastructure at the right time. If fibre infrastructure is not installed at the time of subdivision, installing fibre optic cables in newly created roads, footpaths and berms will result in unnecessary and disruptive construction activities as well increased costs to the end user. The most appropriate time for fibre infrastructure to be installed for new developments is at the time of subdivision, alongside other essential services. We will continue to ensure that as subdivision development occurs, this infrastructure is part of the suite of essential services required.

If the extent of the future growth areas is not clearly identified, this could constrain development or result in over-build of routes through recently completed developments. This Strategy sets out the extent of our future growth areas over the next 30 years. We will keep in touch with Chorus and communicate any changes across the life of the Strategy.

Airport noise and take-off zones

The Palmerston North Airport is a strategic gateway that enables air travel and freight transport in and out of Palmerston North. To enable the ongoing 24/7 operation of the airport and protect the health and safety of our community, three air noise zones and take-off surface protections are in place (see Map 38).

These zones and surface protections restrict urban growth to protect residential noise sensitivity and airport operations. The contours and surface protections restrict development, or in most cases require sound insulation or reduced building heights to allow the airport to operate unimpeded.

There are three different zones, each having different requirements for development. The zones affect portions of our *growing up* housing and industrial areas and *growing out* industrial area (the North East Industrial Zone Extension Area). For *growing up* housing in the outer and inner noise zone, homes must be constructed to comply with noise insulation requirements. Housing or any other noise sensitive activities are prohibited within the air noise zone (approximately 17 residential zone properties are affected by this, two of which are undeveloped). For *growing up* and *out* industrial areas, office activities need to meet noise insulation requirements and development of noise sensitive activities is prohibited. We do not expect these prohibited activities to establish in the industrial zones though.

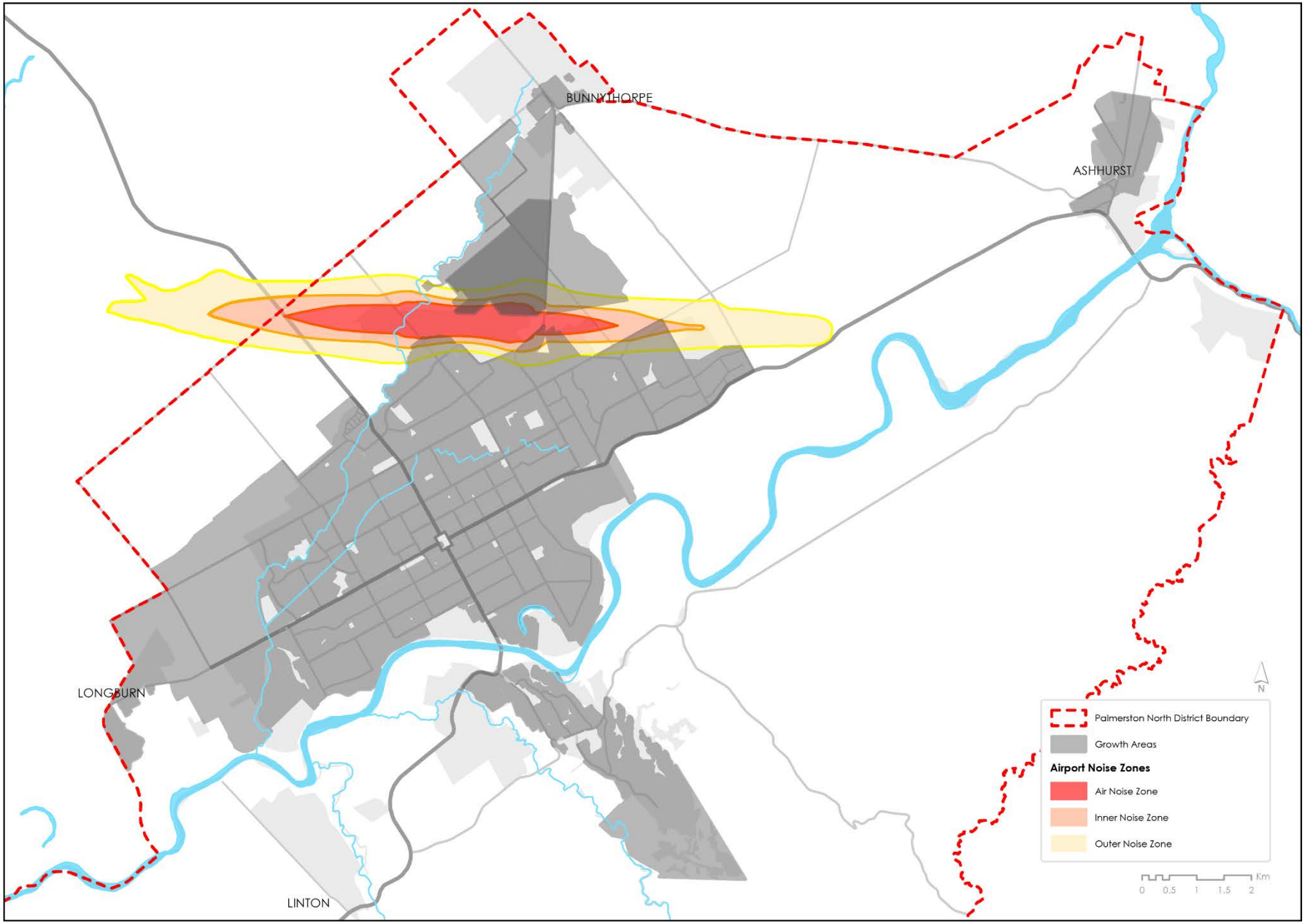
Building height limits are in place for the take-off and approach surface protections. These limits generally increase the further away you get from the airport runway. These surface protections largely affect residential zoned land where we do not expect heights to be exceeded.

In addition to the above controls, the airport has also designated land outside of the airport for two reasons:

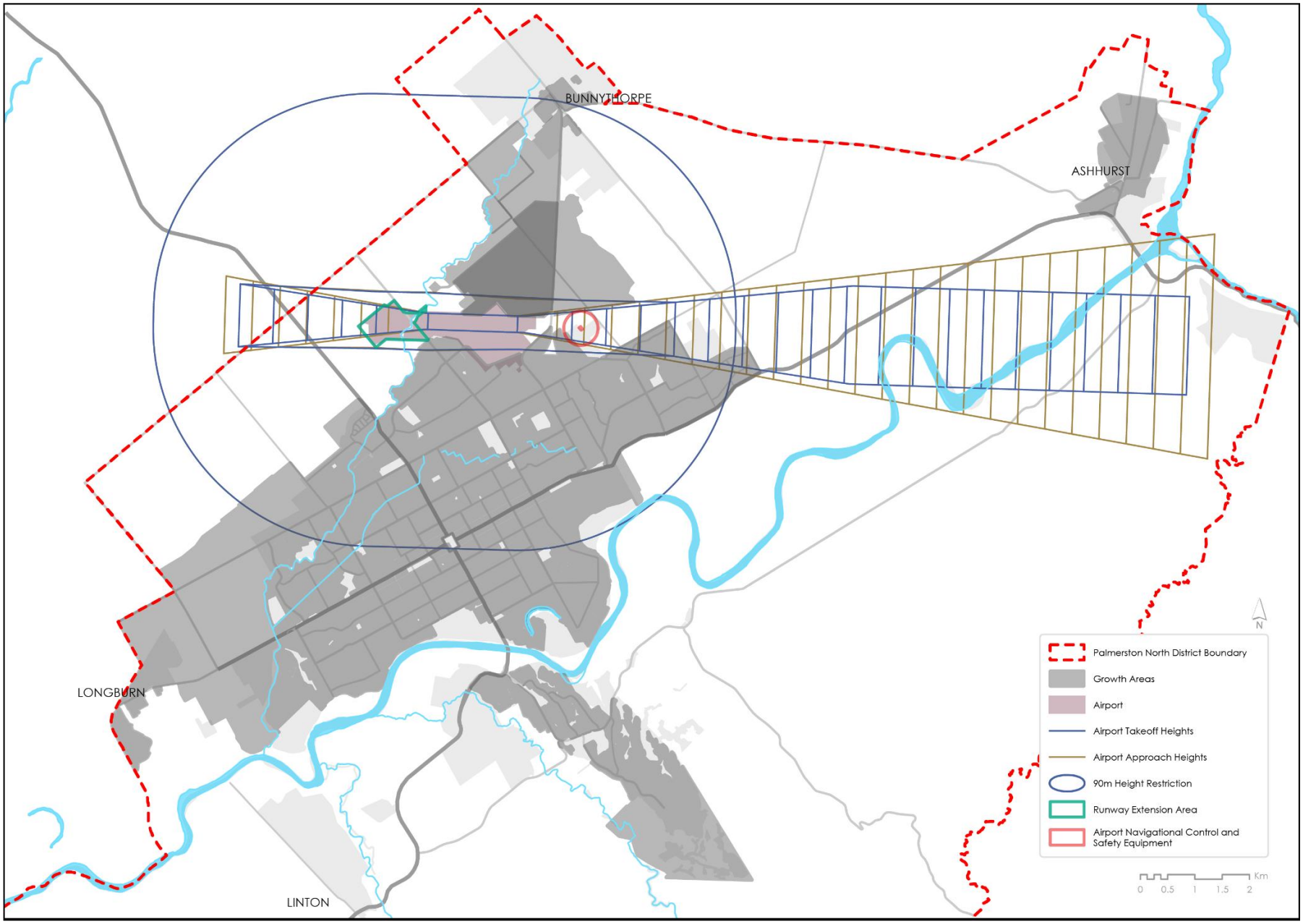
- one to the west of the runway to provide for a future runway extension, and
- one to the east to protect the operation of their Air Navigation Aid, which assist designating clear and consistent flight paths.

Map 39 shows the extent of these designations. Any activities within the designated areas are largely restricted. None of our growth areas are within the designated future runway extension. However, there is a small portion of industrial zoned land (approximately 7,640m^2) that sits inside the designation for the airport's safety and navigational control and safety equipment. Any buildings or vegetation within this area have a height restriction on them and will need to get approval from the airport to exceed this. Generally, this restriction is 13.3 metres high.

Map 38: Airport noise protection zone



Map 39: Areas where airport take-off and approach height restrictions apply



Landscape and ecological features

The variety of landscapes across the city create unique challenges for growth. The terrain, waterways, and biodiversity sites that are present in these areas can limit options for urban development, but also provide opportunities to enhance the identity of the city through cultural, recreational, ecological, and stormwater features.

The city is characterised by the following types of landscapes:

- The Manawatū plains which typically encompass the core urban extent of the city and northern and eastern villages
- The Manawatū River and its associated flats
- Valleys and hill slopes that characterise the Aokautere/Kahuterawa/Pahiatua Track area
- The upper Tararua catchment

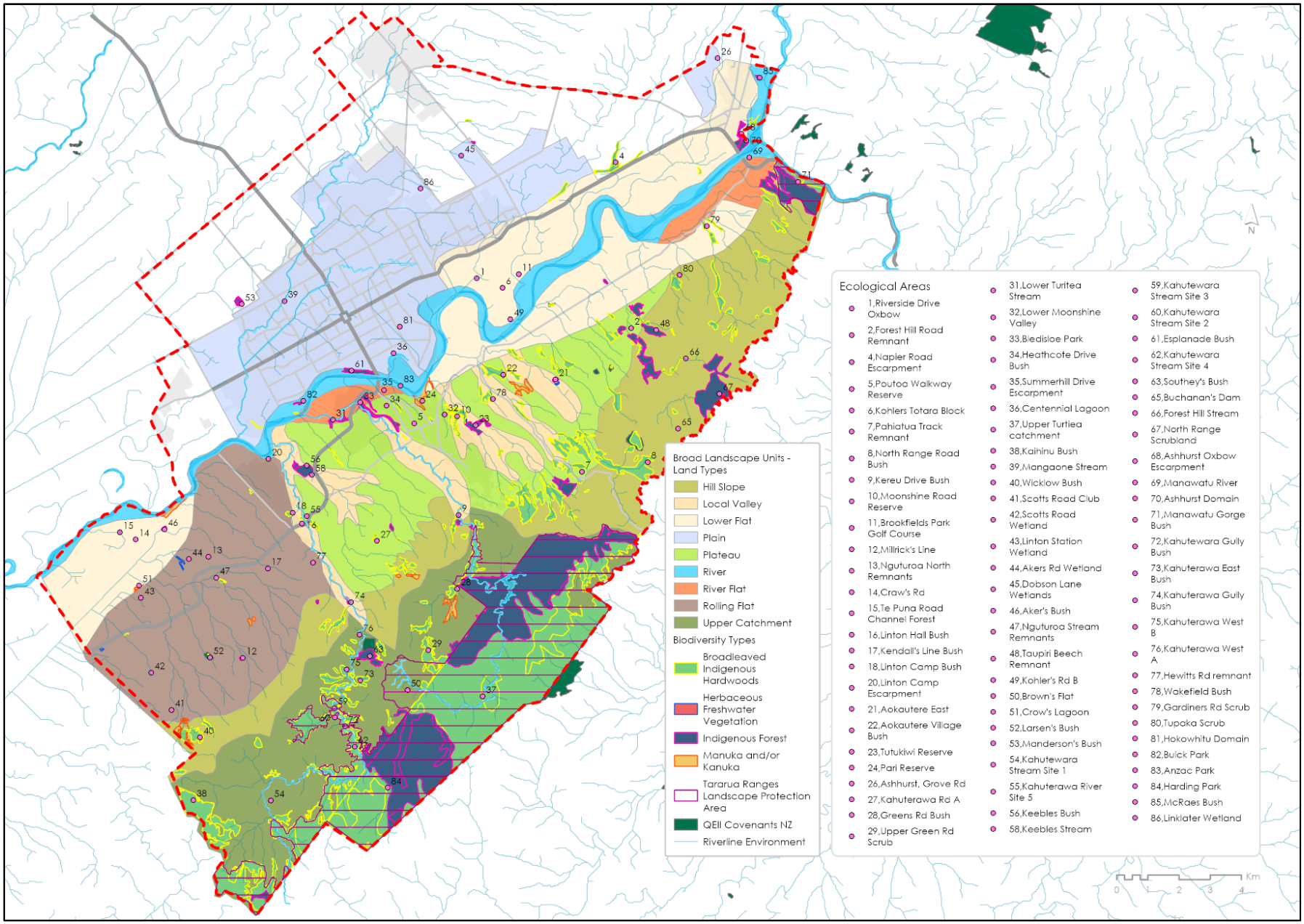
The Palmerston North Landscape Inventory 2011 categorised the city into these landscape units. Each landscape unit has a variety of natural processes that have influenced the formation of bush areas, wetlands, and streams. These landscapes also coincide to a broader extent with the level of stormwater inundation (Map 26-28), liquefaction risk (Map 30), and flood risk (Map 29).

Map 40 shows the variety of landscapes in the city and known ecological features in each area. Technical assessments that investigate the feasibility of zoning land for housing and business will need to take these landscape and ecological features into account.

Key direction on how the city acknowledges and enhances landscape and ecological features is provided for through:

- The National Policy Statement for Freshwater Management, which acknowledges the mauri and life-supporting nature of water and the balance required between water, the wider environment and the community, and
- The National Policy Statement for Indigenous Biodiversity, which prioritises the intrinsic value of indigenous biodiversity and recognises people's relationships with biodiversity.
- The Horizons Regional Council One Plan (Regional Policy Statement and Regional Plan), which provides direction associated with protection of indigenous biodiversity through objectives, policies and rules.

Map 40: Landscapes and Ecological Features



Sensitive industries and activities

There are a variety of industries and activities in the city that could be compromised if housing is established too close to them. Reverse sensitivity risk is the effect of new land-uses (often housing) being established too close to existing industries and activities, creating neighbourhoods where nuisances and complaints may restrict the existing activity.

Reverse sensitivity risk is separately described for rural-residential activity, the state highway network, the rail corridor, national and local power and gas networks, and the airport separately in this section. Map 41 below shows the variety of industries and activities across the city that may create noise, landscape or odour effects, such as:

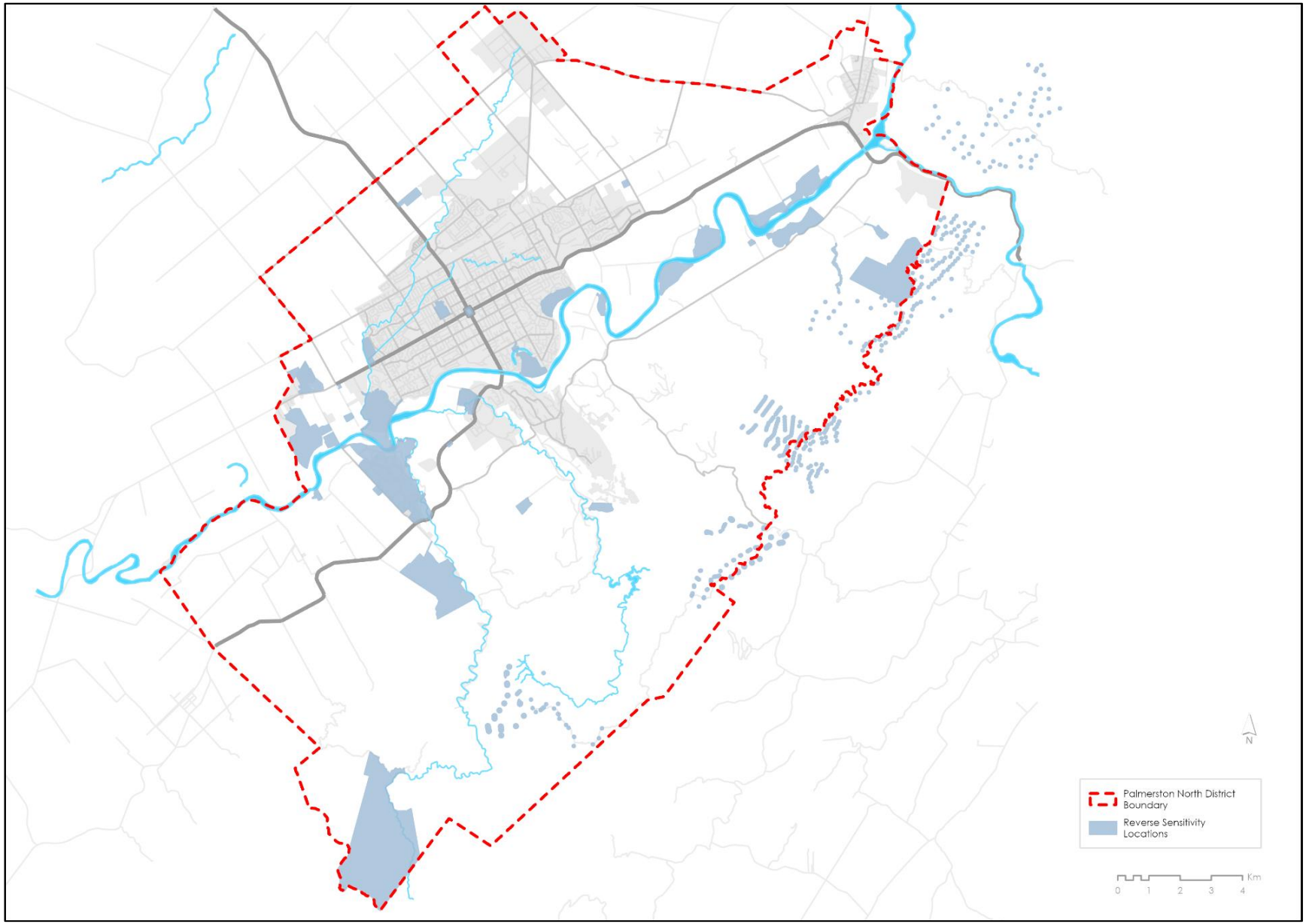
- The Grasslands Research Centre
- Fonterra's Longburn manufacturing site and irrigation farms
- Wind farms in the district
- The resource recovery centre and wastewater treatment plant
- Golf clubs
- Awapuni and Harness Racing Club Racecourses
- Established quarries
- Linton Army Camp
- The Central Energy Trust Arena
- The Manawatū Rifle Rod and Gun Club
- KartSport Manawatū
- New Zealand Pharmaceuticals
- Rurally based industries such as Blackleys Construction, Ware Transport, and C-Dax Systems
- The Tiritea and Ashhurst Sawmills

Some of these activities are already protected from reverse sensitivity effects in the District Plan. Others create possible limitations to the extent of housing growth in particular parts of the city. These risks can be managed through setbacks, insulation requirements on new homes, or avoiding further development in certain areas.

Greenfield growth areas such as Kākātangiata and Aokautere need to be carefully planned to avoid locating growth too close to incompatible activities. Increased density in the city needs to be planned in a way that doesn't put residents at risk of noise-generating activities. For instance, noise insulation is required for new residential development in the business zones to ensure that inner city living can coexist with hospitality and entertainment venues.

We anticipate that the resource consent for Nature Calls, the city's future wastewater treatment upgrade, will be completed in time to inform the review of the Future Development Strategy in 2027. Future growth in the Kākātangiata growth area will factor in reverse sensitivity risk associated with possible land wastewater discharge sites to the western boundary of the city

Map 41: Sensitive Industries and Activities



Summary – Our constraints

The table below sets out a summary of our constraints to development and a description of how we will manage them.

Table 3: Summary of constraints on development and how we will manage them

Constraint	Summary of constraint	How we will manage constraints
Affordability and funding of growth	Funding of particular growth areas is subject to securing alternative funding mechanisms. Funding of PNITI programmes is also subject to securing funding.	Palmerston North city Council has scheduled funding in its 2024-2034 Long Term Plan and correlating growth programmes in its Development Contributions Policy The City Council expects to unlock alternative funding mechanisms in the interim years between now and when growth is scheduled to occur. We will keep an eye on progress throughout the course of this Strategy and if necessary, review growth areas timings in accordance with the latest information when we review the Strategy in 3 years.
Rural-residential development	Rural-residential development has resulted in fragmented land in growth areas and set community expectations for these areas to be rural-residential in nature. This undermines growth planning and makes growth areas more costly and difficult to plan. Furthermore, it results in rural-residential development outside of our rural-residential overlay where we have found there is sufficient capacity to meet demand.	We will continue to implement our objectives and policies and national policy on this issue, which is to protect future growth areas from fragmentation and protect highly productive land from fragmentation.
Stormwater ponding and overland flows	Large areas of existing urban environment are affected by stormwater ponding and overland flows. This constraint varies from higher development costs to mitigate risk, to restricting density options, to precluding development entirely.	A Stormwater Management Strategy is required to better understand our stormwater constraints. The City Council will likely need to change its District Plan to introduce permeable surface controls, stormwater management overlays, and other stormwater related performance standards for development in the city. Investigations undertaken as part of the Stormwater Strategy may result in the extent of the existing urban environment that

Constraint	Summary of constraint	How we will manage constraints
		could 'grow up' being affected. We will respond to this through the next review of the Strategy in 2027.
Flood prone areas	Flood prone areas in the city precludes development except for exceptional circumstances where site specific solutions can work.	Most of our growth areas are not affected by flood prone areas. Existing direction in the District Plan is well placed to manage this constraint. As we get into technical investigations to support the plan changes for Kākātangiata and Te Utanganui we will know more about how flood prone areas can be managed.
Flood protection structures	Flood protection structures enable urban growth within protection areas, but limits areas of growth, particularly Ashhurst, where upgrades or new flood protection structures are required.	Most of our growth areas are not constrained by flood protection structures with the exception of the Ashhurst Urban Growth Areas, which we know are likely to require protection upgrades to enable growth. We will continue to investigate the upgrades required together as part of preparing to rezone the Ashhurst Urban Growth Areas.
Liquefaction and active faults	Areas subject to higher liquefaction risk means higher cost to ensure development and infrastructure foundations are adequately protected from liquefaction risk.	As we get into technical investigations to support the plan changes for Kākātangiata and Te Utanganui we will know more about the liquefaction risk and associated mitigation to manage this constraint.
Erosion and unstable land	Areas particularly to the south of the city centre (in particular the Aokautere area with presence of gully networks) have erosion risk. This precludes development in some areas and requires development setbacks.	This constraint is managed through development setbacks and geotechnical reporting requirements. These controls have been included in the Aokautere growth area provisions, and subject to approval will manage this constraint.
Highly productive land	Highly productive land is present around the city and villages. This precludes growth areas that have not been identified in either a Future Development Strategy or other strategic document as suitable for commencing development in the next 10 years unless demand for that land use is unlikely to be met.	Our identified growth areas have long been signalled in Palmerston North City Council's strategic documents and are considered suitable for commencing development in the next 10 years. This is not a relevant constraint to our growth plan unless growth areas' development does not commence in the next 10 years. We will keep an eye on this as alternative funding mechanisms are explored or as amendments to the National Policy Statement for Highly Productive Land come into force.

Constraint	Summary of constraint	How we will manage constraints
State Highway network	The State Highway network has development setback requirements for health, safety and operational reasons. Changing state over time is likely to affect these setback requirements. Funding and implementation of PNITI is required to ensure well-functioning urban environment is achieved.	With the presence of the State Highway network in proximity to our growing up and out areas, we will assess setback requirements as land is rezoned in proximity to the State Highway network. The restricted access road status of State Highway 56 will also be worked through via the plan change process for Kākātangiata. Existing District Plan provisions address the constraint associated with State Highway 3 being a restricted access road. We will continue to progress PNITI to ensure a well-functioning urban environment is achieved and our growth plans can be realised.
Railway network	Where the railway network is present, development setback requirements for health, safety and operational reasons are recommended by KiwiRail.	We will assess setback requirements as land is rezoned in proximity to the railway network, particularly as part of rezoning Kākātangiata.
National Grid	Inappropriate development, land use and subdivision in close proximity to the National Grid can compromise its operation and development.	Our growth areas are largely removed from the National Grid, with the exception of Aokautere and Kākātangiata. We will assess setback requirements as land is rezoned in proximity to the National Grid.
Local power and gas network	Development setback requirements for health, safety and operational reasons. Constraints if upgrades are not undertaken to meet demand on supply of electricity and gas.	We will continue to work with Powerco on timing of growth areas as we implement this Strategy. Setback requirements will continue to be factored into development via existing standards namely Electrical Codes of Practice.
Telecommunications network	Telecommunications network will not be available if fibre infrastructure is not installed at subdivision stage.	We will continue to ensure that as subdivision development occurs, this infrastructure is part of the suite of essential services required. Existing definitions in the District Plan support this.
Airport noise and height protection zones	Restricts heights and location of some urban development to protect health, safety and the airport's operations.	We will continue to enforce the City's existing District Plan approach, which protects the airport's operational needs and protects our community's health and safety. The development controls are largely immaterial to our growth plan except for

Constraint	Summary of constraint	How we will manage constraints
		some discrete areas where if development was proposed, the existing planning framework could manage this.
Landscape features	Development and infrastructure more difficult or costly to provide for. Protection of certain landscape features may limit options for creating connected and coordinated urban development. May provide greater ecological, cultural, recreational, and stormwater opportunities.	We will identify these landscape features when investigating rezoning and use stormwater design, buffer areas, and structure plan design to respond to these appropriately.
Sensitive industries and activities	Increased complaints and health risks associated with developing new homes close to noise or nuisance-generating activities.	We will explore buffer areas, noise insulation requirements, or transitional rules to manage development in proximity to sensitive activities.

