Hamilton to Tauranga Corridor Spatial Study

Options Report

Waikato Regional Council, Future Proof Partnership, and SmartGrowth

Draft for Stage 2 engagement

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1 Introduction

The transport network in the Hamilton to Tauranga Corridor (H2T or Corridor) is being progressively improved which will allow more efficient movement of people and goods between these two large high growth urban environments. The H2T Corridor is the southern link of the 'Golden Triangle' economic area which contains over half of New Zealand's GDP and population.

It is anticipated that the transportation-related investments in the H2T roading network and rail Corridor, including the Cambridge-to-Piarere Road of National Significance (RoNS), and planned further investments in SH29 at Tauriko (also part of the RoNS programme) and in the Tauranga Central Corridor linking to the Port of Tauranga will create new development opportunities, and stimulate future residential, commercial and industrial development pressures along the Corridor.

Councils in high growth areas like the Future Proof and SmartGrowth subregions[1] are required by Government to assess future housing and business needs and create a development strategy for the next 30 years. Future Proof Partners (FPP) and Waikato Regional Council (WRC) have commissioned research in collaboration with SmartGrowth (SG) to establish potential future land use outcomes within the Corridor and to provide recommendations for land use planning that supports positive development outcomes and avoids undesirable consequences.

1.1 Objective

The objective of this Spatial Study Options Report is to present the results of a scenario-based spatial analysis of potential growth futures within the Corridor, considering the potential changes in growth that might arise due to changes in the transport network. This analysis focuses on the interplay between economic development, land use (considering environmental, cultural and infrastructure factors), and enhancements in transport safety, connectivity, and travel times.

This report draws on the findings and information from a gap analysis and initial stakeholder engagement which was undertaken as an interim step in the research. The Options Report will be provided to stakeholders for a further round of engagement, following which a final report will be developed, incorporating feedback from FPP, SG, and other stakeholders.

The Study is likely to be used to inform strategic cross-boundary planning under Regional Spatial Plans for Waikato and BOP regions under the proposed Planning Act.

[1] The Future Proof subregion refers to the territorial areas of Hamilton City, Waikato, Waipā and Matamata-Piako Districts; the SmartGrowth subregion refers to the territorial areas of Tauranga City and Western Bay of Plenty District.

1.2 Structure

This report is structured into seven subsequent sections, as follows:

- Section 2 summarises the geographic extent of and recent historic growth in the study area.
- Section 3 briefly discusses key aspects of the transport investments within the Corridor that will influence this research.
- Section 4 summarises the growth scenarios and economic assessment which has been applied to establish the growth outcomes in the Corridor.
- Section 0 identifies high level options that could be used to accommodate the demand within the Corridor. This includes No Go and Go Carefully areas that have environmental, social, cultural, and planning matters that need to be considered when considering the options.
- Section 5 provides responses to the key study questions which were posed by FPP.
- Section 6 summarises key findings of this option assessment that will be provided to stakeholders for further engagement.