Appendix 2: Our growth, demand, capacity

Our most recent Housing and Business Development Capacity Assessment (the Assessment) was published in 2023. In March 2024 the Assessment was updated to account for an error in our population projection model[9].

This section summarises information from the Assessment on growth projections for the next 30 years, projected demand, and development capacity assessed as plan-enabled, infrastructure-ready, and commercially feasible and likely to be realised.

Growth projections for the next 30 years

Population[10]

Over the next 30 years, the population of Palmerston North district is projected to increase by 24.7%, from 94,400 residents in 2023 to 117,695 in 2054.

While future projections for how this will be distributed across the district are not available, in 2022, the distribution of the district's population was as follows:

- Palmerston North City – 90%
- Ashhurst – 4%
- Bunnythorpe and Longburn – 1%
- Other rural – 5%

Age

The city's population over 65 years old is projected to increase by 75.5% between 2024 and 2054, growing from 15,178 (16% of the population) to 26,732 (22.7% of the city's population) respectively.

The second largest age group we expect to grow in the city over the next 30 years is the 40-64 age group, projected to grow by 25.9% between 2024 and 2054. This is followed by a 9.4% increase in people aged 15-39 years and a 4.4% increase in children aged 0-14.

Ethnicity

Palmerston North is becoming more diverse. By 2054:

- our Māori population will increase by 3.6%
- our Pasifika population will increase by 1.2%
- our Asian population will increase by 5.4%
- our European population will decrease by 10.2%

Households

An increasingly diverse population in terms of ethnicity and age will influence the demand for different types of homes in the city.

We are likely to need larger homes for Māori and Pasifika households who tend to prioritise multi-generational living and larger households. While we currently have an over-supply of 4-5 bedroom homes, these are mostly in

[9] The amendment resulted in slight changes to the business and industrial land demand as a result in how much our population is projected to increase changing.

[10] Palmerston North Housing and Business Development Capacity Assessment 2023 (HBA), "*Our Population*", page 30-38

the higher price range, so we expect to see an increase in the demand for affordable 4+ bedroom homes.

Our ageing residents and smaller households are likely to require smaller homes, so we also expect to see demand increase for smaller 1 – 2 bedroom homes.

The number of households is projected to grow by 24.4% over the next 30 years.

- Family households are the most significant growth component, increasing by 28.2%
- One-person households are expected to increase by 19.2%
- Other multi-person households are expected to increase by 3.0%.

The expected growth of family types between 2024-2054 is as follows:

- Two-parent families will increase by 32.2%
- Couples without children will increase by 23.6%
- One-parent families will increase by 29.2%.

Housing demand[11]

Based on the latest 2023 household and population projections[12], Palmerston North needs 9,884 homes over the next 30 years. Across the short, medium and long term we will need:

- 983 homes in the short term (within the next 3 years)
- 3,010 homes in the medium term (between 3 – 10 years)
- 5,891 homes in the long term (between 10 – 30 years)

By location

We estimate this demand will be in greenfield, existing urban environment and rural/rural-residential locations.

Our demand projections indicate demand will be 40% greenfield, 55% infill, and 5% rural/rural-residential.

In the medium term, we estimate there will be an increase in greenfield development to 50% of the total demand by location, with a corresponding decrease in infill housing to 45%. Rural and rural/residential development is expected to remain at 5%.

In the long term, the trend will continue as infrastructure-ready greenfield areas come online. Greenfield will increase further to 55%, while infill will decrease to 40%.

Across all terms, we estimate demand for rural/rural-residential locations will remain at 5% given the limited rural/rural-residential land supply available and the National Policy Statement on Highly Productive Land, which directs protection of Highly Productive Land from urban development.

Since preparing the Assessment, programmes for the Palmerston North City Council's 2024 Long Term Plan have shifted the timing of development infrastructure to signalled greenfield growth areas including Aokautere, Kākātangiata (excluding stage 1: Kikiwhenua) and Ashhurst.

Previously when there has been little greenfield land available, we have seen a shift in demand from greenfield to within our existing urban environments. Based on this, we expect demand estimated for greenfield locations is likely to be met via infill subdivisions and intensification. Conversely, with council funding shifted, developers could fund infrastructure via developer agreements with Council.

[11] HBA, *Part 1, Section 4: Housing Demand Assessment*, pg 77-90

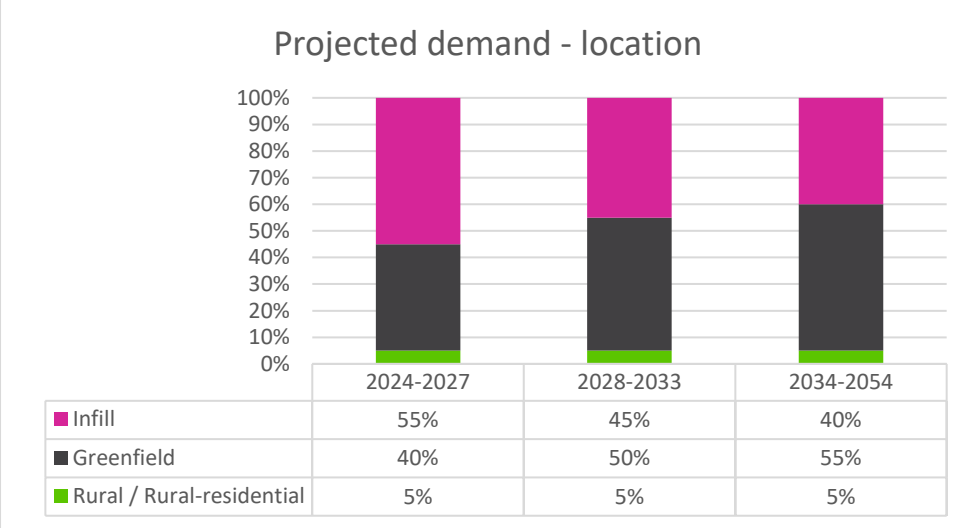
[12] Amended in March 2024 to address error in model.

Infill includes multi-unit development, retirement villages, apartments, minor dwellings, and stand-alone houses on properties within our existing urban environments.

The reduction over time in the demand for infill will reflect the increasingly limited space for infill development, however there will still be a demand for 1-2 bedroom dwellings, which will necessitate building up rather than further subdivision.

We have not estimated demand for housing in our business zones, however, there has been recent residential developments above ground floor, so this may be an emerging demand location.

Figure 3: Projected household demand by location over the short, medium and long term



	2024-2027	2028-2033	2034-2054
Infill	55%	45%	40%
Greenfield	40%	50%	55%
Rural / Rural-residential	5%	5%	5%

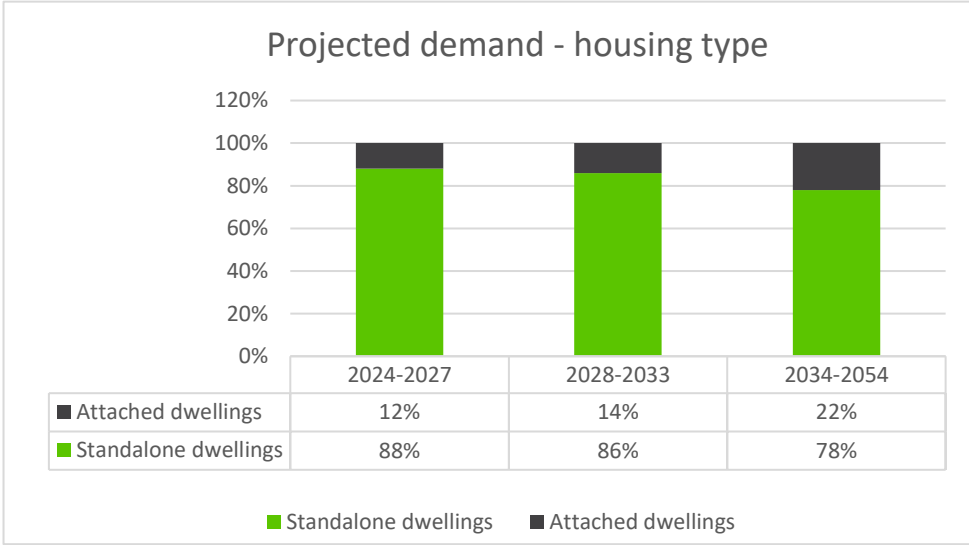
By housing type

It is expected that standalone dwellings will remain the dominant preference with a slight shift to attached dwellings over the long term.

In the short term, 88% of the demand will be for standalone dwellings, however, over the medium and long terms this will gradually decrease to 78% by 2054. The preference for attached dwellings will increase from 12% in the short term to 22% by 2054.

We think our projections for attached dwellings[13] are conservative as we projected demand off the growth rate of multi-unit housing consents, which is not the only way in which attached dwellings have been developed.

Figure 4: Projected housing demand by type over the short, medium and long term



	2024-2027	2028-2033	2034-2054
Attached dwellings	12%	14%	22%
Standalone dwellings	88%	86%	78%

[13] Attached dwellings are a type of housing where homes are connected by a common wall.

Housing Capacity[14]

The recent Assessment found that housing that is plan-enabled, infrastructure-ready[15], and commercially feasible and reasonably likely to be realised in Palmerston North was:

- 2,053 homes in the short term
- 5,757 homes in the medium term
- 10,883 homes in the long term

Of those homes, they were in the following locations:

Table 4: Housing capacity in Palmerston North 2023

	Short term | **Within the next 3 years**	Medium term | **Between 3 and 10 years**	Long term | **Between 10 and 30 years**	**Total**
Infill	1,408	3,238	3,238	7,884
Greenfield	528	2,246	6,865	9,639
Rural/Residential	117	273	780	1,170

Since preparing the Assessment the 2024 City Council Long Term Plan has shifted funding for development infrastructure for greenfield areas so the greenfield development capacity reported in the Assessment has changed. We have also done some further work to stage Kākātangiata given the findings in the Assessment relating to greenfield demand across the 30 year period.

Infill

As the current housing stock ages, we expect replacement stock to be at a higher density through the 350m^2 minimum lot size in the District Plan or multi-unit development. Significant opportunity exists with the potential capacity available in the residential zone and multi-unit housing areas.

Areas which are currently experiencing, or expected to experience, an increase in infill development are:

- The existing residential zone throughout Palmerston North and Ashhurst, Bunnythorpe, Linton and Longburn where land to capital value ratios are high
- The multi-unit housing areas in Palmerston North where land to capital value ratios are high
- Hokowhitu Lagoon Residential Area where multi-unit housing is enabled

We are also progressing plan changes, based on previous residential growth planning, including:

- Roxburgh Crescent Residential Area – rezoning of industrial land to residential, which will provide capacity for 105 homes.
- Medium Density Residential Zone – rezoning of parts of the residential zone to enable medium density housing including up to 3 homes as a permitted activity. We do not know the housing capacity this will enable yet as stormwater modelling is ongoing.

[14] HBA, *Part 1, Section 5: Housing Development Capacity Assessment* pg 91-106.

[15] See clause 3.4 of the Policy Statement for the meaning of plan-enabled and infrastructure-ready.

Greenfield

Greenfield development requires the rezoning of land, and funding and construction of development and additional infrastructure such as land transport, three waters infrastructure, and parks.

In the short to medium term, the following greenfield areas are plan-enabled for development through the District Plan:

- Mātangi Residential Area (short term)
- Kikiwhenua Residential Area (short to medium term)
- Whakarongo Residential Area (short to medium term),
- Napier Road Residential Extension Area (short to medium term)
- Aokautere Residential Area (Approximately 79 dwellings in the short term)

Based on previous residential growth planning, plan changes are being prepared for the following greenfield areas for development in the medium to long term:

- Ashhurst Growth Areas - four areas of greenfield growth providing capacity for 400 dwellings in the medium and long term,
- Aokautere Residential Area - 250 dwellings in the medium term and 700 dwellings in the long term,
- The Kākātangiata Urban Growth Area – capacity for 7,200 dwellings with some in the medium term, long term and beyond.

These areas will need development and additional infrastructure to support their development. The City Council's 2024 Long Term Plan has programmes for this. As mentioned previously, these have shifted the timing of development infrastructure for Ashhurst and Kākātangiata beyond what was understood at the time of writing the Assessment.

Based on updated building consent information and engagement with the development community, our expected growth capacity in the short and medium term has changed since the Assessment was produced (see *Table 2*). We expect to have a shortage of greenfield land over the next three years equating to 110 dwellings.

Given the acknowledged shortage of greenfield supply in the short-term, 160 Napier Road may present an opportunity to address short-term greenfield housing needs provided it meets the RMA First Schedule tests (including NPS HPL).

Rural and Rural-Residential

The rural-residential development capacity is estimated at an additional 1,964 one-hectare sections. Our rural-residential areas are in the Aokautere, Moonshine Valley, Kelvin Grove, Old West and Kahuterawa Roads, and Ashhurst areas. The City's Rural Zone surrounds our existing urban environments.

Government direction on protection of rural land for rural productive purposes restricts the amount of rural and rural-residential development that can occur. The existing rural-residential areas are therefore likely to be the final extent of rural-residential development in Palmerston North and surrounds.

Summary – Housing Demand and Capacity

Table 5: Summary of Palmerston North housing demand and capacity

	Short term | **Within the next 3 years**	Medium term | **Between 3 and 10 years**	Long term | **Between 10 and 30 years**
Homes required (9,884)	**983**	**3,010**	**5,891**
Housing capacity (9,884)	**983**	**3,010**	**5,891**
Can we meet demand?	✓	✓	✓
What's needed to enable residential development?	• Construction of programmed development infrastructure in our residential areas • Existing development infrastructure upgrades as required to support growth in our existing urban environments • Approved plan change for the Roxburgh Crescent Residential Area • Progression of plan changes at Ashhurst, Aokautere, Kākātangiata and the Medium Density Residential Zone • Funding of development infrastructure in Aokautere, Roxburgh Crescent, Kākātangiata, Ashhurst, and upgrades required as a result of the Medium Density Residential Zone.	• Approved plan changes to rezone the Aokautere, Kākātangiata, Ashhurst urban growth areas • Funding and construction of development infrastructure to support growth at Aokautere, Kākātangiata, and Ashhurst • Existing development infrastructure upgrades as required to support residential growth in our existing urban environments	• Funding and construction of development infrastructure to support development of homes in urban growth areas and existing urban environments.
Where?	• Existing urban environments residential zone (particularly Milson and Kingsgate Grove) • Multi-unit housing areas • Hokowhitu Residential Area • Roxburgh Crescent Residential Area • Napier Road Residential Extension Area • Kikiwhenua Residential Area • Whakarongo Residential Area • Mātangi Residential Area • Aokautere Residential Area	• Residential zone • Medium Density Residential Zone • Hokowhitu Residential Area • Kikiwhenua Residential Area • Whakarongo Residential Area • Mātangi Residential Area • Aokautere Residential Area • Kākātangiata urban growth area • Ashhurst urban growth areas • 160 Napier Road	• Residential Zone • Medium Density Residential Zone • Aokautere Residential Area • Kākātangiata urban growth areas • Ashhurst urban growth areas

Business demand[16]

As a result of projected population growth, the securing of Palmerston North as a freight and logistics hub, and significant capital infrastructure investment (see Section B: Setting the Scene), we expect demand for business floorspace and land[17] will increase over the next 30 years, especially in the industrial sector.

The table below shows the projected business land and floorspace demand (in hectares and m^2) from each business sector across the short, medium, and long term [18].

Table 6: Business and industrial land demand by sector over the short, medium and long term

Demand - Business Sector	Short term | **Within the next 3 years**		Medium term | **Between 3 and 10 years**		**Long term | Between 10 and 30 years**		**Total 30-year demand**	
	Floor area (m2)	*Land area (ha)*	*Floor Area (m2)*	*Land area (ha)*	*Floor area (m2)*	*Land area (ha)*	*Floor area (m2)*	*Land area (ha)*
Small & medium industrial	33,749	9.0	94,565	24.1	220,260	51.9	348,575	85.1
Large floor plate industrial	59,688	13.9	177,430	40.7	515,959	114.7	753,077	169.3
Accommodation	-	-	4,509	0.3	16,224	1.2	20,733	1.5
Small & medium retail (pedestrian-oriented retail)	-	-	-	-	45,252	3.9	45,252	3.9
Large format retail (vehicle-oriented retail)	3,457	0.6	13,272	2.4	33,640	5.7	50,369	8.7
Commercial office	-	-	-	-	33,980	0.7	33,980	0.7
Commercial services	4,081	0.8	15,891	3.2	40,405	7.5	60,377	11.5
Total	**100,974**	**24.3**	**305,667**	**70.8**	**905,722**	**185.6**	**1,312,363**	**280.7**

[16] HBA, *Part 2, Section 4: Business Land Development Capacity Assessment*, pg 138-145.

[17] Business land and floorspace refers to land and floorspace used for commercial or industrial purposes.

[18] Includes competitiveness margins

Business capacity

Business land

Business land supply is within four distinct business zones:

1. The 31.6 hectares of Inner Business Zone is intended to serve as a primary commercial and business centre of the city.
2. The 80 hectares of Outer Business Zone caters for a range of businesses that need larger areas for their activities
3. The 19.6 hectares of Fringe Business Zone provides for space extensive retail activities and large-scale activities
4. The 22.8 hectares of Local Business Zone serves the day to day needs of residents in their own neighbourhoods

There are no plans for expanding the business zones in the next 30 years aside from the Local Business Zone in the medium term, as land is rezoned to support neighbourhood centres in the Aokautere Residential Area (1.5 hectares) and Kākātangiata (3.3 hectares) Urban Growth Area.

Our business zones have sufficient capacity to support the business sector demand, particularly given the age of building stock within them. To make efficient use of our business land supply, vacant sites and buildings nearing the end of their useful life should be developed and redeveloped at more intensive rates than we have seen historically.

Industrial land

Industrial land supply is within three different zones - the Industrial (and associated subzones), Airport, North East Industrial zones.

The 370-hectare Industrial Zone (and associated subzones) is spread across Palmerston North, Longburn, Bunnythorpe and Ashhurst. 12.9 hectares of

Industrial Zone land needs development infrastructure before it will be ready for development.

The Airport Zone applies to the Palmerston North Airport and its surrounding land. 12.9 hectares of the zone, outside of the airport's operating environment, supports business and industrial use.[19]

The 188.6 hectare North East Industrial Zone is to the northeast of Palmerston North city. It is a greenfield industrial area rezoned to provide for large industrial businesses who need to access their site on a 24/7 basis. Part of the zone (78.2 hectares) requires roading and three waters infrastructure.

The Te Utanganui Masterplan identifies ~176 hectares of greenfield land for rezoning to North East Industrial Zone to support the growth of logistics and freight industries near KiwiRail's Regional Freight Hub. The rezoning is proposed in two stages – 26 hectares in the short term and 150 hectares in the medium term. Four sites have the opportunity to add an additional 27 hectares in the medium term if flood, geotechnical, and highly productive land constraints are managed.

We have historic pockets of Industrial Zone, such as Roxburgh Crescent, within predominantly residential areas. Industry activity can often conflict with residential use, and it makes sense to rezone these areas from industrial and consolidate the Industrial Zone to avoid this. Removal of these pockets will either result in more intensive development of the remaining Industrial Zone or we will need more land to offset it.

The 33.5 hectare Braeburn Industrial Area, at the edge of Longburn and Kākātangiata, is currently restricted to dairy-related industries only. Once the KiwiRail Regional Freight Hub is operating the Tremaine Avenue yards may also become available for industrial use. Development of vacant land and redevelopment within the industrial land supply, and greenfield growth as shown in the Te Utanganui Masterplan will ensure we have sufficient capacity to meet demand.

[19] The full range of possible options for the Tremaine Avenue yards remain yet to be fully investigated.

Summary – Business demand and capacity

Table 7: Summary of Palmerston North business/industrial land demand and capacity

	Short term | **Within the next 3 years**	Medium term | **Between 3 and 10 years**	Long term | **Between 10 and 30 years**
Sites required (Hectares) [20]	**24.3**	**70.8**	**185.6**
Capacity (Hectares)	**635.4**	**166.2**	**130.2**
Can we meet demand?	✓	✓	✓
What's needed to enable business development?	• Vacant sites and buildings nearing the end of their useful life to be developed and redeveloped at high intensity	• Vacant sites and buildings nearing the end of their useful life to be developed and redeveloped at high intensity • Development of local business zones	• Vacant sites and buildings nearing the end of their useful life to be developed and redeveloped at high intensity • Development of local business zones
Where?	• Existing business areas	• Existing business areas • Aokautere • Kākātangiata	• Existing business areas • Aokautere • Kākātangiata
What's needed to enable industrial development?	• Vacant sites and buildings nearing the end of their useful life to be developed and redeveloped at high intensity • Development infrastructure for North East Industrial Zone • Existing development infrastructure upgrades • Progressing PNITI	• Vacant sites and buildings nearing the end of their useful life to be developed and redeveloped at high intensity • Development infrastructure for North East Industrial Zone and Te Utanganui • Existing development infrastructure upgrades • Progressing PNITI	• Vacant sites and buildings nearing the end of their useful life to be developed and redeveloped at high intensity • Development infrastructure for Te Utanganui • Existing development infrastructure upgrades • Progressing PNITI
Where?	• Existing industrial areas • Te Utanganui – 4 hectares of Stage 1	• Existing industrial areas • Te Utanganui – 22 hectares of Stage 1 and 23 hectares of Stage 2 • Bunnythorpe Business Park – 20 hectares • 129 Richardsons Line – 1.6 hectares • 813 and 815 Roberts Line – 5.5 hectares	• Existing industrial areas • Te Utanganui – 127 hectares of Stage 2

[20] Includes competitiveness margins of 20% in the short term and medium term, and 15% in the long term

Appendix 3: Our Growth Scenarios

Growth scenarios

We have considered the advantages and disadvantages of four possible future growth scenarios for Palmerston North. They are:

1. Growing up – providing for growth through intensification in our existing urban environment only
2. Growing out – providing for growth in greenfield areas only (including Mātangi, Whakarongo/Napier Road, Kākātangiata, Aokautere, Ashhurst and previously considered greenfield areas)
3. Village and rural growth – providing for growth in the villages (Ashhurst, Bunnythorpe, Linton and Longburn)
4. Balanced growth – a balance of providing for growth in our existing urban environment and in greenfield growth areas Aokautere, Kākātangiata, Ashhurst and Te Utanganui.

Growth scenario assessment

When responding to housing and business growth under these scenarios, we have assessed the advantages and disadvantages of each in relation to well-functioning urban environments in Palmerston North and the values and aspirations of Rangitāne o Manawatū (Section C of this Strategy).

An individual assessment is included for each scenario below, and a summary of all the scenario assessments have been compiled at the end of this section for comparison purposes.

A scoring system has been used to assess each scenario:

Assessment key:
3 - Expected to **contribute strongly** to the objective
2 - Expected to **contribute somewhat** to the objective
1 - Expected to **contribute little** to the objective
0 – Not expected to contribute to the objective
-1 - Expected to **detract from the objective**

Well-functioning urban environments

As set out in Section C: Well-Functioning Urban Environments, our priorities for well-functioning urban environments are:

1. A variety of options for living and business needs are available.
    - There are different housing options in terms of type, location, and cost.
    - Māori, Pasifika, and other cultures have the ability to express their cultural norms and traditions.
    - A range of suitable sites are available for different business sectors, in terms of site size and location.
2. Housing and business land is affordable.
    - We support a healthy and competitive land and development market by making sure the right amount of land is ready and available at the right time, in the right places.
3. Moving between home, work and recreation is straightforward and safe.
    - Our urban spaces are compact, orderly, safe, and connected.
    - Our urban spaces have good accessibility for all people between housing, jobs, community services, natural spaces, and open spaces
    - Public and active transport options are safe, easy, and efficient.
4. Our environmental footprint is light and community resilience is high.
    - We support reductions in greenhouse gas emissions.
    - We work with, not against, the natural characteristics of our location to promote community and environmental wellbeing.
    - We plan and design for resilience to the impacts of climate change.
    - The impact of urban growth on highly productive land is minimised.
5. Our urban spaces demonstrate quality urban design features.
    - Buildings and public spaces incorporate and demonstrate urban design that enhances our communities' quality of life and experience of the urban environment.[21]
6. The aspirations of Rangitāne o Manawatū for the future growth and development of the city are realised (see next section).

[21] Note we have not included this objective in the assessments given this criteria is difficult to assess at a growth area scale – urban design is typically factored into an urban environment at the structure plan, planning rules, and development phase of a growth area.

Iwi values and aspirations for future urban development

Also set out in Section C, Rangitāne o Manawatū aspirations for the future urban development of Palmerston North are:

1. A city with minimal environmental impact
    - Recognition that as human communities, our health relies on the health of te taiao and we must strive to make as little negative impact as possible and strive to improve our environment.
2. A city with a strong identity based on its own story
    - Rangitāne Rangitānenuirawa (Rangitāne practices and mātauranga knowledge) and the stories and landscapes are a seamless part of the city's identity.
3. A city that embodies Te Tiriti partnership
    - Recognition that Rangitāne o Manawatū, Horizons Regional Council and Palmerston North City Council are Te Tiriti partners. We should write the rules together and, where appropriate, iwi lead for iwi, noting that tangata whenua has a role to awhi maata waka those who choose to make Te Papaieoa their home.
4. A city that prioritises the mauri and health of waterbodies and connections to them
    - The mauri and health of the Manawatū Awa its tributaries, lagoons and connections are protected and restored to secure the wellbeing of people interacting with them. Where appropriate, lost waterbodies are identified and restored.

In relation to urban development, iwi aspirations are:

5. Affordable, healthy, and accessible housing options
    - Whānau live in homes that are affordable and that support their wellbeing. Mixed and holistic pathways to home ownership are available.
6. Māori development (including papakāinga, cultural hubs and new marae) is a readily available option
    - Homes are oriented towards communal spaces and a connection with wai, rongoa, maara, and marae with a collective kawa and tikanga that protects these shared spaces.

Scenario 1: Growing Up and Growing In

Growing Up and Growing In means meeting demand by providing for growth in our existing urban environments.

This scenario would enable an increase in the density of housing and business development within the city boundary (see Map 42).

Under this scenario, upgrades to existing infrastructure will be required to support a greater concentration of residents and businesses in the city.

Advantages	Disadvantages
• Efficient use of existing residential and business land • Existing infrastructure can be utilised and upgraded to make more efficient use of the existing network • Avoids highly productive land • Avoids introducing more land that is subject to liquefaction risk • Maintains development within the existing flood protection scheme • Lower carbon emissions than other options • Design controls can be used to enable good quality infill development • Promotes increased accessibility, including efficient public and active transport options • Efficient use of existing additional infrastructure[22]. For instance there is more certainty when relying on investment in existing schools than building new schools	• May be difficult to match demand and supply as increasing density requires a shift in market preferences • Less variety available in housing and business types and location as there are constraints to parcel sizes and existing development • The market may deliver traditional infill (e.g. 2-lot subdivision) but not new forms of intensification that are needed to fulfil housing demand • The change in urban form within the city may elicit a negative response from parts of the community that do not expect change • Can result in significant isolated infrastructure demands as growing up occurs in different parts of the city and at different times. • Redevelopment within the city can be difficult to predict for managing infrastructure upgrades ahead of time • Market likely to continue to deliver greenfield options via private plan change requests, without the strategic framework to guide coordinated growth • Stormwater constraints throughout the city means *Growing Up* is not possible in some areas • A change in housing density from the norm may challenge whether community infrastructure is the right size and proximity, e.g. local reserves, libraries and community centres

[22] See page 35 for an explanation of additional infrastructure.

Map 42: Scenario 1 - Growing Up and Growing In

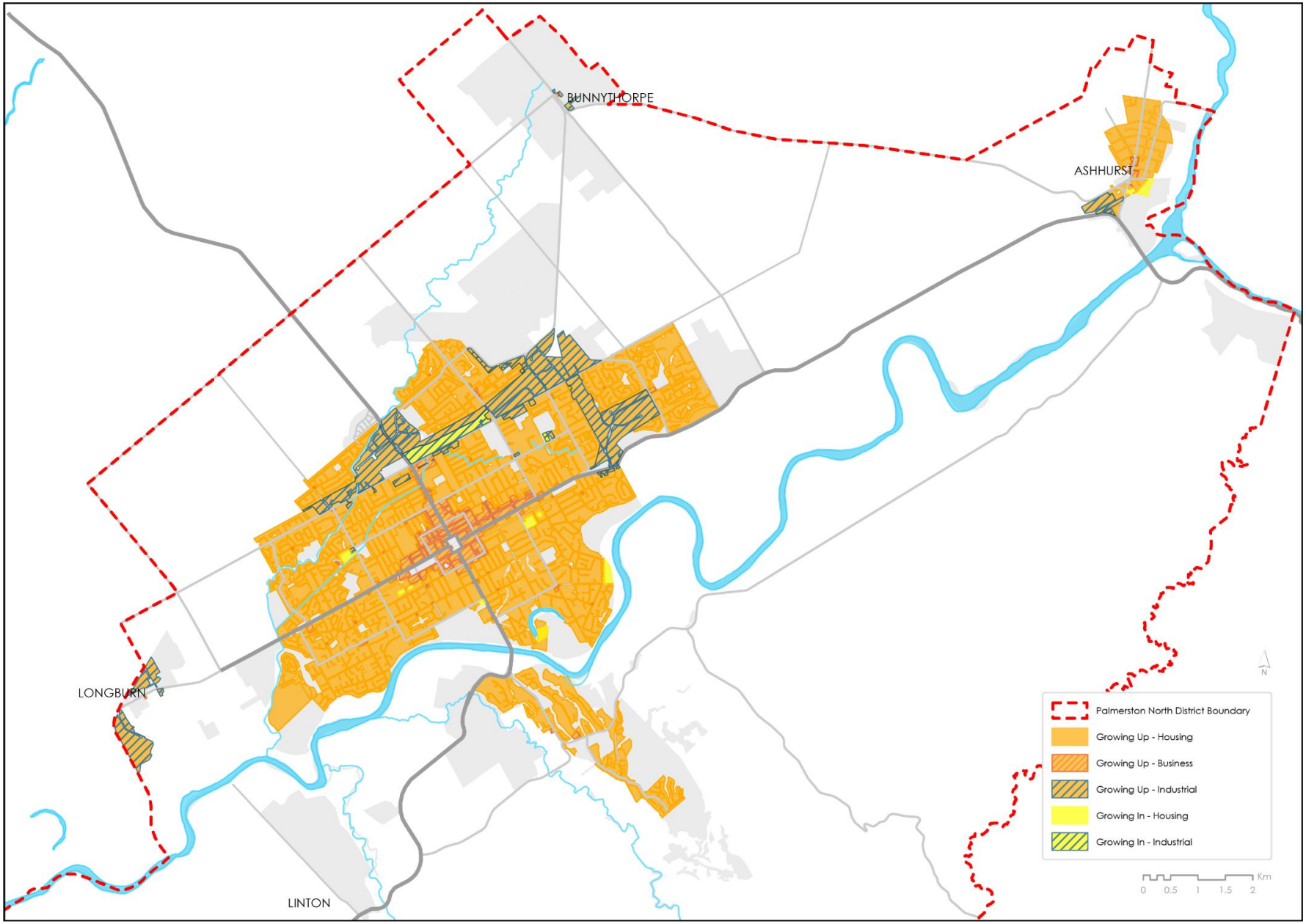


Table 8: Assessment of the 'Growing Up' scenario as an appropriate growth strategy for Palmerston North

Growing Up/Intensification Scenario: Expected contribution to a well-functioning urban environment			
	Objective	**Score**	**Comment**
Expected contribution to a well-functioning urban environment	There are different housing options in terms of type, location, and cost	1	Providing for growth through the *Growing Up* scenario relies on development at higher densities which is typically associated with smaller homes, or multi-level homes, on smaller properties. This does not enable larger homes, or single level homes, on larger sections, which we have seen demand for. Therefore, housing options will be limited. Providing for larger homes would require site agglomeration in most instances and may be cost prohibitive. Similarly, most of the existing urban environment is already developed so redevelopment would be required, which may also be cost prohibitive for our residents. *Growing Up* provides for growth in existing urban environments exclusively. It does not provide for demand for housing in greenfield locations (historically 45% of market demand). Stormwater constraints may limit certain locations from being viable for increased density if they are at or nearing capacity. Based on the above, this scenario is expected to contribute little to this objective.
	Māori, Pasifika, and other cultures have the ability to express their cultural norms and traditions	1	Urban intensification may limit the expression of cultural norms and traditions. It is unlikely there would be the space for larger, whānau-based living arrangements given Growing Up would rely on development or redevelopment of existing sections within the urban environment or agglomeration of sites into larger ones, which may be cost prohibitive. Large areas of Awapuni, Takaro, and Highbury would be redeveloped, and Māori renters potentially removed from their existing homes as part of the redevelopment process. There may be an upheaval effect on Māori renters during the transition period however more housing will be provided in our Māori communities as a result. This scenario may enable more urban papakāinga to be developed, which are the predominant type of papakāinga that have been constructed to date in the district. Based on Growing Up limiting the expression of Māori cultural norms and traditions such as larger, whānau based living arrangements, and the displacement of Māori communities through the redevelopment phase, but balancing that more housing will be provided in Māori communities and the opportunity presented through Growing Up for urban papakāinga, this scenario is expected to contribute little to this objective.
	A range of suitable sites are available for different business sectors, in terms of site size and location	1	Businesses that need smaller sites within existing urban environments may be catered for however businesses needing larger sites or who need locations near other businesses or land uses may find it difficult to find a suitable site. This issue would become particularly prevalent when the new KiwiRail Regional Freight Hub is operational as, Growing Up does not account for the site size and location requirements of large floor plate industrial sectors such as freight and logistics sectors who are projected to grow and require larger sites and to be located near the future KiwiRail Regional Freight Hub, Palmerston North Airport and Manawatū Regional Freight Ring Road to the north east of the city. Based on this scenario not providing for industrial sectors who require larger sites and to be located to the north east of the city, the scenario is expected to contribute little to this objective.

Growing Up/Intensification Scenario: Expected contribution to a well-functioning urban environment			
	Objective	**Score**	**Comment**
Expected contribution to a well-functioning urban environment	We support a healthy and competitive land and development market	1	Growing Up exclusively in the existing urban environment means there is a limit to the supply since it is restricted to the existing urban area and relies on the private market to take up redevelopment opportunities and bring them to market. A scarcity of supply will increase housing and business land values. Relying on increasing density does not factor in demand for greenfield locations and different housing and business types so we will not have the right amount of land ready and available at the right time and places. The Housing and Business Needs Assessment 2023 identified capacity for 1,196 more dwellings if all existing residential areas with 700m^2 or more were to subdivide into the typical 350m^2 market. Uptake in multi-unit housing, minor dwellings, and inner-city living have all been slow as signals from the market are still warming up to increased density. The private market is likely to respond with private plan changes to rezone greenfield locations for housing and business in order to meet these gaps in demand for the current preference of lower density housing. Relying on increasing density requires the redevelopment of existing sites and for larger homes and businesses, purchase and agglomeration of sites, which would increase costs relative to developing bare land. Based on the above, this scenario is expected to contribute little to this objective.
	Our urban spaces are compact, orderly, and connected	2	Growing Up will result in compact urban spaces given residents and businesses will not be spread out any further than the current existing urban environment. Subject to developers not requesting private plan changes to rezone greenfield land. Redevelopment is likely to occur in a more disorderly manner due to fragmented land ownership and it being difficult to predict where the willingness to develop is in the city compared to greenfield sites. This could result in unforeseen upgrades to infrastructure being required in different areas of the city and being responded to on an as-required basis. Increased densities would likely add pressure to existing intersection in terms of congestion and safety issues, however existing intersections are easier to model, predict, and provide for upgrades than greenfield areas as these are ground-truthed with real traffic and crash data. Much of the existing urban network has shown that Palmerston North road reserve widths have been sufficient to provide for future upgrades to manage increased traffic demand. Medium density can be constrained to areas where we expect transport upgrades to be more readily available to construct. Planned and designed well, increased density makes better use of existing neighbourhood centres, or the city centre, and education, health, parks, and other community services and amenities will make our urban spaces more connected. These 'ingredients' for connectedness are not even across the existing urban environment, with some areas missing these services and amenities so will need to be retrofitted over time. We'd need our 'serviced' areas to be developed first while retrofitting occurs, but this may not match up with willing development interests. Based on this scenario resulting in compact urban spaces but recognising the limitations for realising orderly and connected urban environments, this scenario is expected to contribute somewhat to the objective.

Growing Up/Intensification Scenario: Expected contribution to a well-functioning urban environment			
	Objective	**Score**	**Comment**
Expected contribution to a well-functioning urban environment	Our urban spaces have good accessibility for all people between housing, jobs, community services, natural spaces, and open spaces	3	A large proportion of our existing housing and jobs are within our existing urban environments - particularly Palmerston North City. This is the same for our community services and open spaces too. Our natural spaces, like the Manawatū River is also close to our existing urban environment. So, if growth was solely directed into our existing urban environments this accessibility between housing, jobs, community services, and natural and open spaces would be further strengthened. Recent work undertaken as part of Palmerston North City Council's Medium Density Residential Zone plan change has shown that some open spaces – like our parks and reserves – are undersized or upgrades are required to cope with intensification around them. In other parts of the city the work has found some areas do not have sufficient access to open spaces. With an increasing population accessing community services this same issue is likely to arise. These upgrades and deficits could be addressed over time but without a strategy or approach in place for doing this, development would occur in the interim and put pressure on our open spaces and community services and for some development might not have appropriate levels of service. Based on this scenario providing for housing and jobs accessible to our existing housing, jobs, community services, natural spaces and open spaces this scenario is expected to contribute strongly to this objective recognising that in the interim some work will need to occur to ensure the entire existing urban environment has appropriate levels of service.
	Public and active transport options are easy and efficient	3	Increased density can take advantage of existing public and active transport corridors. Travel times would remain competitive compared to using the car as the city would not be spreading out further. With an increased population living in our existing urban environments there is an opportunity to increase and potentially maximise patronage on the bus network, rather than spread that usage over a larger area. Active transport routes require further investment in the city before they are safe and efficient. Much of the cycling network is fragmented and doesn't cater for less-confident people on bikes. Pedestrian priority is lacking for crossing points across busy connectors roads in our suburban areas too, but these are currently being addressed through a suite of retrofits. This work will likely take some time to achieve so in the interim some housing and business land in the existing urban environment may contribute little to this objective. Growing Up would not require an extension of the active and public transport network and Palmerston North City Council and Horizons Regional Council could instead focus investment on the quality of the bus service. Despite the current safety issues for walking and cycling being a challenge for this scenario, the proximity benefits of this scenario score this option higher than other options that would make walking and cycling to our business zones and cultural institutions less attractive. Based on the above, this scenario, while recognising that work will be required in the interim to strengthen public and active transport options, it is expected to contribute strongly to the objective once this work is complete.

Growing Up/Intensification Scenario: Expected contribution to a well-functioning urban environment			
	Objective	**Score**	**Comment**
Expected contribution to a well-functioning urban environment	We support reductions in greenhouse gas emissions	3	Public and active transport routes are likely to be more convenient to use compared to car use as the population concentrates more in the city under this scenario. Infrastructure upgrades have lower carbon emissions profile when compared with the development of new infrastructure. Based on the above, this scenario is expected to contribute strongly to the objective.
	We work with, not against, the natural characteristics of our location to promote community and environmental wellbeing	2	Avoids introducing more land that is subject to natural hazard risk, including flooding, liquefaction (noting that liquefaction risk exists within our existing urban environment as well), and erosion that requires management at the edges of the existing urban environments. However, stormwater ponding and flooding are a significant constraint within our existing urban environments. To address this would require significant intervention in some areas and would require hard engineering solutions as natural solutions are likely to involve large areas of land that are not practical when intensifying. On this basis, Growing Up in some areas of the city will not be appropriate. Reliance on the existing traditional piped stormwater system for the city has the potential to make stormwater quality worse as development intensifies as there aren't the opportunities to design nature-based filtration solutions. Based on the above, this scenario is expected to contribute somewhat to this objective.
	We plan and design for resilience to the impacts of climate change	3	Climate change planning and design can be focused on improving existing urban resilience particularly stormwater and flood protection systems, rather than designing new systems. Although if increased density is not carefully managed across the city, then existing stormwater and overland flow constraints are likely to be worsened as a result of increased impervious surfaces and changes to our rainfall patterns. Based on a concentrated effort to improve existing urban environment resilience this scenario is expected to contribute strongly to the objective.
	The impact of urban growth on highly productive land is minimised	3	Avoids the use of highly productive land by keeping the current urban boundary fixed unless developers request private plan changes to rezone greenfield land. So, this scenario is expected to contribute strongly to this objective.

Growing Up/Intensification Scenario: Expected contribution to a well-functioning urban environment			
	Objective	**Score**	**Comment**
Expected contribution to the aspirations of Rangitāne o Manawatū	A city with minimal environmental impact	1	Growing up can support better access to essential services however Rangitāne are significantly concerned about management of stormwater at the current time. Growing up will result in less green space and more hardstand surfaces throughout the city which will exacerbate existing flood risk and promote more stormwater contamination. There is minimal space within the city to provide for stormwater interventions and currently no city stormwater strategy. Note: Palmerston North City Council will be developing a Stormwater Strategy prior to the 2027 review of the Future Development Strategy. The stormwater strategy is expected to guide the appropriate response to stormwater flood risk and contamination in light of increased urban density.
	A city with a strong identity based on its own story	2	'Growing up' development offers different types of opportunities for expression of Rangitāne identity, through integration in naming of buildings, design and artwork in entrances and landscaping. Based on the above assessment, this scenario is expected to contribute somewhat to this objective.
	A city that embodies Te Tiriti partnership	-1	Rangitāne see that a city-wide stormwater strategy must be provided to address existing concerns and enable further development within the city. Without one, the principle of protection will not be met. Based on the above assessment, this scenario is expected to detract from this objective.
	A city that prioritises the mauri and health of waterbodies and connections to them	1	As already described, Rangitāne have strong concerns about how stormwater is being managed across the city at the current time. Infill development will increase hardstand areas exacerbating surface flooding risk, peak flows in waterways and will contain greater levels of contaminants. There is limited space to implement stormwater interventions and space limitations will become exacerbated with the 'Growing up' scenario. Note: Palmerston North City Council will be developing a Stormwater Strategy prior to the 2027 review of the Future Development Strategy. The stormwater strategy is expected to guide the appropriate response to stormwater flood risk and contamination in light of increased urban density.
	Affordable, healthy, and accessible housing options	3	New housing in places safe from natural hazards using quality building standards that prioritise healthy homes are essential to lifting Māori and Pasifika out of poverty. Providing growth options within and adjacent to our largest Māori/Pasifika population in Te Papaioea around Awapuni, Takaro and Highbury is important to the future prosperity of this community in the city. Based on the above assessment, this scenario is expected to contribute strongly to this objective.
	Māori development (papakāinga, cultural hub and new marae) is a readily available option	3	Existing projects are being scoped and will become more important as the Palmerston North population grows. Based on this, this scenario is expected to contribute strongly to this objective.
	Total	**32**	

Scenario 2: Growing Out

***Growing out* means providing for demand by growing the edges of Palmerston North and Ashhurst. This is also known as greenfield development, where bare land without services is rezoned for urban development.**

Under this scenario, responding to growth will require the expansion of the city boundary in all directions. It would also require new development and additional infrastructure to enable development in areas without services currently (see Map 43).

Growing out includes growth areas already zoned, serviced, or those considered in previous growth studies (see Appendix 6) with viability for future investigation.

Advantages	Disadvantages
• Potential to accelerate supply (depending on infrastructure readiness) so we do not have to wait for redevelopment to occur • Familiar to the local market and community which is used to the outward expansion of the city • Can enable land development at scale by working with active development interests that own significant parcel of land in all of these locations • Structure planning can be used to manage where and how development occurs in a coordinated manner • Planning, design, and new infrastructure can take into account projected impacts of climate change. • A range of housing and business types can be enabled in these areas as they are not constrained by the position of existing buildings, development, and infrastructure • Allows us to avoid development in inappropriate parts of the city to grow i.e. where stormwater constraints exist.	• Timing between rezoning and development unlikely to meet demand as development needs to wait for services to be extended to their site • Increased cost to service infrastructure as there would be a larger number of roads and pipes to maintain over time • Increased need for additional infrastructure – such as flood protection schemes, stormwater treatment, public transport schemes, and parks • New schools in greenfield locations are difficult to secure investment for. We can expect schooling needs may be met through further travel distances to existing schools • Would put pressure on highly productive land • Higher development costs in areas growing to the east, west, and parts of the north and south of the district due to liquefaction risk • Pressure on land subject to stormwater inundation and flooding risk • Development is constrained in the north of the city by the noise and height protection areas around the Palmerston North Airport • Increased urban sprawl: Potential for increase in vehicle kilometres travelled with growth areas at the edges of our existing urban environment • Higher carbon emissions due to increased travel distances (to core business, citywide reserves, schools, entertainment facilities) and consuming more materials through all new infrastructure and development

Map 43: Scenario 2 - Growing Out

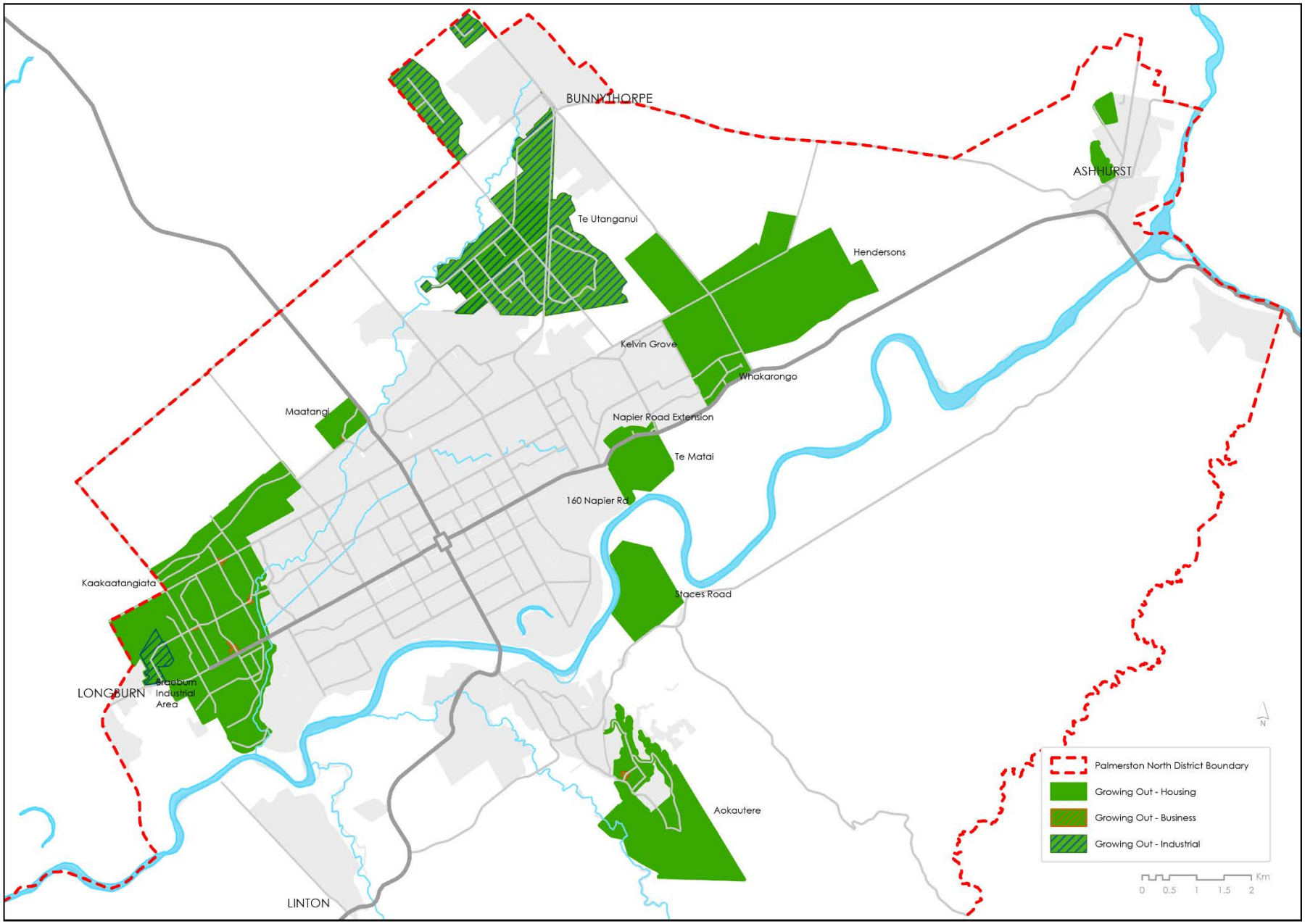


Table 9: Assessment of the Growing Out scenario as an appropriate growth strategy for Palmerston North

Growing Out/Greenfield Growth Scenario: Expected contribution to a well-functioning urban environment			
	Objective	**Score**	**Comment**
Expected contribution to a well-functioning urban environment	There are different housing options in terms of type, location, and cost	2	This scenario can allow for a variety of housing types to be enabled that meet a wide range of housing needs through the use of structure plans and zoning including the use of high, medium and low density zoning. Focusing growth in only greenfield areas ignores the opportunities for enabling different housing types located in the existing urban environment and demand for these. Costs associated with new development and additional infrastructure will require significant investment, and this cost will be passed on to residents initially raising debt (if Council funds new infrastructure) and then to homeowners through including the cost of development contributions in the house sale. Overall, greenfield housing has the opportunity to provide for housing options but balancing this with the cost and that housing options in the existing urban environment are not offered, this scenario is expected to contribute somewhat to this objective.
	Māori, Pasifika, and other cultures have the ability to express their cultural norms and traditions	3	There is the space to cater for larger homes with connections to wai, rongoa, and maara. Cultural impact assessments help to influence the way new development areas are planned to enable cultural expression. Growth in Kākātangiata is adjacent to our highest Māori populations in Takaro, Highbury and Awapuni. Kākātangiata offers whānau opportunity to build in areas close to their Māori communities. New natural and cultural heritage features can be incorporated into structure plans and preserved in greenfield areas (such as the Kikiwhenua meeting house site and the original Mangaone Stream alignment). Based on this, this scenario is expected to contribute strongly to the objective.
	A range of suitable sites are available for different business sectors, in terms of site size and location	2	This scenario allows for sites that meet a wide range of business needs, as greenfield land is not constrained by the layout and form of existing development. Some business sectors may need to collocate to existing land uses, businesses and industries in the city and providing for growth in greenfield areas only would not enable this. Given that this scenario could offer a range of sites for different business sectors but not in locations within the existing urban environment, which would be a suitable site location for some sectors, this scenario is expected to contribute somewhat to this objective.
	We support a healthy and competitive land and development market	2	The increasing cost of rolling out development and additional infrastructure to service greenfield development means development contributions to pay for new development infrastructure is likely to reduce housing affordability– if council has the borrowing ability in the first place. This scenario does not cater for demand in our existing urban environments (approximately 50% of demand on average) so as time goes by and development capacity is taken up in the existing urban environment supply in the existing urban environment, land supply is likely to become scarce resulting in inflating property values. Based on the above, this scenario is expected to contribute somewhat to the objective.

Growing Out/Greenfield Growth Scenario: Expected contribution to a well-functioning urban environment			
	Objective	**Score**	**Comment**
Expected contribution to a well-functioning urban environment	Our urban spaces are compact, orderly, and connected	1	An expanded urban footprint will make maintaining a compact city more difficult, however the western and northern greenfield areas are within a 10-minute drive of the city centre and the eastern and southern greenfield areas are within a 15-minute drive. New development sites could be structure planned to deliver walkable neighbourhoods, including the requirement for neighbourhood centres, and good cycle and public transport connections to the existing city extent. Based on the above assessment, this scenario is expected to contribute little to this objective as it will result in an expansion of the urban space.
	Our urban spaces have good accessibility for all people between housing, jobs, community services, natural spaces, and open spaces	1	A large proportion of our existing housing and jobs are within our existing urban environments particularly Palmerston North City. This is the same for our community services and open spaces too. Our natural spaces, like the Manawatū River is also close to our existing urban environment. So, if growth was solely directed out of our existing urban environments accessibility between housing, jobs, community services, and natural and open spaces would largely be via private or public vehicular use. Or for communities to have accessibility to community services, natural spaces and open spaces for these to be provided as part of the growing out areas. In some instances, particularly for natural spaces and open spaces these could be factored into structure plans for the areas, but we know the lion's share of jobs are within our existing urban environment and popular natural spaces and open spaces. Based on the above, this scenario is expected to contribute little to this objective.
	Public and active transport options are easy and efficient	2	Public and active transport can be designed into greenfield sites, however they will involve moderate distances to travel into other parts of the city with the expansion of the urban footprint. This scenario also requires an extension to the existing public transport system. Based on this, this scenario is expected to contribute somewhat to this objective.
	We support reductions in greenhouse gas emissions	1	Breaking new ground, development infrastructure, and the construction process increases our carbon footprint. An increased footprint also relies on the ongoing use of vehicles to move people around the city. However, as the country's vehicle fleet shifts to electric vehicles increased emissions will reduce. Based on the carbon footprint associated with developing new areas, this scenario is expected to contribute little to the objective.
	We work with, not against, the natural characteristics of our location to promote community and environmental wellbeing	1	Pressure on land that is flood or erosion prone requires additional protection to ensure communities are resilient and safe. Greenfield sites provide the opportunity to start fresh with a modern stormwater approach, so have the greatest chance to positively impact stormwater quality with nature-based solutions compared to other scenarios. Based on the above, this scenario is expected to contribute little to this scenario as most greenfield areas would require new protection measures.

Growing Out/Greenfield Growth Scenario: Expected contribution to a well-functioning urban environment			
	Objective	**Score**	**Comment**
	We plan and design for resilience to the impacts of climate change	2	We can plan for and design according to projected impacts of climate change. On this basis, this scenario is expected to contribute somewhat to this objective.
	The impact of urban growth on highly productive land is minimised	0	Greenfield growth would need to occur on existing areas of highly productive soils to meet demand under this scenario, particularly to the west, north and east of the existing city boundary. This does not protect our productive land and will impact the availability of land for food and fibre production. Based on the above, this scenario is not expected to contribute to this objective.
Expected contribution to the aspirations of Rangitāne o Manawatū	A city with minimal environmental impact	-1	New developments have the ability to design for multi modes of transport including walking and cycling, that can access services such as education, healthcare and green spaces which are essential to providing for good quality of life and a city with minimal impacts on the climate. Street trees and stormwater management within road reserves and green spaces can be designed in with sufficient space set aside in new developments. Even so, the expansion hard stand areas on otherwise unbroken land will have a negative impact on several environmental values. Based on the above assessment, this scenario is expected to detract from the objective.
	A city with a strong identity based on its own story	2	Greenfield development offers opportunities for new Rangitāne street and reserve naming, integration of and design around cultural heritage sites and the river park. Based on the above assessment, this scenario is expected to contribute somewhat to the objective.
	A city that embodies Te Tiriti partnership	2	Te Tiriti principles can be summarised using ideas related to protection, participation, and partnership. For the Future Development Strategy this means prioritising developments of importance to Rangitāne, in particular Kākātangiata, while protecting features of importance to the iwi such as waterbodies and wāhi tapu. It also includes protecting rights to participation and achieving mutually beneficial outcomes throughout the development process. Based on the above assessment, this scenario is expected to contribute somewhat to the objective.
	A city that prioritises the mauri and health of waterbodies and connections to them	-1	Urban development comes with inherent impacts on waterways. The expansion of hardstand and roading areas produces stormwater runoff containing contaminants such as rubbish, sediments, and heavy metals. Overland flow paths, wetlands and streams can be lost. Stormwater can be treated and controlled, while natural waterbodies protected and ecologically restored however it is difficult to avoid all adverse effects on downstream receiving ecosystems. Based on the above assessment, this scenario is expected to detract from the objective.
	Affordable, healthy, and accessible housing options	3	New housing in places safe from natural hazards using quality building standards that prioritise healthy homes are essential to lifting Māori and Pasifika out of poverty. Providing growth options within and adjacent to our largest Māori/Pasifika population in Te Papaioea through Kākātangiata is important to the future prosperity of this community in the city. Based on the above assessment, this scenario is expected to contribute strongly to the objective.

	Māori development (Papakāinga, cultural hub and new marae) is a readily available option	1	Rangitāne o Manawatū and Council do not have any land holdings in the greenfield areas that could be developed for papakāinga, a cultural hub or new marae facility. General planning rules could be incorporated to enable the use's if at some stage in the future Rangitāne o Manawatū or Council acquired land for these purposes. Based on the above assessment, this scenario is expected to contribute little to the objective.
	Total	**23**	

Scenario 3: Village Growth

Village Growth would focus on growing up and growing out in our rural villages; Ashhurst, Bunnythorpe, Longburn and Linton (see Map 44).

Because of constraints on the use of highly productive land (Map 32), this scenario is unlikely to provide enough land to meet demand. Like Scenario 2 (*Growing Out*), it would require a significant amount of new infrastructure and where existing development infrastructure can be used it is unlikely to be sufficient for meeting demand. It could also change the rural character of our village settlements. In addition, our latest Housing and Business Development Capacity Assessment demand for housing is largely concentrated in Ashhurst and Palmerston North and for business and industrial, in Palmerston North and Longburn.

Advantages	Disadvantages
• Increases the viability of community facilities and local businesses in our villages • An increased population in our villages can increase the leadership and resources available for community-led placemaking • Can be directive (structure plans) in areas at the edges of the villages	• Higher infrastructure costs due to infrastructure having to be spread out further • Increased pressure on highly productive land • Constrained by flood prone land around the Manawatū River and Taonui Basin • Higher carbon emissions through new infrastructure and longer travel times for new residents • May require new flood protection schemes • Possible change to village character and associated community response • Public and active transport options will cost more to enhance in the villages • Growth would be contrary to where we are typically seeing demand for housing and business, being within the Palmerston North urban area • Does not take advantage of the KiwiRail Regional Freight Hub and associated opportunity for a central distribution hub, compared to *Growing Out,* and *Balanced Growth.* • Does not recognise demand for land, particularly housing land, is generally in Palmerston North and Ashhurst

Map 44: Scenario 3 - Village Growth

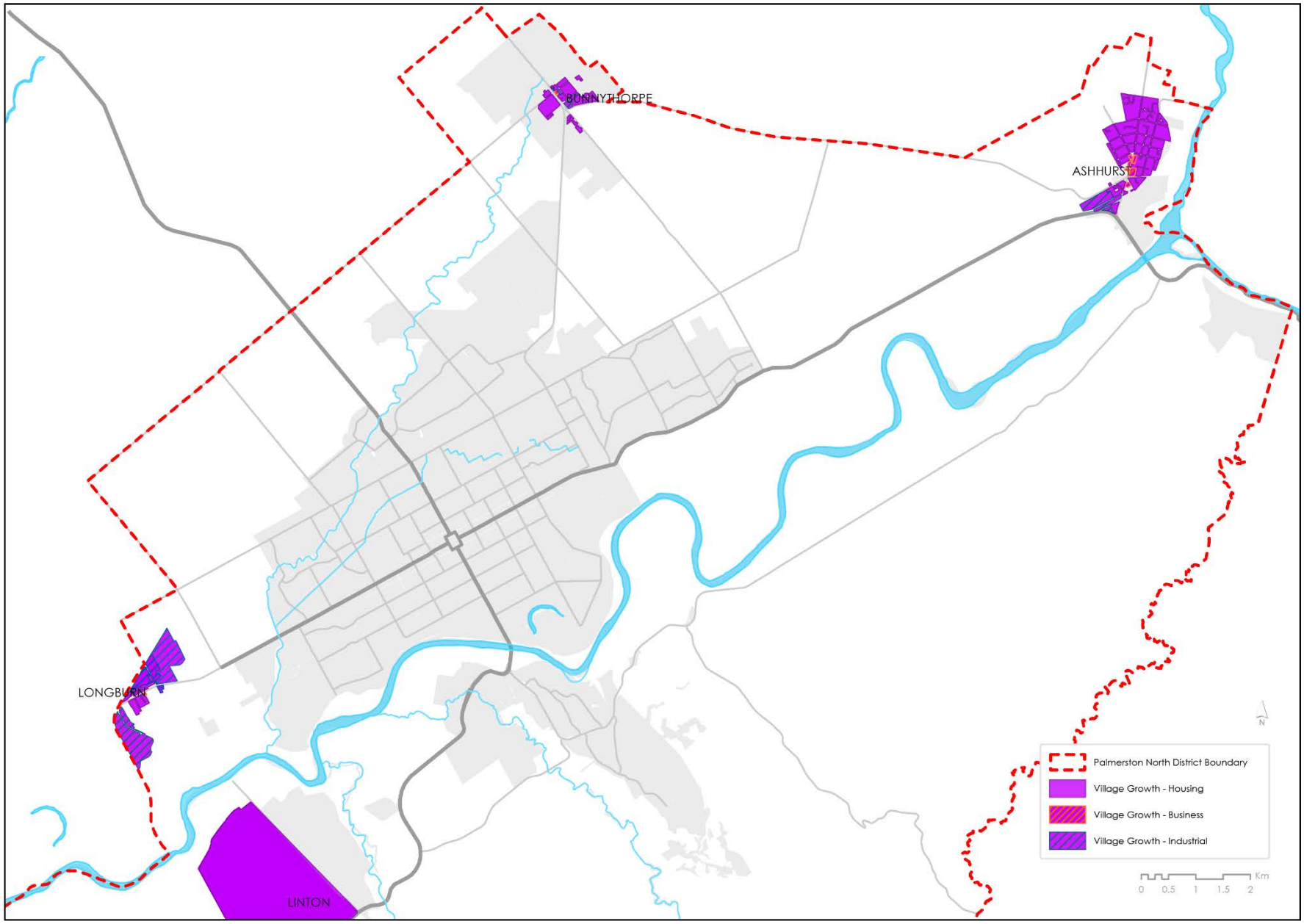


Table 10: Assessment of the Village Growth scenario as an appropriate growth strategy for Palmerston North

Village Growth Scenario: Expected contribution to a well-functioning urban environment			
	Objective	**Score**	**Comment**
Expected contribution to a well-functioning urban environment	There are different housing options in terms of type, location, and cost	2	Different housing options for type and location can be factored into regulatory tools like structure plans and through collaborative projects such as village plans. Developing in the villages is likely to cost more than within or directly adjacent to the city boundary due to the need to extend infrastructure much further. Housing is not provided for in locations where there is demand – the Palmerston North urban area. Based on the above, this scenario is expected to contribute somewhat to this objective.
	Māori, Pasifika, and other cultures have the ability to express their cultural norms and traditions	-1	If no housing growth is provided for in our high Māori population areas, then this will not provide for the growth of our Māori community and disconnect our Māori population from their Māori communities/cultural norms as they are required to shift out of town. Housing could become over-crowded as whānau try to stay together in their communities. Based on the above, this scenario is expected to detract from this objective.
	A range of suitable sites are available for different business sectors, in terms of site size and location	2	The space for growth in the village surrounds would provide for a range of beneficial options for (most likely) larger businesses. This would be less desirable for smaller businesses that are not home-based. Based on the above, this scenario is expected to contribute somewhat to this objective.
	We support a healthy and competitive land and development market	1	We will not be providing land supply in areas where we are experiencing the highest demand. Growth in the villages does not account for demand for housing and business land in Palmerston North thus is likely to result in a scarcity of supply over time or private plan changes from the market responding to demand. Development costs are likely to be higher for areas further away from the District's core infrastructure, which are likely to make the development contributions for these areas more expensive than other scenarios. Based on the above assessment, this scenario is expected to contribute little to this objective.
	Our urban spaces are compact, orderly, and connected	1	Growth in villages would result in a number of areas of housing and business land removed from Palmerston North city, which is not compact or connected. We would expect higher numbers of vehicle kilometres travelled in order for people to meet their business needs if residing in the villages. This is likely to outweigh the benefit from local businesses being more viable with an increase in village populations. Previous growth studies had discounted Linton significantly due to the uncertainty around a second bridge crossing to the west that would enable this village to connect well. Growth in the villages would not enable connection to the Palmerston North urban environment. Based on the above assessment, this scenario is expected to contribute little to this objective.

Village Growth Scenario: Expected contribution to a well-functioning urban environment			
	Objective	**Score**	**Comment**
Expected contribution to a well-functioning urban environment	Our urban spaces have good accessibility for all people between housing, jobs, community services, natural spaces, and open spaces	0	A large proportion of our existing housing and jobs are within our existing urban environments – particularly Palmerston North City. This is the same for our community services and popular natural and open spaces too. Our village community services, and open and natural spaces are largely geared up towards providing for a small number of residents in our villages. So, if growth was solely directed to the villages, accessibility between housing, jobs and fit for purpose community services, and natural and open spaces would largely be via private or public vehicular use. Or for communities to have accessibility to community services, natural spaces and open spaces for these to be provided as part of village growth. In some instances, particularly for natural spaces and open spaces these could be factored into structure plans for the village areas, but we know the lion's share of jobs are within our existing urban environment and popular natural spaces and open spaces. Based on this assessment, this scenario is not expected to contribute to the objective.
	Public and active transport options are easy and efficient	1	While public transport services can be provided for village communities, this is more costly and less efficient than doing so within a distinct urban boundary. For those travelling into Palmerston North from the villages, the travel distance will be longer, so efficiency is reduced. While we expect that Bunnythorpe and Ashhurst would be connected via the shared path network like Linton and Longburn, the distance to travel by walking and cycling is a barrier to uptake in active transport. Investment in active transport routes within the villages would be required too, such as cycle lanes and enhanced crossing points. Based on the above assessment, this scenario is expected to contribute little to this objective.
	We support reductions in greenhouse gas emissions	1	Breaking new ground, development infrastructure, and the construction process increases our carbon footprint. This scenario also relies on the ongoing use of vehicles to move people from the villages to the city. Although, as our country's vehicle fleet is progressively replaced by electric vehicles this carbon impact will lessen over the long term. Based on the above assessment, this scenario is expected to contribute little to this objective.
	We work with, not against, the natural characteristics of our location to promote community and environmental wellbeing	2	Providing for *Village Growth* avoids the natural constraints of Palmerston North and surrounds however the villages are still subject to natural hazard risk including erosion, flooding, stormwater ponding and overland flows. Pressure on land that is flood or erosion prone requires additional protection to ensure new communities are safe. Given the extent of demand that we need to meet over the next 30 years, nature-based solutions such as stormwater ponds are unlikely to be practical under this scenario given they involve large areas of land. The use of existing stormwater systems in the villages have the potential to make stormwater quality worse as they rely on a traditional engineered approach rather than nature-based solutions. Based on the above assessment, this scenario is expected to contribute somewhat to the objective.

Village Growth Scenario: Expected contribution to a well-functioning urban environment			
	Objective	**Score**	**Comment**
	We plan and design for resilience to the impacts of climate change	2	Climate change planning and design can be focused on constructing and improving village resilience, particularly for stormwater and flood protection systems. If increased density is not carefully managed across the villages, then existing stormwater and overland flow constraints are likely to be worsened as a result of increased impervious surfaces and changes to our rainfall patterns. Based on the above assessment, this scenario is expected to contribute somewhat to the objective.
	The impact of urban growth on highly productive land is minimised	0	Our villages are situated in areas surrounded by highly productive land. Any growth development outside of the villages' existing urban environment would encroach on the food and fibre production potential of this land. Based on the above assessment, this scenario is not expected to contribute to the objective.
Expected contribution to the aspirations of Rangitāne o Manawatū	A city with minimal environmental Impact	1	New developments have the ability to design for multi modes of transport including walking and cycling, however access to sufficient services such as education, healthcare and green spaces, which are essential to providing for good quality of life and a city with minimal impacts on the climate, may be minimised due to growth occurring in the outer small centres. Street trees and stormwater management within road reserves and green spaces can be designed in with sufficient space set aside in new developments. Based on the above assessment, this scenario is expected to contribute little to this objective.
	A city with a strong identity based on its own story	1	Offers lower opportunities to build a strong cultural identify, however opportunities exist for integration inclusion Ashurst Domain (Otangaki with Te Ahu a Turanga and cycling pathway/park development), Linton (connections with the River Park and Kahuterawa Stream), Longburn (through the shared use path network) and Bunny Thorpe (new opportunities). Based on the above assessment, this scenario is expected to contribute little to this objective.
	A city that embodies Te Tiriti partnership	-1	If growth options within, and adjacent to, the areas with the largest Māori population in Te Papaioea (around Awapuni, Takaro and Highbury) are limited, the prosperity of Māori/Pasifika (and Rangitāne) in the city will be diminished and the social cohesion of this fast-growing community will be undermined. Prioritisation of the housing needs of the Māori/Pasifika community in Te Papaioea is essential to a thriving Te Tiriti partnership. Based on the above assessment, this scenario is expected to detract from this objective.
	A city that prioritises the mauri and health of waterbodies and connections to them	1	Urban development comes with inherent impacts on waterways. The expansion of hardstand and roading areas produces stormwater runoff containing contaminants such as rubbish, sediments, and heavy metals. Overland flow paths, wetlands and streams can be lost. Stormwater can be treated and controlled, while natural waterbodies protected and ecologically restored however it is difficult to avoid all adverse effects on downstream receiving ecosystems. Based on the above assessment, this scenario is expected to contribute little to this objective.

Village Growth Scenario: Expected contribution to a well-functioning urban environment			
	Objective	**Score**	**Comment**
	Affordable, healthy, and accessible housing options	-1	New housing in places safe from natural hazards using quality building standards that prioritise healthy homes are essential to lifting Māori and Pasifika out of poverty. However as discussed above, if growth options within, and adjacent to, the areas with the largest Māori population in Te Papaioea (around Awapuni, Takaro and Highbury) are limited, the prosperity of Māori/Pasifika (and Rangitāne) in the city will be diminished and the social cohesion of this fast-growing community will be undermined. Based on the above assessment, this scenario is expected to detract from this objective.
	Māori development (Papakāinga, cultural hub and new marae) is a readily available option	0	Rangitāne o Manawatū and Council do not own any land reserves under consideration for cultural/marae/pāpākainga development. Demand is insufficient for investment in the villages. Based on the above assessment, this scenario is expected to not contribute to this objective.
	Total	**12**	

Scenario 4: Balanced Growth

Balanced Growth consists of a mixture of infill, greenfield, and village development. The infill (medium density housing and redevelopment of sections in the existing urban environment) would be focused within the existing city boundary (see Map 45).

Greenfield development would occur to the west of the city at Kākātangiata, South at Aokautere, East at Whakarongo and Ashhurst, and North at Mātangi and Bunnythorpe. This approach recognises the city boundary imposed by the natural environment and respects our productive and flood prone land, while also providing for expected market demand across a range of types and locations.

Incentivising infill development will allow the areas zoned for greenfield growth to last longer while reducing the environmental impact of urban growth. As for the villages, in this scenario we have not looked to provide for any additional housing growth, beyond what is currently enabled, as we will focus our efforts on Palmerston North and Ashhurst where we see demand for *growing up*.

Advantages	Disadvantages
• Best addresses NPS-UD requirements • Most likely to match demand and supply in the right locations, size, and market for both business and housing • Provides a range of housing and business land types that the market expects, whilst enabling options for missing types (e.g. medium density) • Greenfield options can be carefully assessed on a case-by-case basis to manage effects on productive land, flood prone areas and the airport • Greenfield and medium density areas can be identified and designed to optimise infrastructure requirements and carbon impacts • Likely to be supported by Resource Management reform • Can continue to enable infill subdivision and more intensive development and redevelopment to maximise the development life of new greenfield areas	• Spreads infrastructure demands across the city rather than in one specific direction • Possible negative community reaction both ways, i.e. not doing enough to address market demands or manage effects of new development • Growth would be reliant on private plan change requests if supply not maintained across all development types

Map 45: Scenario 4 - Balanced growth

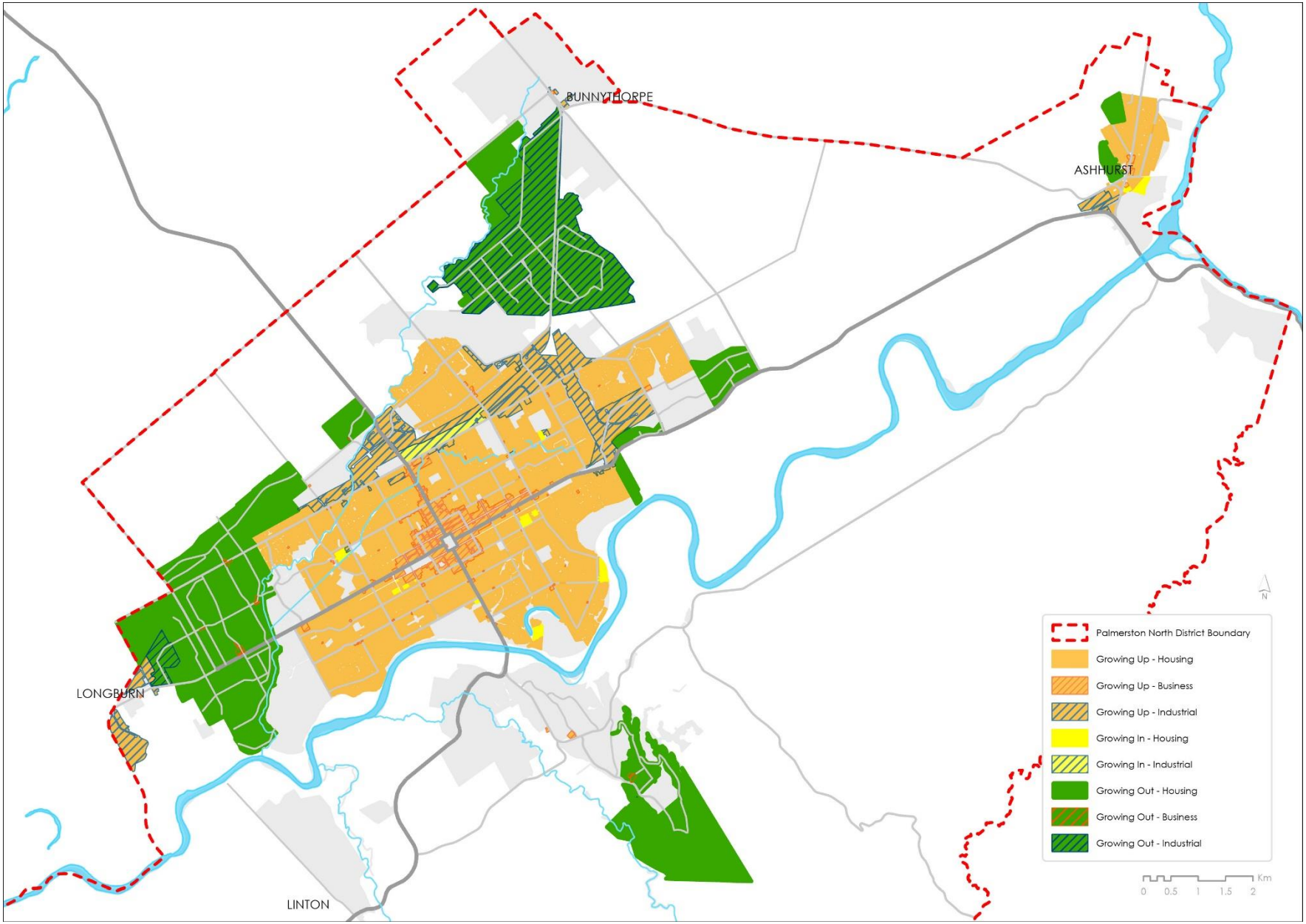


Table 11: Assessment of the Balanced Growth scenario as an appropriate growth strategy for Palmerston North

Balanced Growth Scenario: Expected contribution to a well-functioning urban environment			
	Objective	**Score**	**Comment**
Expected contribution to a well-functioning urban environment	There are different housing options in terms of type, location, and cost	3	Providing for growth in our existing urban environments and in particular greenfield areas (such as Aokautere and Kākātangiata) provides for options in terms of type, location, and cost. Based on this, this scenario is expected to contribute strongly to this objective.
	Māori, Pasifika, and other cultures have the ability to express their cultural norms and traditions	3	There is the space to cater for larger living units with connections to wai, rongoa, and maara in greenfield areas and there is the option to do so within our existing urban environments. Māori have options both in greenfield areas and in our existing urban environments throughout and within western Palmerston North to express their cultural norms and traditions. Development opportunities would exist in most parts of the city for whānau to maintain connection to their own neighbourhood. This scenario provides options for compact, urban papakāinga as well as larger greenfield papakāinga. Based on this, this scenario is expected to contribute strongly to this objective.
	A range of suitable sites are available for different business sectors, in terms of site size and location	3	Providing for growth in the existing urban environments and in the Te Utanganui greenfield area allows for a range of sites and locations. It also responds to the opportunity and projected demand of freight and logistics in proximity to the KiwiRail Regional Freight Hub, which require larger sites and this specific location. Based on this, this scenario is expected to contribute strongly to this objective.
	We support a healthy and competitive land and development market	3	Providing for growth in both our urban existing environments and greenfield areas means we can make sure the right amount of land is ready and available at the right time, in the right places. We know there is demand for housing in greenfield locations and the existing urban environments. We also know that there is demand for smaller and larger homes – a balanced approach to providing for growth recognises this. This scenario also gives the city an opportunity to investigate and address constraints in any of the greenfield areas or parts of the existing urban environment. Based on this, this scenario is expected to contribute strongly to this objective.
	Our urban spaces are compact, orderly, and connected	3	Increased density can take advantage of easy access to existing education, health, and other services for those who prefer this option. Over time, necessary services can be retrofitted into our existing urban environments to support increased density in areas that don't currently have these services. The use of structure plans in greenfield areas can be used to ensure new housing and business development occurs in a compact, orderly, and connected manner. For instance, by intentionally planning new local business areas, providing clear signals around where new schools and health services can collocate, and wrap medium and high-density housing around these hubs. Based on this, this scenario is expected to contribute strongly to this objective.

Balanced Growth Scenario: Expected contribution to a well-functioning urban environment			
	Objective	**Score**	**Comment**
Expected contribution to a well-functioning urban environment	Our urban spaces have good accessibility for all people between housing, jobs, community services, natural spaces, and open spaces	3	A large proportion of our existing housing and jobs are within our existing urban environments – particularly Palmerston North City. This is the same for our community services and popular natural and open spaces. In our villages there is, generally speaking a good level of accessibility, albeit geared towards providing for a village community rather than large communities. In our greenfield areas there is the opportunity to include an appropriate level of access to natural and open spaces and depending on the scale of the growing out area access to community services via zoning to provide for them. With a balanced approach we can enable growth to recognise this. We know there are some deficits in the level of access to open spaces in our existing urban environments. So, if growth was balanced, we can recognise the constraints within the existing urban environments, by providing for growing out and factoring in accessibility through structure planning our growing out areas while we address the deficit within the city over time. Based on this, this scenario is expected to contribute strongly to this objective.
	Public and active transport options are easy and efficient	3	Urban intensification can increase public and active transport efficiency. Efficient public transport routes can be factored into structure plans of greenfield areas. Active transport routes can be factored into greenfield area structure plan and routes in the existing urban environments can be utilised and upgraded where required. Good connectivity and route choice can be encouraged through structure planned areas to ensure active and public transport can have options. Based on this, this scenario is expected to contribute strongly to this objective.
	We support reductions in greenhouse gas emissions	2	We can continue to promote *Growing Up* options which have a smaller carbon footprint and will extend the development life of new greenfield areas. We can also factor into structure plans more land-efficient housing density, active and public transport connections and integrating neighbourhood centres into greenfield growth areas, which can promote a shift away from private motor vehicle use for short trips to community facilities and local business. Emissions associated with private vehicle use from greenfield areas will reduce over the long term as our country's fleet transitions to electric vehicles and as the public and active transport routes within the greenfield areas and city become more efficient. Based on this, this scenario is expected to contribute somewhat to this objective.
	We work with, not against, the natural characteristics of our location to promote community and environmental wellbeing	2	A balance of infill subdivision and greenfield growth allows us to take the pressure off developing existing natural areas and enhance natural areas within greenfield sites. We can be more responsive to our natural constraints, which can be managed in some areas in greenfield growth areas – Aokautere, Kākātangiata and Te Utanganui – while recognising the constraints that exist in the existing urban environments. Based on this, this scenario is expected to contribute somewhat to this objective.

Balanced Growth Scenario: Expected contribution to a well-functioning urban environment			
	Objective	**Score**	**Comment**
	We plan and design for resilience to the impacts of climate change	2	We can plan for, and design according to, projected impacts of climate change. With less intensification in existing urban environments than the Growing Up scenario we can work within the limits of our existing constraints in our existing urban environments. A mixture of growth options allows us to ground truth the right approach to stormwater in the right locations. For instance, detention ponds in greenfield sites such as Tamakuku Terrace, compared with raingardens in the Hokowhitu Lagoon Residential Area/Centennial Park. Based on this, this scenario is expected to contribute somewhat to this objective.
	The impact of urban growth on highly productive land is minimised	2	Providing for growth through a balanced approach reduces the amount of highly productive land we need to grow out onto. Greenfield sites in this scenario largely avoid class 1 soils and have long been identified in our strategic documents. The new urban boundary under this scenario is likely to be the final extent before class 1 soils is adversely affected. Based on this, this scenario is expected to contribute somewhat to this objective.
Expected contribution to the aspirations of Rangitāne o Manawatū	A city with minimal environmental Impact	2	*Growing out* and *Growing up* have the ability to design for multi modes of transport including walking and cycling, including access to sufficient services such as education, healthcare and green spaces (which are essential to providing for good quality of life and a city with minimal impacts on the climate). Focus on provision of street trees and stormwater management within road reserves and green spaces need sufficient space set aside in new developments especially during infill and growing up developments. Based on this, this scenario is expected to contribute somewhat to this objective.
	A city with a strong identity based on its own story	3	A mixture of greenfield and G*rowing up* development offers opportunities: • for new Rangitāne street and reserve naming, integration of and design around cultural heritage sites and the river park. • different types of opportunities for expression of Rangitāne identify, through integration in naming of buildings, design and artwork in entrances and landscaping. Based on this assessment, this scenario is expected to contribute strongly to this objective.
	A city that embodies Te Tiriti partnership	1	Rangitāne considers that a city-wide stormwater strategy must be provided to address existing concerns and enable further development within the city. Without one, the principle of protection will not be met. This option does however provide for growth of the Māori/Pasifika community. Based on this assessment, this scenario is expected to contribute little to this objective.

Balanced Growth Scenario: Expected contribution to a well-functioning urban environment			
	Objective	**Score**	**Comment**
Expected contribution to the aspirations of Rangitāne o Manawatū	A city that prioritises the mauri and health of waterbodies and connections to them	1	All urban development comes with inherent impacts on waterways. The expansion of hardstand and roading areas produces stormwater runoff containing contaminants such as rubbish, sediments, and heavy metals. Overland flow paths, wetlands and streams can be lost. Stormwater can be treated and controlled, while natural waterbodies protected and ecologically restored however it is difficult to avoid all adverse effects on downstream receiving ecosystems. Rangitāne have strong concerns about how stormwater is being managed across the city at the current time. Infill development will increase hardstand areas and stormwater and contaminant runoff. These is limited space to implement stormwater interventions at the current time and space limitations will become exacerbated. A balanced growth model will require a city stormwater strategy to be developed. Based on this assessment, this scenario is expected to contribute little to this objective.
	Affordable, healthy, and accessible housing options	3	New housing in places safe from natural hazards using quality building standards that prioritise healthy homes are essential to lifting Māori and Pasifika out of poverty. Providing growth options within, and adjacent to, the areas with the largest Māori/Pasifika population in Te Papaioea (around Awapuni, Takaro and Highbury) will support the prosperity of these populations in the city and promote the social cohesion of the fast-growing community. Based on this assessment, this scenario is expected to contribute strongly to the objective.
	Māori development (Papakāinga, cultural hub and new marae) is a readily available option	3	Rangitāne o Manawatū and Council do not have any land holdings in the greenfield areas that could be developed for papakāinga, a cultural hub or new marae facility. General planning rules could be incorporated to enable the use's if at some stage in the future Rangitāne o Manawatū or Council acquired land for these purposes. Existing projects are being scoped and will become more important as the Palmerston North population grows. Based on this assessment, this scenario is expected to contribute strongly to the objective.
	Total	**42**	

Scenario Assessment – Summary of all scenarios

Table 12: Summary of scenario assessments

Expected contribution to a well-functioning urban environment	Growing Up	Growing Out	Village Growth	Balanced Growth
There are different housing options in terms of type, location, and cost	1	2	2	3
Māori have the ability to express their cultural norms and traditions, including papakāinga options	1	3	-1	3
A range of suitable sites are available for different business sectors, in terms of site size and location	1	2	2	3
We support a healthy and competitive land and development market	1	2	1	3
Our urban spaces are compact, orderly, and connected	2	1	1	3
Our urban spaces have good accessibility for all people between housing, jobs, community services, natural spaces, and open spaces	3	1	0	3
Public and active transport options are easy and efficient	3	2	1	3
We support reductions in greenhouse gas emissions	3	1	1	2
We work with, not against, the natural characteristics of our location to promote community and environmental wellbeing	2	1	2	2
We plan and design for resilience to the impacts of climate change	3	2	2	2
The impact of urban growth on highly productive land is minimised	3	0	0	2
A city with minimal environmental impact	1	-1	1	2
A city with a strong identity based on its own story	2	2	1	3
A city that embodies Te Tiriti partnership	-1	2	-1	1
A city that prioritises the mauri and health of waterbodies and connections to them	1	-1	1	1
Affordable, healthy, and accessible housing options	3	3	-1	3
Māori development (Papakāinga, cultural hub and new marae) is a readily available option	3	1	0	3
TOTAL	32	23	12	42

ASSESSMENT KEY	
3 - Expected to contribute strongly to the realisation of the objective	1 - Expected to contribute little to the realisation of the objective
2 - Expected to contribute somewhat to the realisation of the objective	0 – Not expected to contribute to the realisation of the objective
	-1 - Expected to detract from the realisation of the objective

Appendix 4: How we landed on where growth will occur

We determined where growth would occur over the next 30 years through our latest Housing and Business Development Capacity Assessment, previous growth studies and City Growth Plan, scenario assessments, current District Plan change work, the timing of growth infrastructure in the 2024 Long Term Plan, and the market drivers that drive where intensification and infill may be taken up.

Previous growth studies

In Appendix 6 the previous growth studies undertaken by Palmerston North City Council have been outlined. Based on these previous growth studies, the City Growth Plan was included in Palmerston North City Council's current Long-Term Plan. We have used this as the basis for our scenario testing and the proposed growth plan in this Strategy albeit with a larger extent of *growing up* as a result of recent work to analyse capital to land value ratio, which was used as an indicator of where *growing up* type development may occur.

Current District Plan Change Work

The City Council's current District Plan change work includes work to rezone land for housing as follows:

- Roxburgh Crescent Residential Area
- Medium Density Residential Zone
- Aokautere Residential Area
- Kākātangiata Urban Growth Area
- Ashhurst Growth Areas
- Huia Street and Summerhays Rezoning

This rezoning work is expected to provide for homes across the short, medium, and long term as set out in Section D: Where Will Growth Occur?

The current District Plan change work also includes work to rezone for industrial land at Te Utanganui to provide industrial supply across the short, medium, and long terms as set out in Section D: Where Will Growth Occur?.

Work is progressing with notification of these plan changes. The timings set out in Section D: Where Will Growth Occur? are based on the expected notification dates of the various District Plan changes.

Growth Programmes in the 2024 Long Term Plan

Like how the District Plan change work has informed Section D: Where Will Growth Occur? of this Strategy, the programmes for development and additional infrastructure, controlled by Palmerston North City Council, in the 2024 Long Term Plan have also been used to inform when growth areas will come online across the 30-year period of this Strategy.

Market driver analysis

To determine where *growing up* would occur, we analysed the average capital-to-land-value ratio across statistical area units in the existing urban environments of the Palmerston North district to determine what areas of the city are likely to *grow up* (either redeveloped or greater infill subdivision). This analysis found over the short, medium, and long terms particular areas of Palmerston North were likely to 'grow up' as shown in Figure 5.

Community consultation

We received 145 submissions to the draft strategy from the public, iwi, developers, and central government agencies. Local knowledge and development sector information informed the following changes to our preferred growth scenario:

- Removing the outlying areas of the Te Utanganui Masterplan
- Adding the Bunnythorpe Business Park, 129 Richardsons Line, and 813 and 185 Roberts Line for further investigation as industrial land to add capacity to Te Utanganui
- Adding 160 Napier Road for further investigation to support growth in the medium term

Subject to further investigation, these areas may be able to be brought forward into the short term.

Figure 5: Areas likely to grow up in Palmerston North over the next 30 years

Short term **|Within the next 3 years**	Medium term **|Between 3 and 10 years**	Long term **|Between 10 and 30 years**
Awapuni North	Ashhurst	Ashhurst
Awapuni South	Awapuni North	Awapuni North
Esplanade	Awapuni South	Awapuni South
Highbury East	Esplanade	Esplanade
Hokowhitu Central	Highbury East	Highbury East
Hokowhitu East	Hokowhitu Central	Hokowhitu Central
Hokowhitu South	Hokowhitu East	Hokowhitu East
Milson North	Hokowhitu South	Hokowhitu South
Milson South	Milson North	Kelvin Grove North
Milverton	Milson South	Kelvin Grove West
Palmerston North Central	Milverton	Milson North
Palmerston North Hospital	Palmerston North Central	Milson South
Papaioea North	Palmerston North Hospital	Milverton
Papaioea South	Papaioea North	Palmerston North Central
Ruahine	Papaioea South	Palmerston North Hospital
Roslyn	Ruahine	Papaioea North
Ruamahanga	Roslyn	Papaioea South
Takaro North	Ruamahanga	Ruahine
Takaro South	Takaro North	Roslyn
Terrace End	Takaro South	Royal Oak
Tremaine	Terrace End	Ruamahanga

Short term **|Within the next 3 years**	Medium term **|Between 3 and 10 years**	Long term **|Between 10 and 30 years**
West End Westbrook	Tremaine West End Westbrook	Takaro North Takaro South Terrace End Tremaine West End Westbrook

Appendix 5: Palmerston North Growth Area Plans

This section contains a summary of the operative, proposed, and draft growth areas contained in Section D of this Strategy.

It also contains the structure plans for growth areas for known growth locations for the city at the time of writing this Strategy. These structure plans show the development and additional infrastructure requirements also shown in Section E: Development and Additional Infrastructure Requirements.

Table 13: Operative, draft, and proposed structure plans or areas for known growth locations in Palmerston North

	Growth Area	District Plan Status
Growing Up	Standard infill subdivision	Operative district wide provisions
	Multi-Unit Housing Areas	Operative areas (see Map 46) Operative area specific plan provisions
	Medium Density Zone	Draft zone (see Map 46) Draft zone-specific plan provisions
Growing In	Hokowhitu Lagoon Residential Area	Operative site-specific plan provisions Operative structure plan (see Figure 6)
	Roxburgh Crescent Residential Area	Draft site-specific plan provisions Draft structure plan (see Figure 7)
	Albert Street Depot	Not currently under investigation, a potential option in this Strategy (see Figure 8)
	Botanical Road Goodman Fielder industrial enclave	Not currently under investigation, a potential option in this Strategy (see Figure 9)
	Joseph Street industrial enclave	Not currently under investigation, a potential option in this Strategy (see Figure 10)
	17 Summerhays Street	Investigation (see Figure 11)
	Huia Street Reserve	Investigation (see Figure 12)
	605 Featherston Street (Crash Services)	Not currently under investigation (see Figure 13)
	City Centre	Operative zone – Inner Business Zone and Outer Business Zone (see Figure 14) Operative area specific plan provisions
Growing Out	Kikiwhenua Residential Area (Stage 1 of Kākātangiata)	Operative site-specific plan provisions Operative structure plan (see Figure 15)
	Napier Road Residential Extension Area	Operative site-specific plan provisions Operative structure plan (see Figure 16)
	Whakarongo Residential Area	Operative site-specific plan provisions Operative structure plan (see Figure 17
	Ashhurst Growth Areas	Draft extent (see Figure 18)
	Aokautere Growth Area	Operative site-specific plan provisions Operative structure plan (see Figure 19 and Figure 20:)

	Growth Area	District Plan Status
	Mātangi Residential Area	Operative site-specific plan provisions Operative structure plan (see Figure 21)
	Kākātangiata	Draft site-specific plan provisions Draft structure plan (see Figure 22)
	160 Napier Road	Draft site-specific plan provisions Draft structure plan (see Figure 23)
	North East Industrial Zone Extension Area	Operative site-specific plan provisions Operative structure plan (see Figure 24)
	Te Utanganui	Masterplan and investigation (see Figure 25)
	129 Richardsons Line	Draft extent and investigation (see Figure 26)
	813 and 815 Roberts Line	Draft extent and investigation (see Figure 27)
	Bunnythorpe Business Park	Draft extent and investigation (see Figure 28)

Map 46: Multi-unit housing areas and draft medium density zone

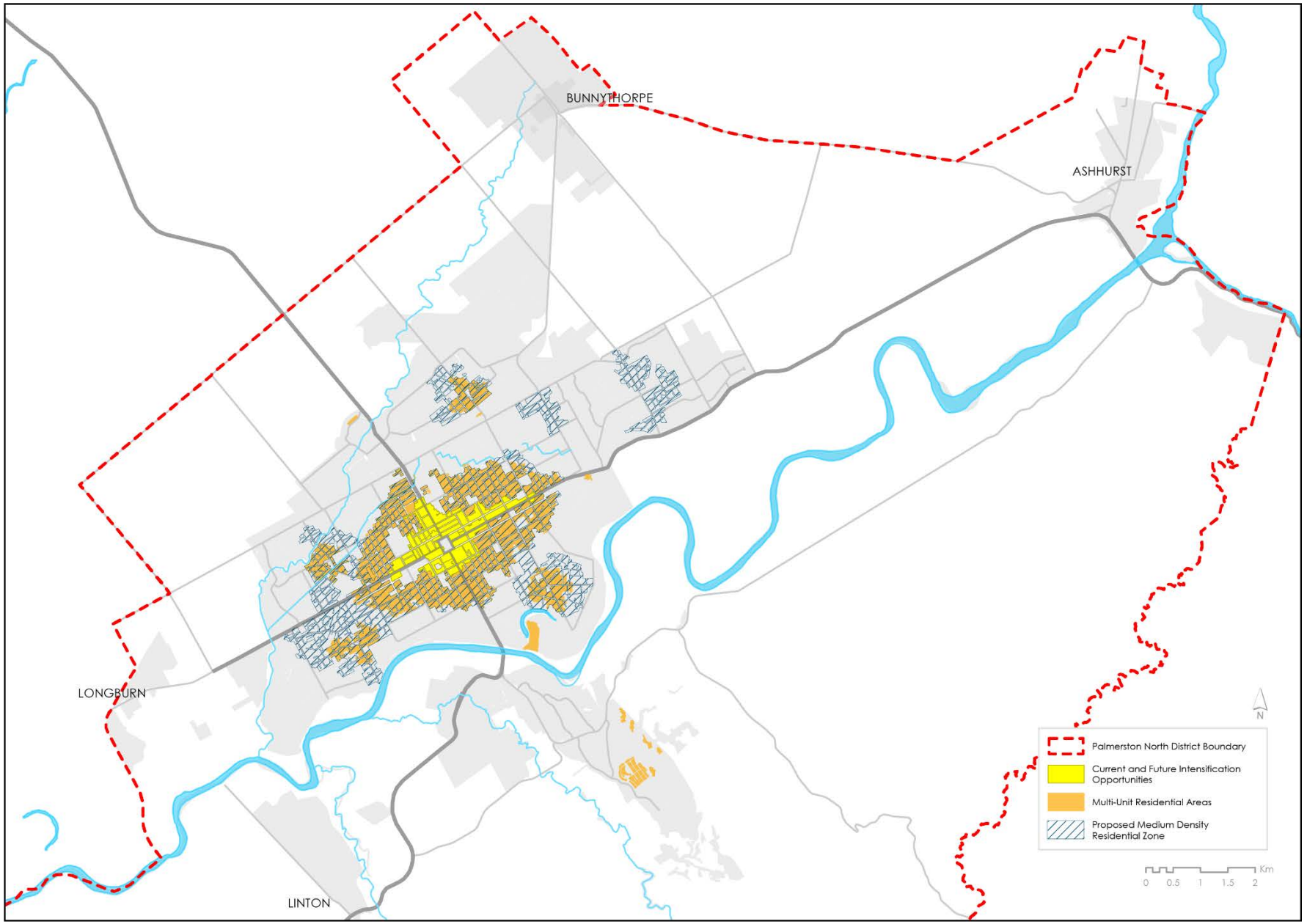


Figure 6: Hokowhitu Lagoon Residential Area Structure Plan

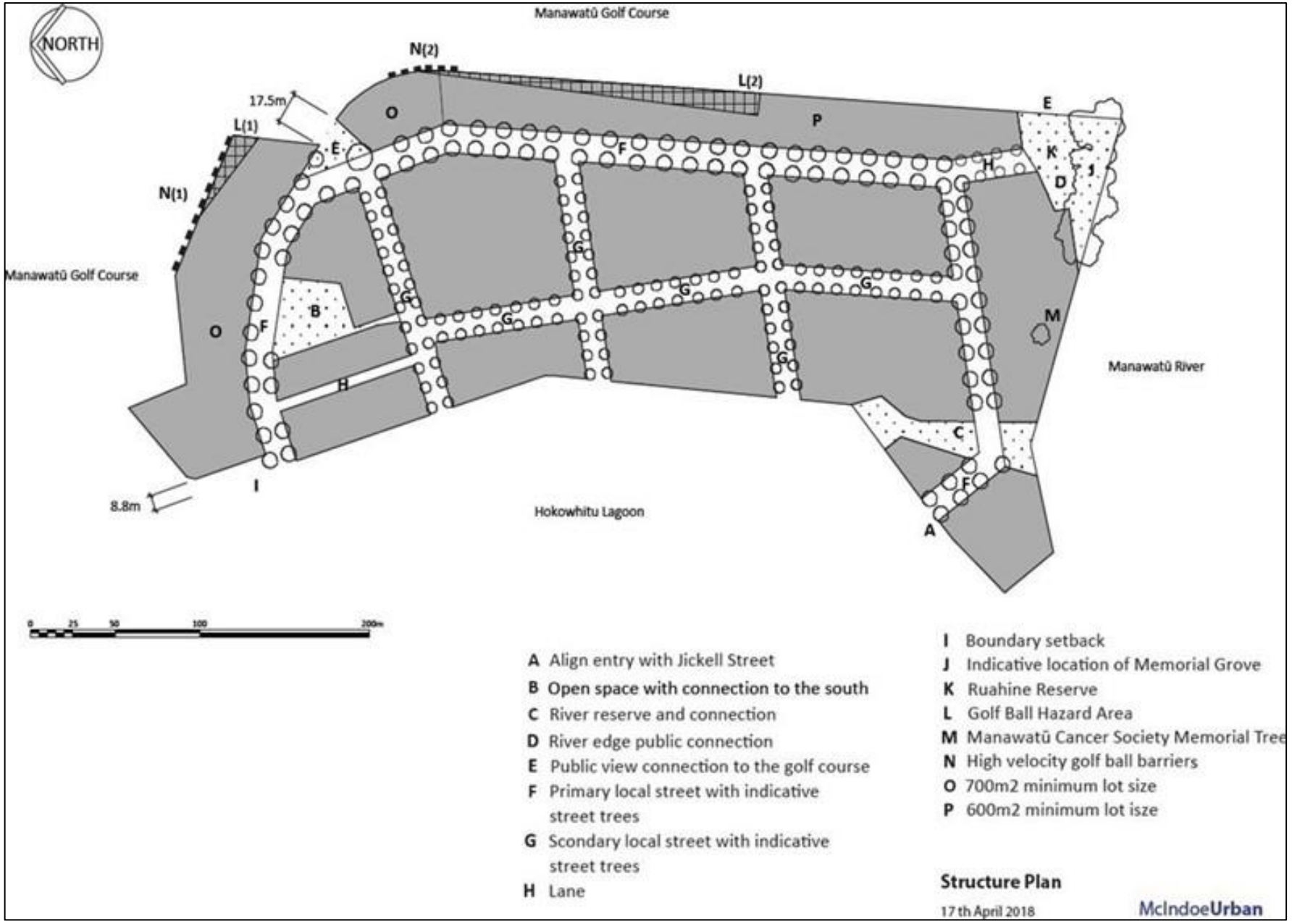


Figure 7: Draft Roxburgh Crescent Structure Plan

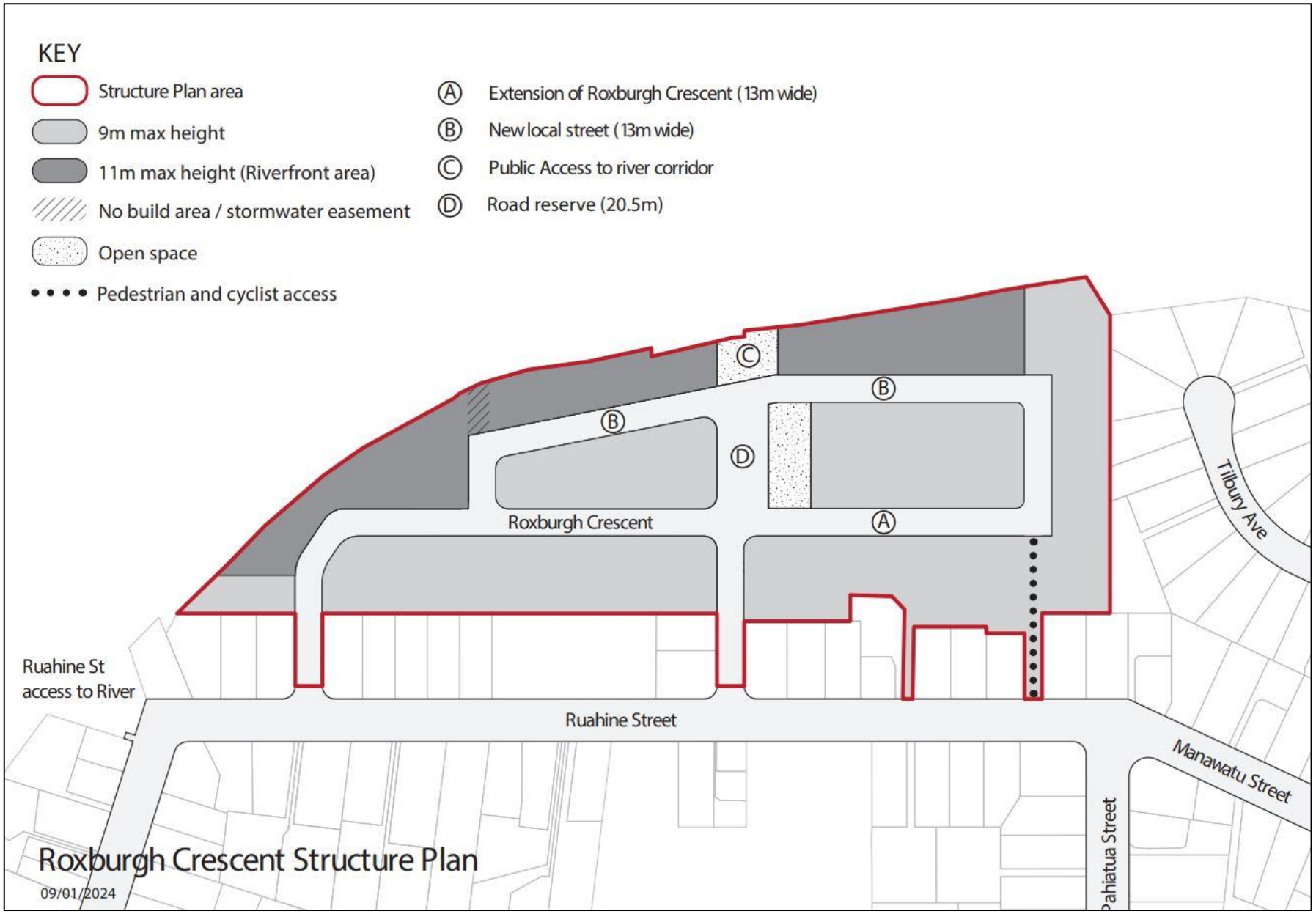


Figure 8: Albert Street Depot

Figure 9: Botanical Road Goodman Fielder industrial pocket

Figure 10: Joseph Street industrial pockets

Figure 11: 17 Summerhays Street

Figure 12: Huia Street Reserve

Figure 13: 605 Featherston Street industrial pocket

Figure 14: Outer and Inner Business Zones

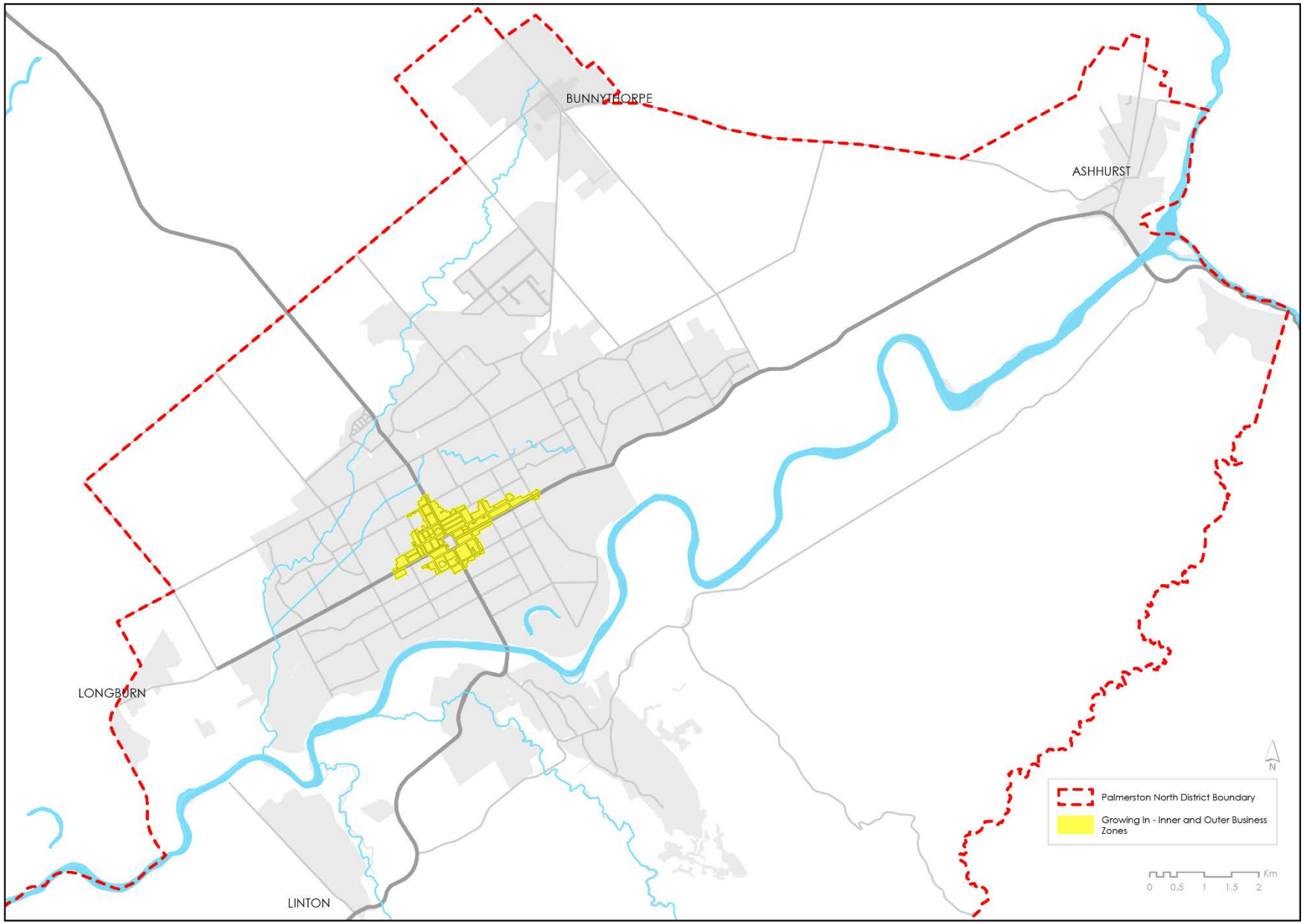


Figure 15: Kikiwhenua Residential Area Structure Plan

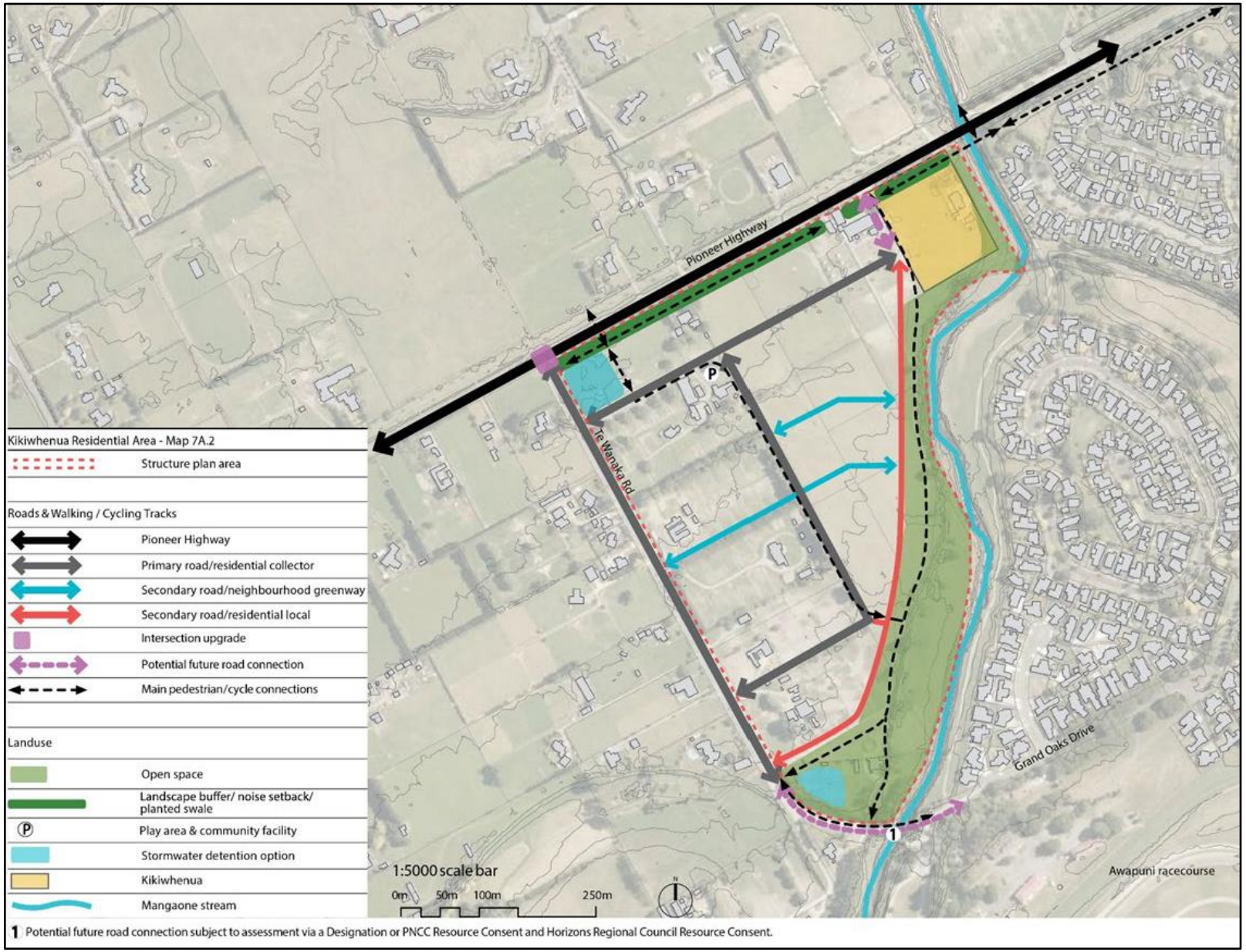


Figure 16: Napier Road Residential Extension Area Structure Plan

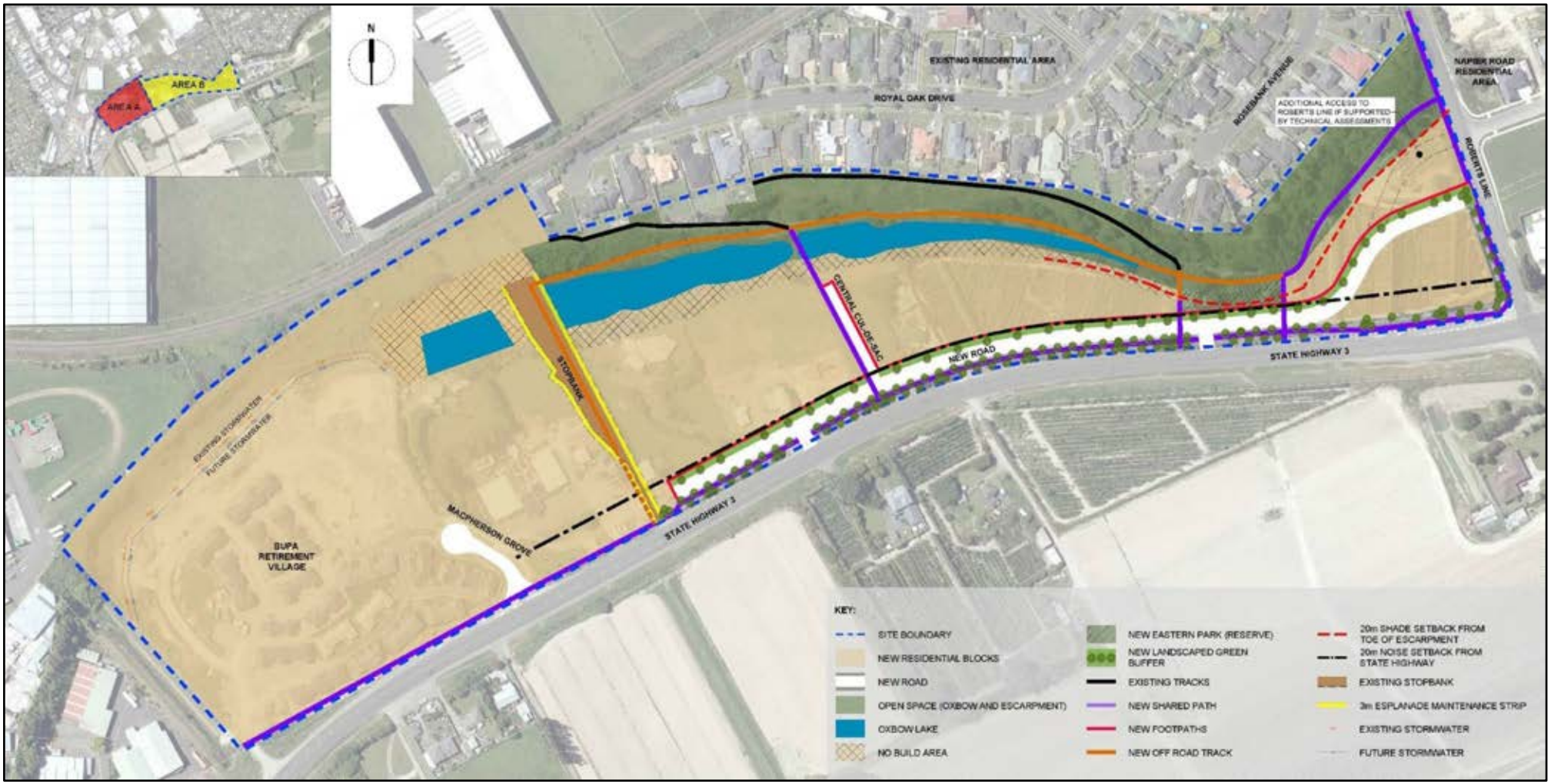


Figure 17: Whakarongo Residential Area Structure Plan

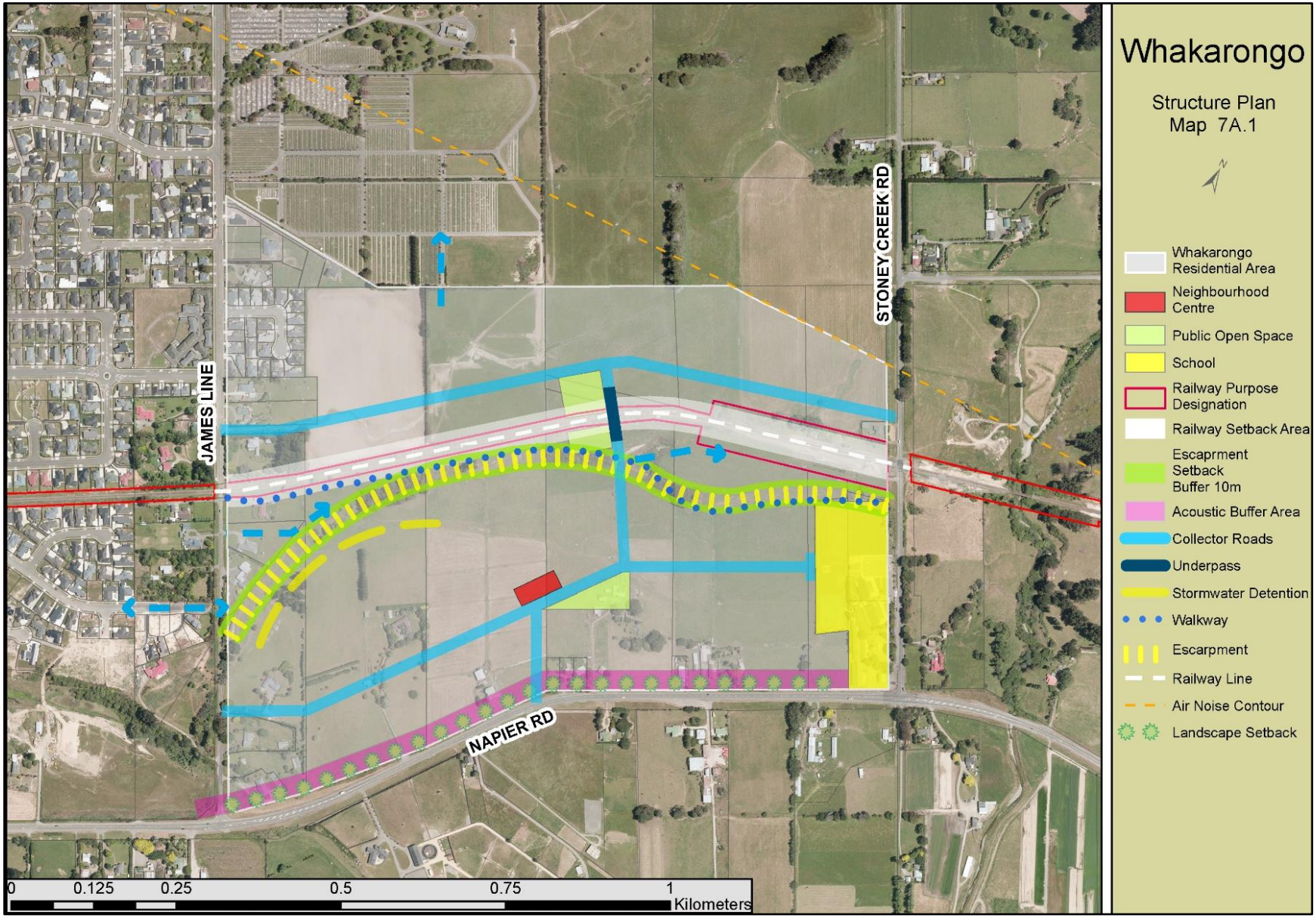


Figure 18: Draft Ashhurst Growth Areas

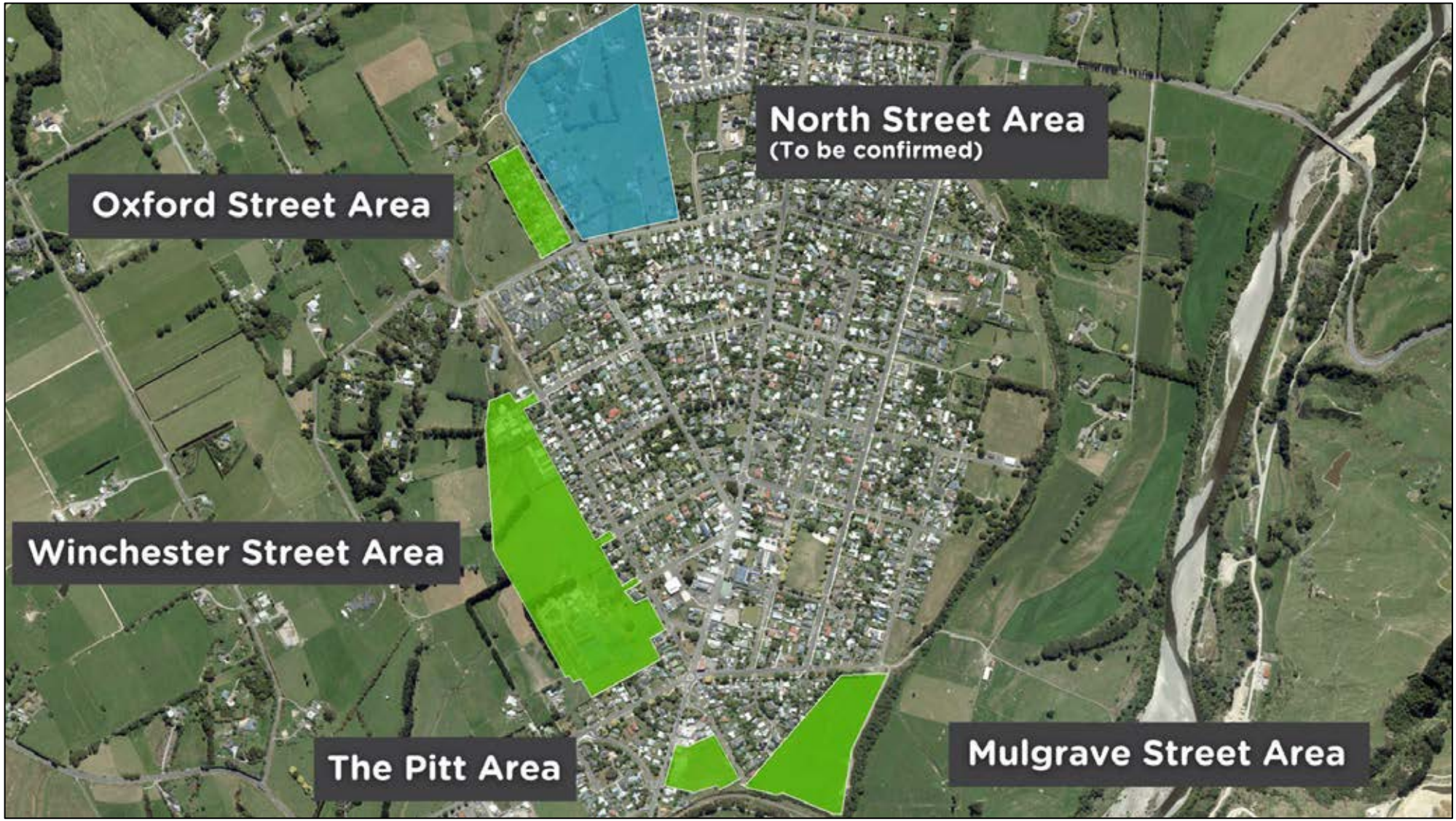


Figure 19: Aokautere Residential Area Structure Plan

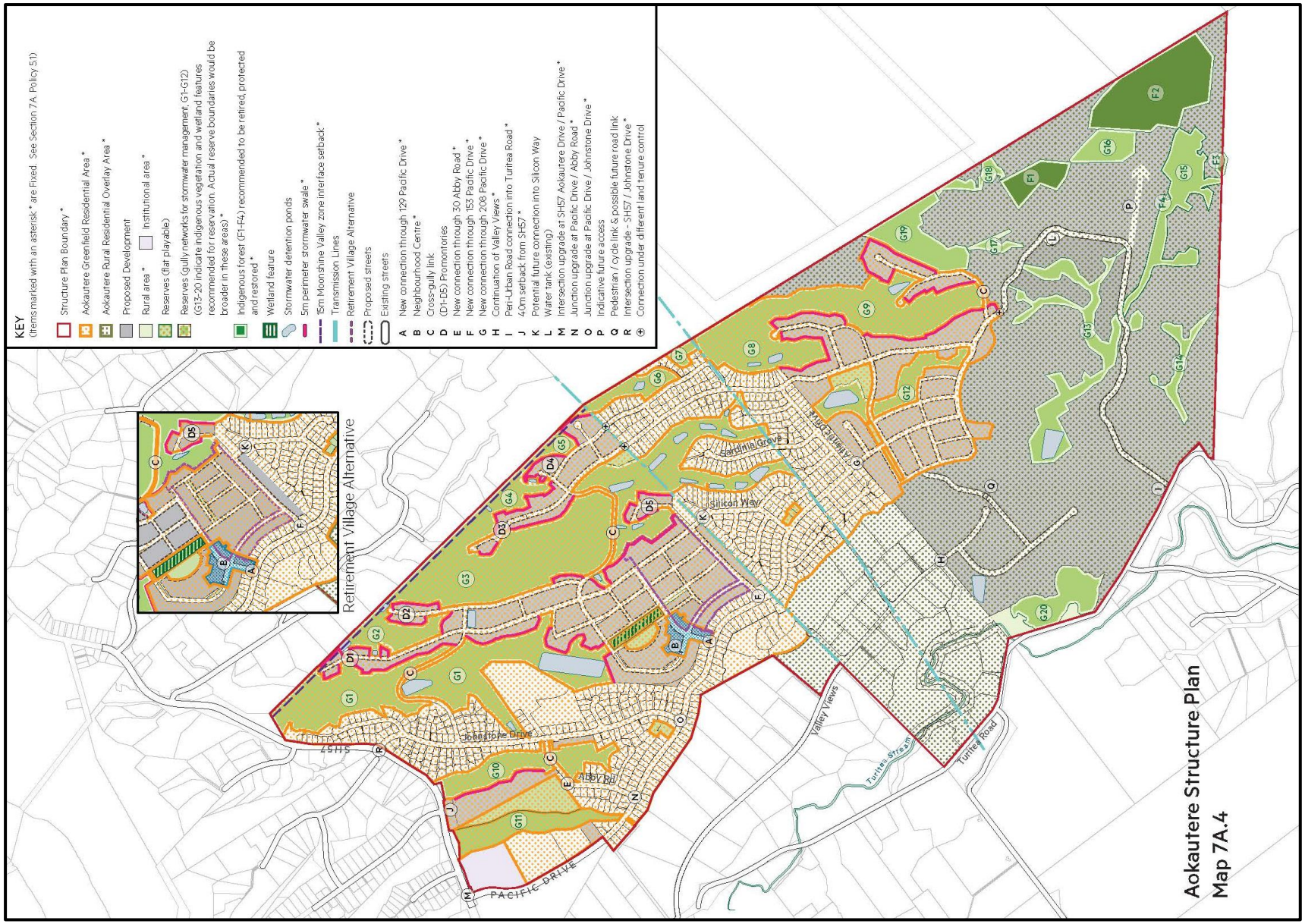


Figure 20: Aokautere Structure Plan - Street Hierarchy

Figure 21: Mātangi Residential Area Structure Plan

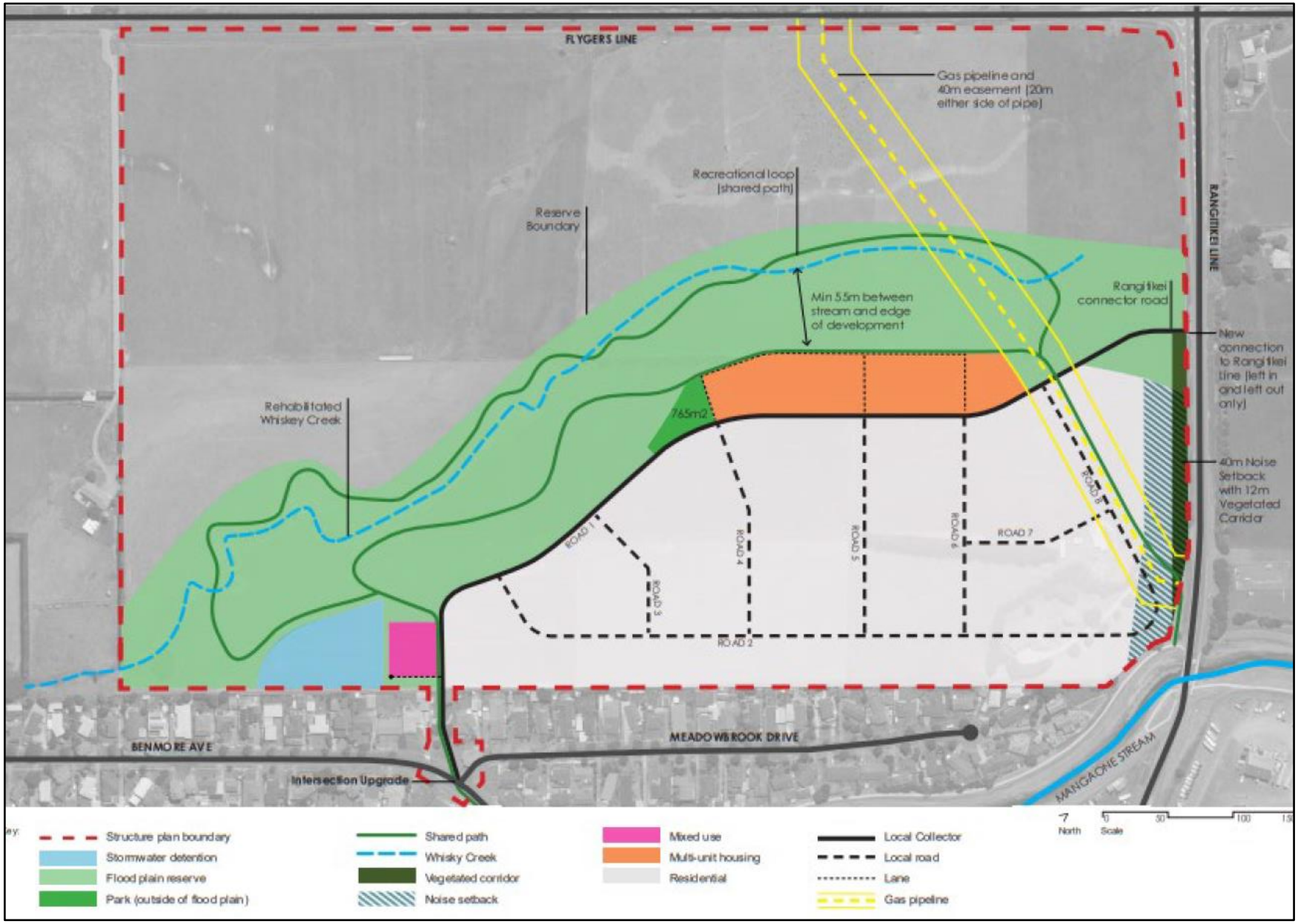


Figure 22: Draft Kākātangiata Residential Area Structure Plan

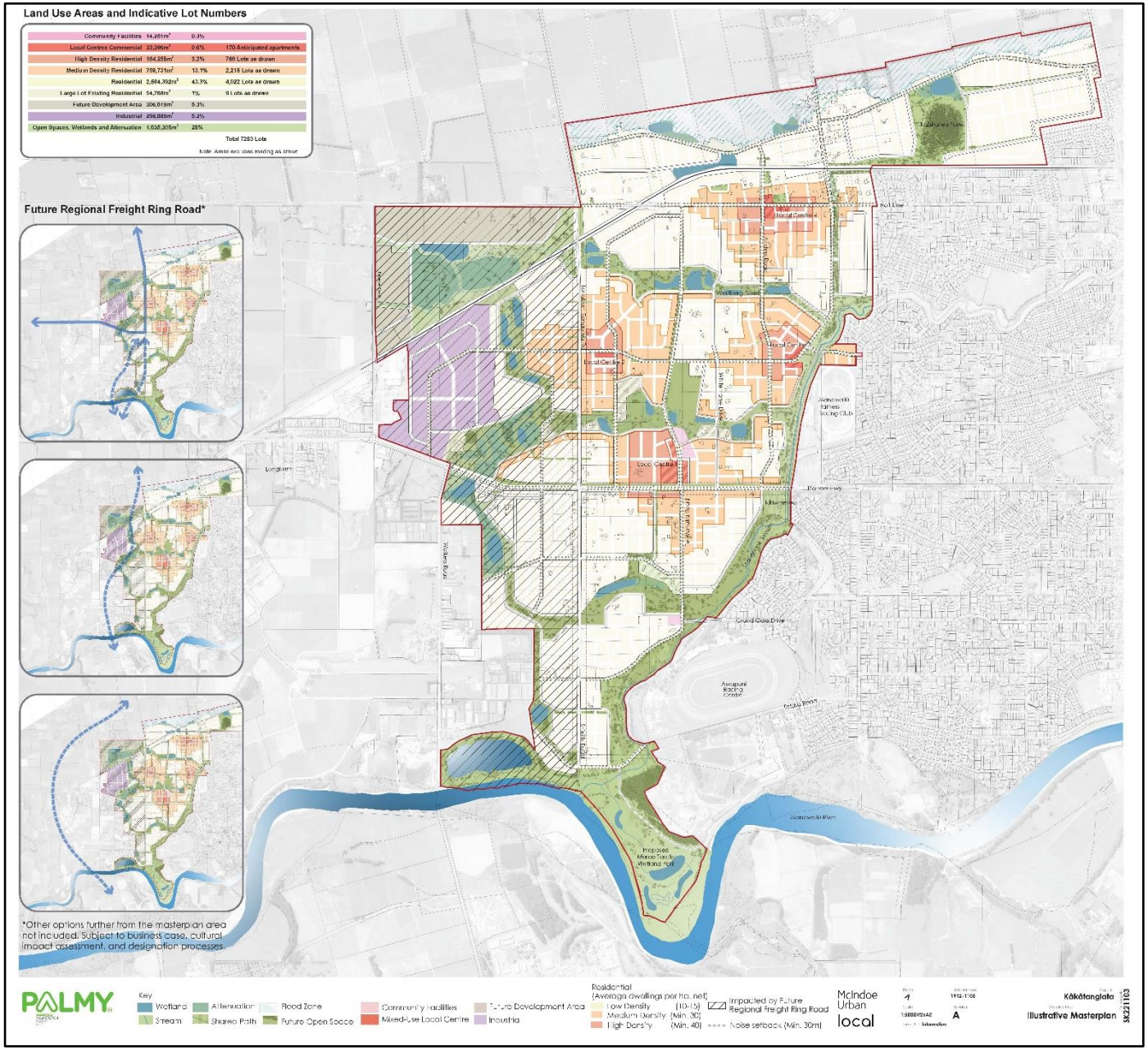


Figure 23: 160 Napier Road

Figure 24 North East Industrial Zone Extension Area structure plan

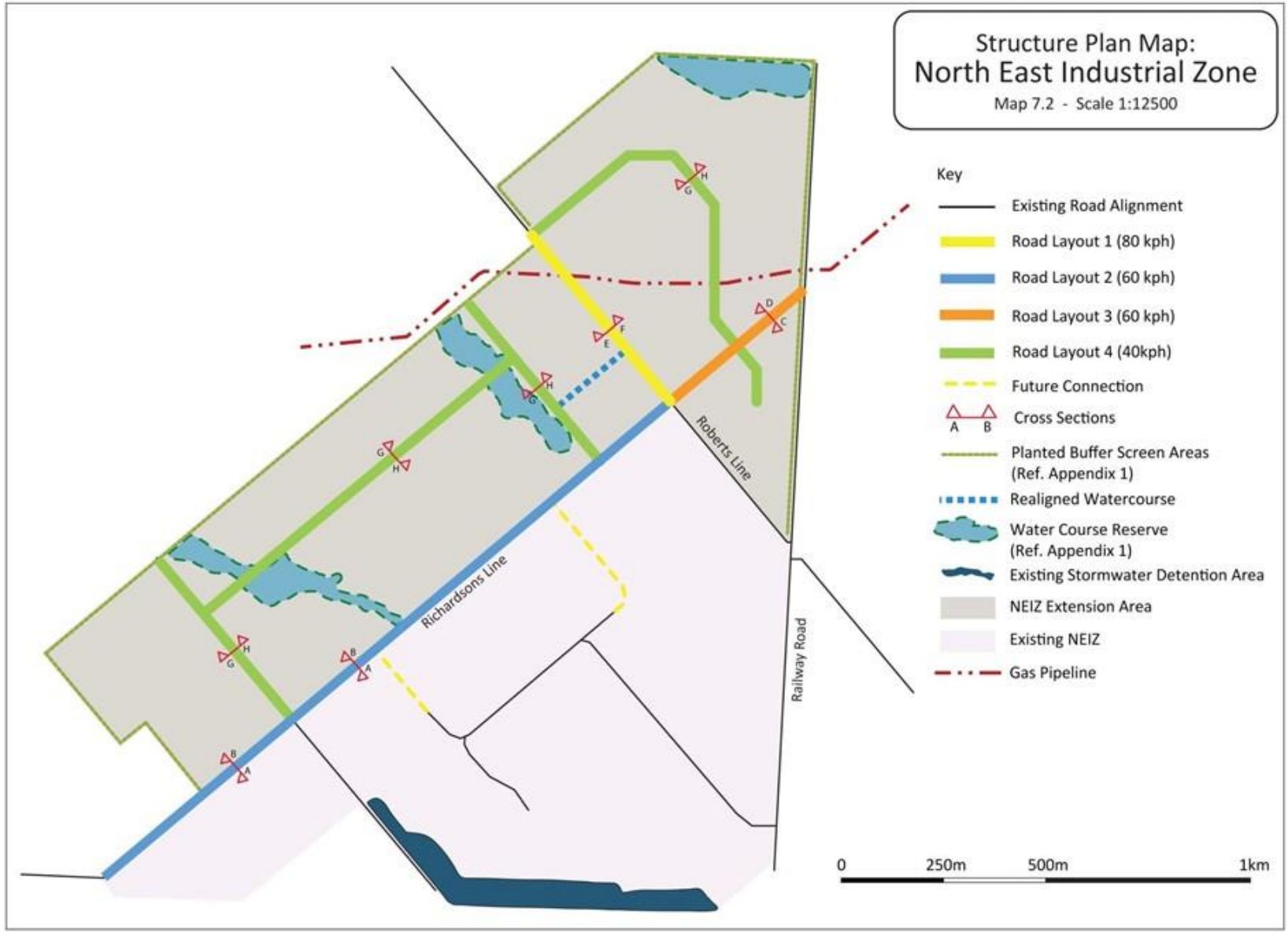


Figure 25: Te Utanganui Master Plan

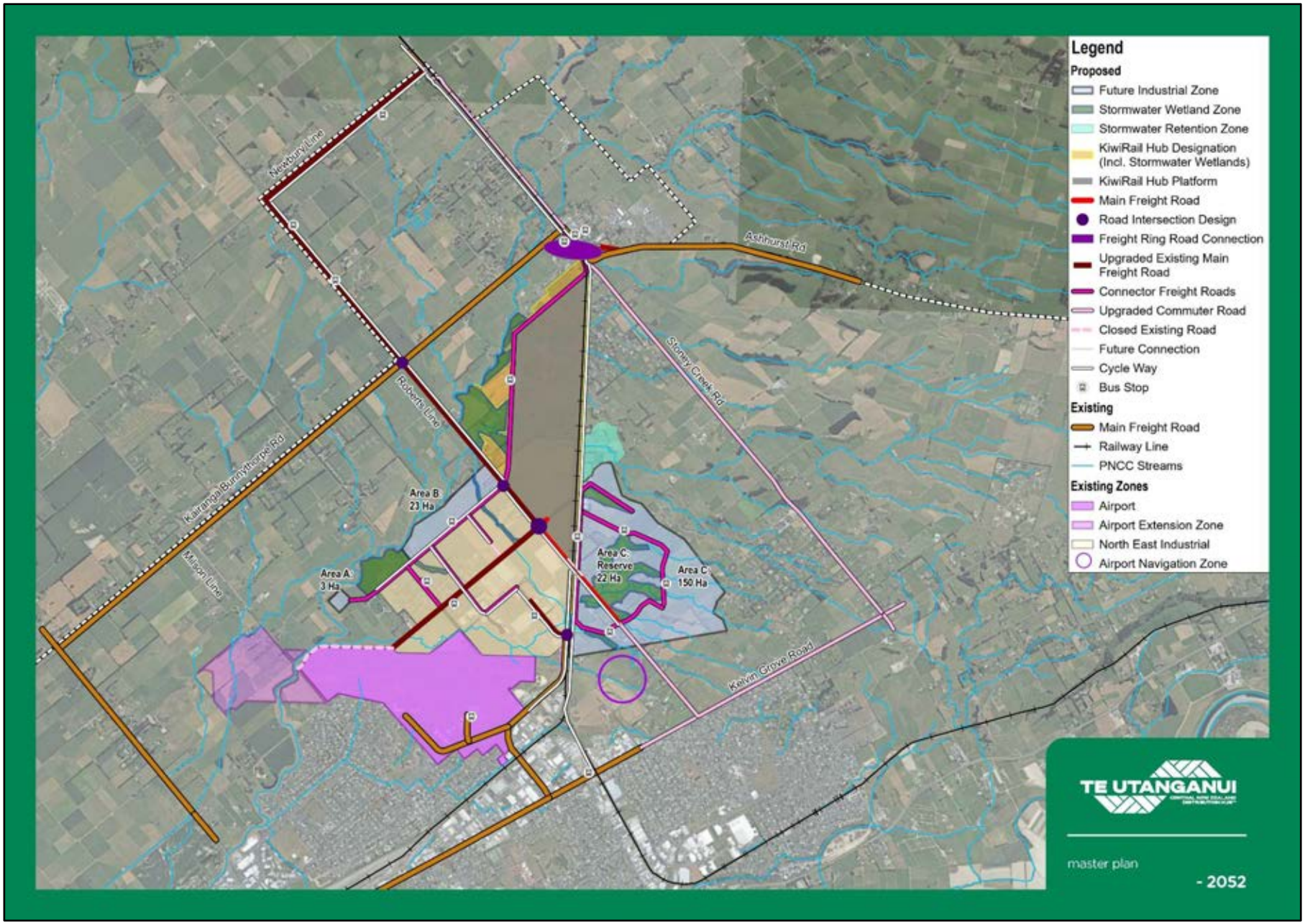


Figure 26: 129 Richardsons Line

Figure 27: 813 and 815 Roberts Line

Figure 28: Bunnythorpe Business Park

Appendix 6: Our Previous Growth Studies

Below is a summary of previous urban growth studies that have preceded the Future Development Strategy.

Table 14: Previous urban growth studies for Palmerston North - Residential

Summary of Residential Growth Options	Year of Urban Growth Study								
	1978	1986	1993	1995	2001	2002	2003	2007	2010-2012
Growth Option					**Report Conclusion (Blue = preferred option, Orange = not preferred)**				
Infill	Short term (16% supply)	Short term	Short term (30% supply)		Short term (30% supply)		Short term (30% supply)		Short term (30% supply)
Kelvin Grove/ Whakarongo	Short term up to James Ln	Short term up to James Ln. Long term up to Stoney Creek Rd.	Long term up to Stoney Creek Rd.		James Ln Airport noise sensitivity constraints.		James Ln Airport noise sensitivity constraints.		Short to medium term Whakarongo
Flygers Line area	Medium term subject to flood protection works	Flood protection required to enable.		Flood protection required to enable.					
Northern extension towards Bunnythorpe	Long term if growth pressures are strong	Bridging and stormwater upgrades required for parts.			Up to end of Orakei Rd discounted due to stormwater constraints.				Tutaki Road considered as part of Whakarongo/Kelvin Gr option
Southwest extension	Long term including Longburn if growth pressures are weak	Flood and stormwater constraints.			Gillespies Ln/Cloverlea Rd shortlisted as a 'First Level Area'	Gillespies Ln/Cloverlea Rd ranked 2nd	Short to medium term Gillespies Ln/Cloverlea Rd	Updated flood constraints and high-class soils.	City West deferred until liquefaction risk was assessed
Linton	Excluded from final report	New bridge and road upgrades required. Census results discounted the need for Linton.	Not required to meet projected population growth.	Long term subject to new bridge crossing at Maxwells Ln.	Poor accessibility.				High servicing costs, transport, and reverse sensitivity constraints.
Aokautere	Not suitable for future urban growth	Short term up to 'Johnstone Dr' Medium term up to 291 Turitea Rd.	Long term beyond Pacific Dr.		Shortlisted as a 'Second Level Area' on the basis of a private plan change for a	Pacific Dr extension ranked 3rd			Old West Road considered to have reverse sensitivity constraints, poor

Summary of Residential Growth Options	Year of Urban Growth Study								
	1978	1986	1993	1995	2001	2002	2003	2007	2010-2012
Growth Option					Report Conclusion (Blue = preferred option, Orange = not preferred)				
		Long term - 'Valley Views'			Pacific Dr extension.				urban form, and high servicing costs.
Ashhurst/ Pohangina extension	Significant regional growth required.				Ashhurst shortlisted as a 'First Level Area'	Sufficient land considered for demand. Further rezoning put on hold.			Not preferred but considered viable for village growth in the future. South of SH3 considered too separated from the village.
Feilding/Oroua River/Hills	Significant regional growth required.								
Te Matai Road area		Flood protection required and loss of high-class soils.			City up to Te Matai Rd shortlisted as a 'First Level Area'	City up to Te Matai Rd ranked 1st	Medium to long term up to Te Matai Rd	Updated flood constraints and high-class soils.	Flood constraints and high-class soils.
Henderson's Line				Poor urban form, low yield, and high-class soils.	Poor urban form, airport noise sensitivity and stormwater constraints.				Poor urban form, high servicing costs, inefficient yield.
Raukawa Road				Potential flooding and liquefaction constraints.					
Forest Hill Road	Somewhat assessed as part of Aokautere option			Stormwater constraints, isolated, and poor urban form					Poor urban form and high servicing costs.
Keebles				Long term subject to bridge at Maxwells Ln and protection of Keebles Bush.	Discounted but would be considered suitable if a second bridge was nearby.				Poor urban form, reverse sensitivity effects on Massey farms, Linton Army Camp, and Keebles Bush.
Staces Road					Shortlisted as a 'First Level Area' subject to a	Ranked 4th and put on hold until a lake and bridge			High class soils. Addendum suggests flood

Summary of Residential Growth Options	Year of Urban Growth Study								
	1978	1986	1993	1995	2001	2002	2003	2007	2010-2012
Growth Option					Report Conclusion (Blue = preferred option, Orange = not preferred)				
					recreational lake and second bridge.	make this option viable.			risk is manageable
Pahiatua Track	Somewhat assessed as part of Aokautere option								Both east and west considered poor urban form and high servicing costs.
Polson Hill	Somewhat assessed as part of Aokautere option								Conflicts with existing rural residential character, high servicing cost, poor urban form, ecological constraints.
Kahuterawa									Reverse sensitivity effects to the west with Linton Army Camp, ecological, servicing, and transport constraints.

Table 15: Previous urban growth studies for Palmerston North - Business and Industrial

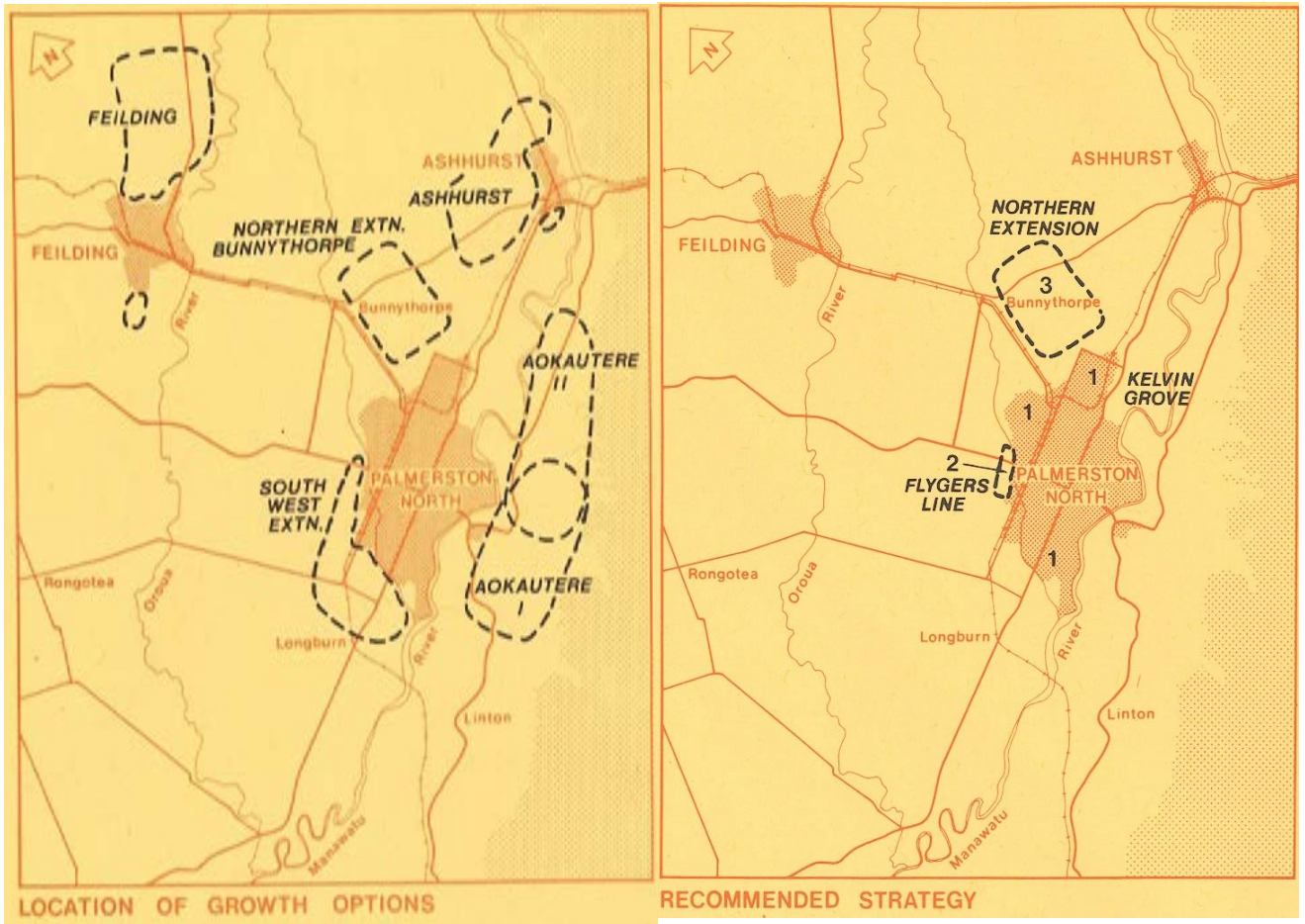
Summary of Business and Industrial Growth Options	Year of Land Use Study			
	1986	2001	2003	2007
Growth Option	**Report Conclusion (Blue = preferred option, Orange = Not preferred)**			
Longburn	Expands on existing industrial land use.	Long term industrial due to water and wastewater constraints.		Suitable for wet industries.
Kelvin Grove	Not recommended for industrial: Wastewater constraints and reverse sensitivity with existing housing.	Not recommended for industrial: Access and size constraints, and nearby housing.		
Bunnythorpe	Viable as industrial only if northern extension was developed.			
Kawakawa Road (Feilding)	Expands on existing industrial land use.			Suitable to light industrial activities and agri-business.
Northeast Industrial Zone		Short term industrial due to road/rail/air access. Expand further north in the long term.		Short to medium term industrial suitable for warehousing and distribution.
Linton		Long term industrial due to accessibility and servicing constraints		Not recommended for industrial: Second bridge crossing required.
Cloverlea		Medium term industrial due to access to the future ring road and rail line, but ecological constraints and nearby housing.		
Flygers Line		Not recommended for industrial: Flooding constraints.		
Golf Course		Not recommended for industrial: Airport height limits.		
Linklater		Not recommended for industrial: Airport height limits, nearby housing, and a preferred park.		
Main Street (opposite McArthur Street)		Repurpose to Outer Business Zone		
Rangitikei Street Industrial Zone (including Matipo Street)		Repurpose to Outer Business Zone		
Business Zones			Reduce the size of the Inner Business Zone to accommodate a shift to Outer Business Zone activity.	

Manawatū Urban Growth Study 1978

This regional growth study assessed a variety of strategies for providing for future development including infill, expanding Palmerston North's urban boundary, further development of adjacent communities (e.g. Feilding, Bunnythorpe and Linton) and establishing new areas of urban development in areas such as Bainesse or Rongotea. The study planned for growth up to 2001.

After the study was conducted the predominant growth that occurred in the 1980s was expansion in Kelvin Grove, Milson, Cloverlea, Westbrook and Awapuni West, along with considerable infill.

Figure 29: Manawatū Urban Growth Study 1978 Options Vs Recommended Strategy



Palmerston North Long Term Urban Growth Study 1986

The 1986 study was produced in response to the Local Government Commission's request to assess if the city's land supply was adequate to meet long term growth needs (up to 2010) and if boundary changes were required to satisfy growth. The 1986 study reviewed the 1978 study in light of changing assumptions and government policy at the time.

Key circumstances that challenged assumptions from the 1986 study included:

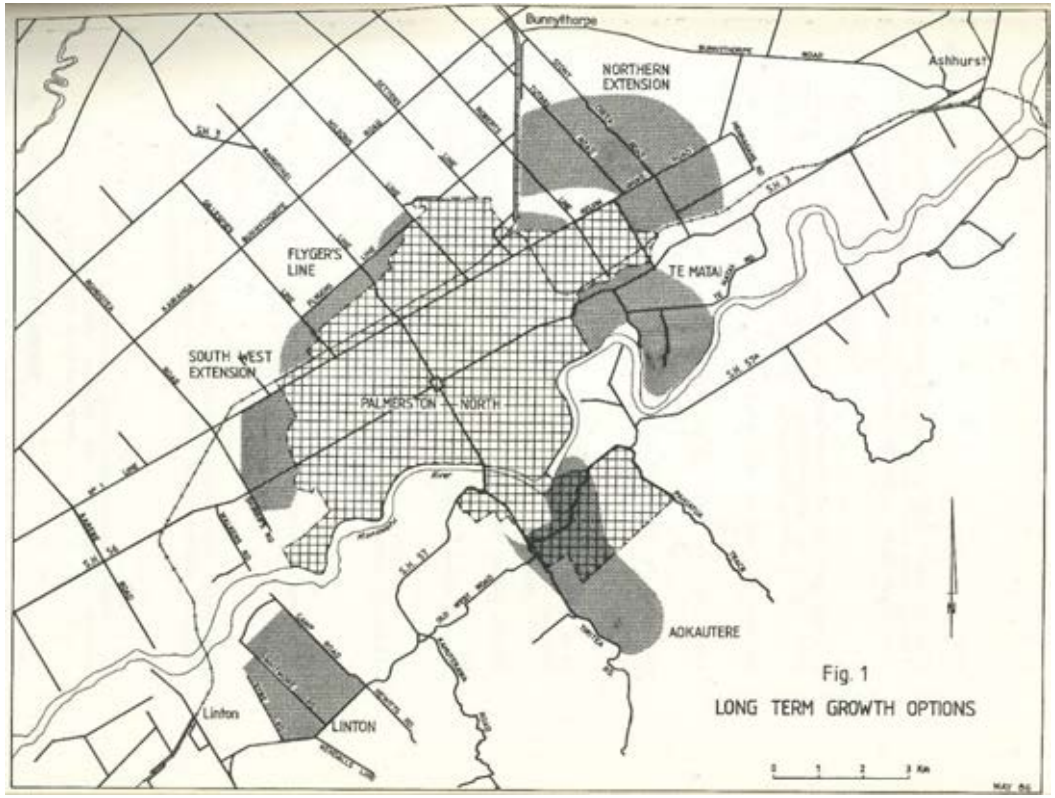
- Changes to the structure of regional government, funding for flood protection schemes, changing transport costs, increased growth in horticulture practices,
- Te Matai Road was not considered as an option,
- Kairanga County favoured an eastern extension towards Stoney Creek Road, larger than was anticipated in the 1978 study,
- Industrial development in the Kelvin Grove area which reduced short term residential land supply
- The Northern and Aokautere options were larger in the 1978 study.

Initial preferences for long term growth were identified at Linton and Aokautere but were later amended after the 1986 Census showed lower than expected growth for the city. Preference had subsequently been directed to a limited extent of Aokautere to avoid competing too heavily with continuing growth at Kelvin Grove.

Since 1990 most of the greenfield growth had occurred in Aokautere, Kelvin Grove, Milson, and Westbrook.

Four sites large enough to accommodate 70 hectares of industrial growth were identified in the study at Kelvin Grove, Bunnythorpe, Kawakawa Road to the south of Feilding, and Longburn. Explicit recommendations were not made but both the Longburn and the Feilding options were described as favourable.

Figure 30: Palmerston North Long Term Urban Growth Study 1986 Long Term Growth Options



Urban Growth Study Stage 1: Background Issues and Needs Assessment 1993

The 1993 study looked at whether the planned supply with the city, Aokautere and Kelvin Grove remained sufficient to meet housing demand up to 2011.

The 1993 study determined that there was sufficient land supply to meet housing demand up to 2011 through a mix of infill (30%), rural residential (7%) and greenfield development (63%).

The report remained consistent with the preferred growth options in the 1986 study. The report recommended a further study to look at growth needs beyond 2011 to help determine the preferred site for a second bridge

Urban Growth Study Stage 2: Long Term Growth Options for Palmerston North 1999

The 1995 study was produced to assist with finding an appropriate location for a new bridge that would cater for current traffic and new urban growth.

The study focused on long term growth options and did not reconsider the role of infill and existing short term growth areas at Aokautere and Kelvin Grove. This study was an initial assessment and recommended further detailed feasibility be conducted and projections be update after the 1996 Census became available.

City Growth Review 1999

By 1999 Palmerston North had experienced consistent growth preferences averaging 40% infill, 45% greenfield, and 15% rural residential development. Greenfield growth continued in Kelvin Grove, Milson, Westbrook and Aokautere.

Key constraints that changed assumptions from previous growth studies included:

- Introduction of Air Noise Zones/Contours in the District Plan to protect the airport against reverse sensitivity. This had affected the viability of developing the northern extent of the Kelvin Grove growth option.
- Projected expansion of Linton Army Camp, Manawatū Prison, and Massey University had led to doubts regarding the previous viability of the Linton and Keebles options.
- The review considered that Aokautere was unlikely to meet the short term land supply previously assumed. Assessment of actual development trends in the Aokautere Residential Zone had shown a 15 dwelling/hectare population density compared with 26 dwellings/hectare in Awapuni, Takaro, and Hokowhitu. This is due to the “dissected” nature of land in Aokautere leading to less than 60% growth yield.

This growth review was used as the basis for Stage 1 of the Urban Growth Review in 2000.

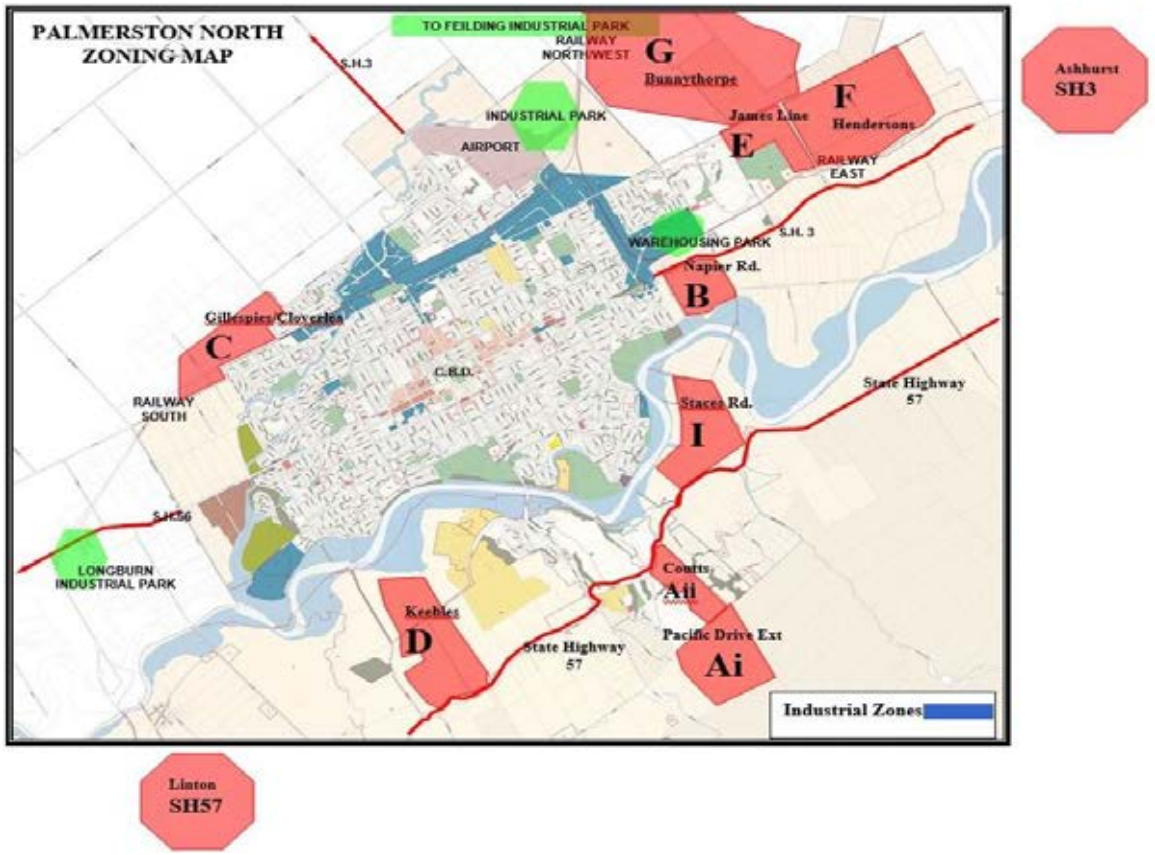
Palmerston North City Future Urban Growth Fronts – Working Forum Report 2001

The 2001 Report was based on an initial strategic study in 2000 of 10 potential sites that could direct a new urban growth path for the city.

These 10 sites were narrowed down to five by assessing each against the extent to which they met Council's vision and objectives. This study was the first of three stages.

The likely residential preference for infill had predicted to drop to 30% of land supply and Rural Residential making up 15%.

Figure 31: Palmerston North City Future Urban Growth Fronts 2001 Growth Options



Strategic Assessment of Urban Growth Options for Palmerston North 2002

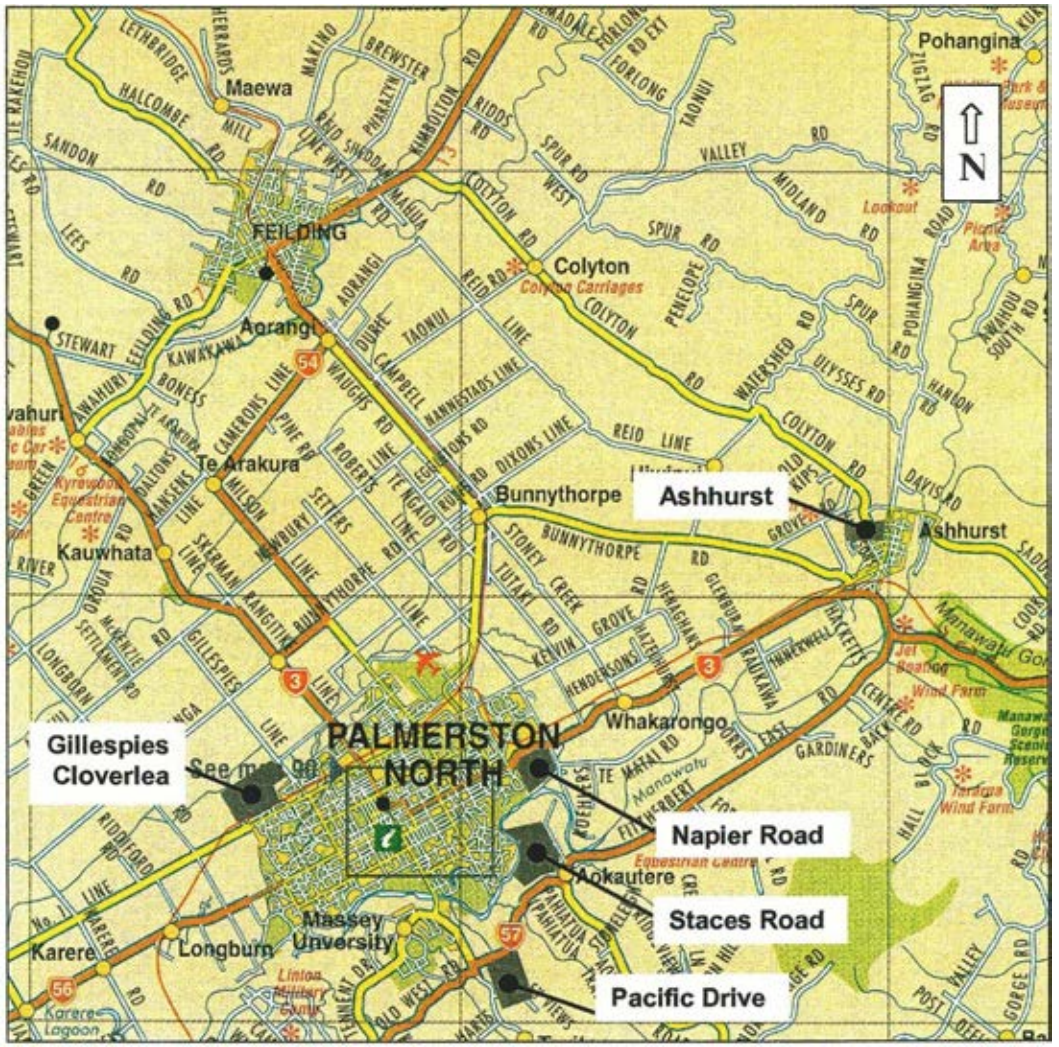
The 2002 study assessed the effects, issues, costs, and benefits for the shortlisted growth areas in the 2001 study in more detail.

Two preferred growth areas were confirmed when presented to Council in November 2002:

- Eastern Growth Front – Te Matai Road/Napier Road
- Western Growth Front – Gillespies Line/Cloverlea Road

Both of these options were first preferences due to their adjacency to the core urban area, less risk, and higher cost-benefit scores.

Figure 32: Strategic Assessment of Urban Growth Options 2002 Growth Options



Palmerston North City Urban Growth Review 2003 Stage Three (Urban Growth Strategy)

The 2003 study involved further analysis of the preferred 2002 growth fronts to identify staging of these greenfield areas over a 20-year period. Council adopted the recommendations to pursue Gillespies Line/Cloverlea Road as a short to medium term growth area, and Te Matai Road/Napier Road as a medium to long term growth area.

The status quo option of expanding the existing growth paths of Kelvin Grove and Aokautere was considered highly constrained by airport noise sensitivity, reverse sensitivity risk from the crematorium in Kelvin Grove, and strategic transport risk with an identified heavy transport route along Kelvin Grove Road and Stoney Creek Road.

An 'Urban Containment' option of removing any new urban growth paths and relying on already enabled capacity from infill, Kelvin Grove, and Aokautere was considered to prompt ad hoc private plan changes being lodged and leading to unplanned growth in the city, and insufficient supply to meet 20 years of housing demand. A landbank analysis conducted in 2002 predicted that the city would run out of greenfield lots by 2017 with current supply and expected to need a new greenfield area by 2008-2010.

The recommendations from this review initiated work on a boundary adjustment between the Palmerston North City Council and Manawatū District Council through the Eastern Growth Corridor project. Updated flood risk modelling in 2007 prompted by the 2004 floods, along with heightened concerns over the loss of high-class soils, led to the decision to review the city's urban growth strategy to find more appropriate locations.

Palmerston North Industrial Land Use Study 2001

The 2001 industrial study was produced to undertake a 20-year growth strategy for future industrial land supply.

Eight general options were considered, with the north of the airport, Longburn, Cloverlea, and Linton sites identified for a range of short to long term growth options.

A discrete couple of recommendations for rezoning historical industrial zoned sites to provide for developed commercial more efficiently were recommended, notably the Rangitikei Street Industrial Zone which was later rezoned to Fringe Business Zone in the mid-2000s.

Figure 33: Industrial Land Use Study 2001 Growth Options

Palmerston North Retail Study 2003

The 2003 retail study evaluated current and future trends in retail against the District Plan scheme for providing for business land.

The proposed retail strategy recommended restructuring the quantum of land within the Inner Business Zone (city centre) and Outer Business Zone to accommodate the shift from predominantly comparative retail shopping to emerging large format retail shopping.

Palmerston North City and Manawatū District Industrial Land Use Planning Review 2007

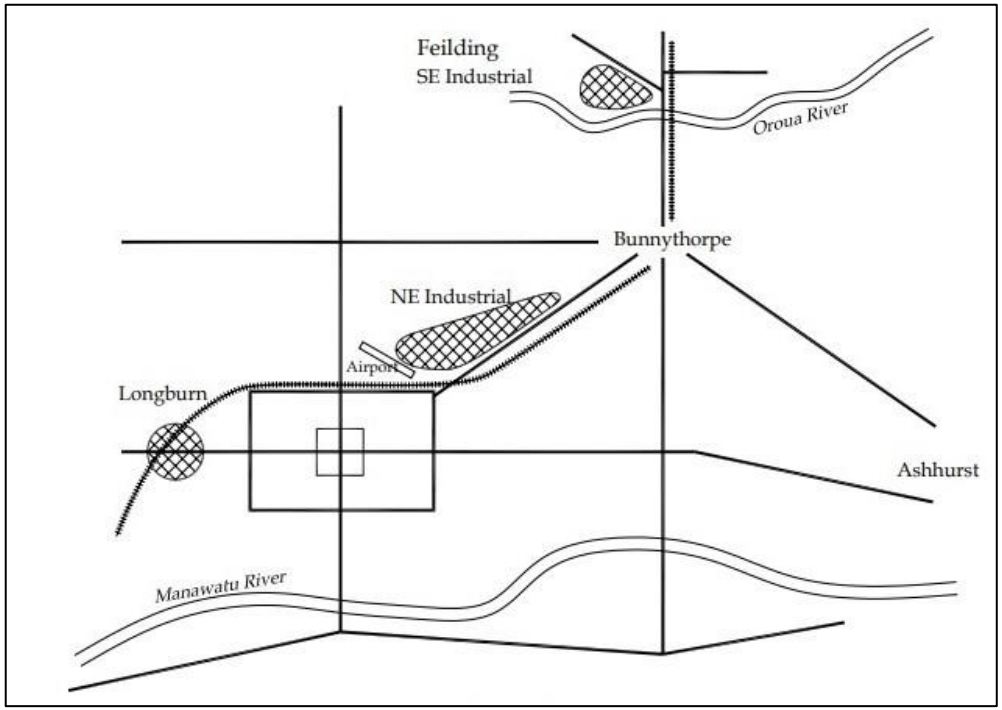
Faster than anticipated uptake in industrial precincts at the North East Industrial Zone and Fielding's Turners/Kawakawa Road precinct had prompted a joint long term industrial land use study to be better respond to market demand in the medium and long term in the region.

Pressure from private plan changes in both districts to cater for unmet demand for owner-occupier industrial land had been recently experienced.

A vacancy survey and evaluation of current planning strategies had led to a recommended strategy for providing a competitive supply of land for a variety of industries over 20 years, including:

- Development of southeast Feilding for light industry and agri-business
- Further expansion of the North East Industrial Zone for warehousing and distribution
- Further expansion of Longburn for wet industries

Figure 34: Palmerston North City and Manawatū District Industrial Land Use Planning Review 2007



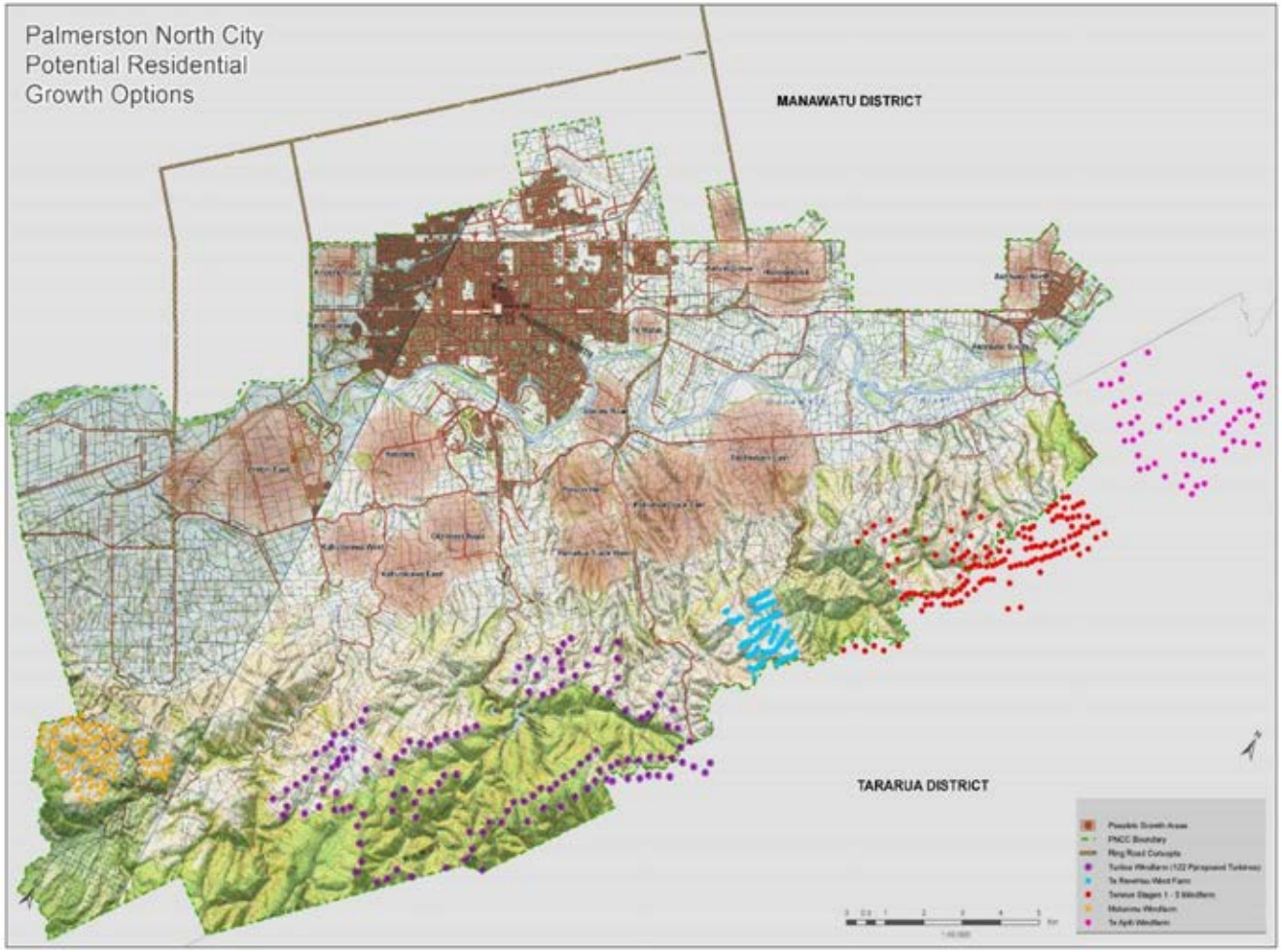
Residential Growth Strategy 2010

The 2010 strategy had identified that the city had capacity left to cater for 11 years of greenfield housing demand. This strategy focused on providing preferred growth options for greenfield housing up to the year 2029. Projected residential preference had been split into 30% infill, 57% greenfield, and 13% rural residential.

The Residential Growth Strategy assessed 18 sites. Anders Road, Kelvin Grove, and the Racecourse sites were recommended as preferred options for greenfield growth.

Two addendums were produced: one to preclude Staces Road due to high class soils, and one to defer the Anders/Racecourse growth path in favour of Kelvin Grove until more was known about mitigating liquefaction risk.

Figure 35: Residential Growth Strategy Options 2010



Appendix 7: Source data for maps

Table 16: Source data for maps

	Data Source/s	Accuracy	Date
Maps 2-9: Housing and business growth in the short, medium, and long term	Updated from the Housing and Business Needs Assessment 2023	Indicative	2024
Map 10: Water supply network	Existing network: 2021 Development Contributions Policy	Surveyed	2021
	Future network: growth area plans (Appendix 5); 2024-34 PNCC Long Term Plan	Indicative	2024
Map 11: Wastewater network	Existing network: 2021 Development Contributions Policy	Surveyed	2021
	Future network: growth area plans (Appendix 5); 2024-34 PNCC Long Term Plan; Nature Calls resource consent application	Indicative	2022; 2024
Map 12: Stormwater network	Existing areas: PNCC reserves map layer	Indicative	2024
	Future/Indicative areas/upgrades: growth area plans (Appendix 5)	Indicative	2024
Map 13: Land Transport – Roading network	Growth area plans (Appendix 5); Palmerston North Integrated Transport Network Options Report	Indicative	2021; 2024
Strategic transport networks Map 14: Roading Map 16: Active Transport Map 18: Public Transport	Palmerston North Strategic Networks	Indicative	2023
Map 15: Active transport network	Urban Cycle Network Masterplan	Indicative	2019
Map 17: Public transport network	Existing network: Horizons' bus networks	Accurate	2024
	Future network: growth area plans (Appendix 5)	Indicative	2024
Maps 19-21: State highway improvements	Updated from the Palmerston North Integrated Transport Initiative Network Options Report	Indicative	2021
Map 22: Open space network	Existing network: PNCC maps online reserves layer	Surveyed	2024
	Future network: growth area plans (Appendix 5)	Indicative	2024
Map 23: Schools	PNCC Education map layer	Indicative	2024
Map 24: Healthcare facilities	Google maps	Indicative	2024
Map 25: Flood protection structures	Horizons Regional Council Flood Protection Assets (GIS)	Surveyed	2023

Map 26-28: Stormwater ponding	Stormwater modelling for Draft PNCC Plan Change I: Medium density	Modelled; subject to change	
Map 29: Flood prone areas	Flood Protection Zone, Minimum Floor Level Areas, Ponding Areas: PNCC District Plan	Authoritative	2018
	Combination of flood models prepared for PNCC Plan Change 15	Modelled	2018
Map 30: Liquefaction risk and fault lines	Liquefaction risk: Assessment of liquefaction and related ground failure hazards in Palmerston North, New Zealand, GNS Science Report	1:250,000 scale	2011
	Fault lines: Active Fault Mapping and Fault Avoidance Zones for Horowhenua District and Palmerston North City, GNS Science Report	1:10,000 scale	2019
Map 31: Erosion and unstable land	Development of Land which is, or is likely to be, subject to Erosion of Land Slippage, Tonkin & Taylor Report	Authoritative	2005
Map 32: Highly productive land	New Zealand Land Resource Inventory and S-Map Online	1:50,000 scale	2022
Map 33: State highway network	NZTA Recommended noise setback: Social cost (health) of land transport noise exposure report, NZTA	Modelled	2019
	Existing network: NZTA open data portal	Surveyed	2024
	Indicative Manawatū Regional Freight Ring Road: Palmerston North Integrated Transport Initiative Network Options Report	Indicative	2021
	Community severance: New information generated	Indicative	2021
Map: 34 Rail network	Supplied by KiwiRail	Surveyed; modelled	2024
35: National Grid	Transmission lines and substations: Transpower open data portal	Authoritative	2024
	National gas network: PNCC known gas lines	Indicative	2024
Maps 36-37: Local power and gas network	Supplied by Powerco	Authoritative	2024
Maps 38-39: Airport protections	Modelled for the PNCC District Plan	Authoritative	2018
Map 40: Landscape and Ecological features	Palmerston North Landscape Inventory 2011; known biodiversity sites supplied by Horizons; PNCC streams layer	Indicative	2011, 2019
Map 41: Sensitive industries and activities	New information generated from known sites, submissions, District Plan sites, and rezoning investigations	Indicative	2024
Map 42: Scenario 1 – Growing up and growing in	Housing and Business Needs Assessment 2023	Indicative	2023
Map 43: Scenario 2 – Growing out	Former growth studies (Appendix 6); growth area plans (Appendix 5)	Indicative	2010; 2024
44: Scenario 3 – Village growth	District Plan zoning	Authoritative	2024
45: Scenario 4 – Balanced Growth	Updated from the Housing and Business Needs Assessment 2023; Te Utanganui Masterplan	Indicative	2024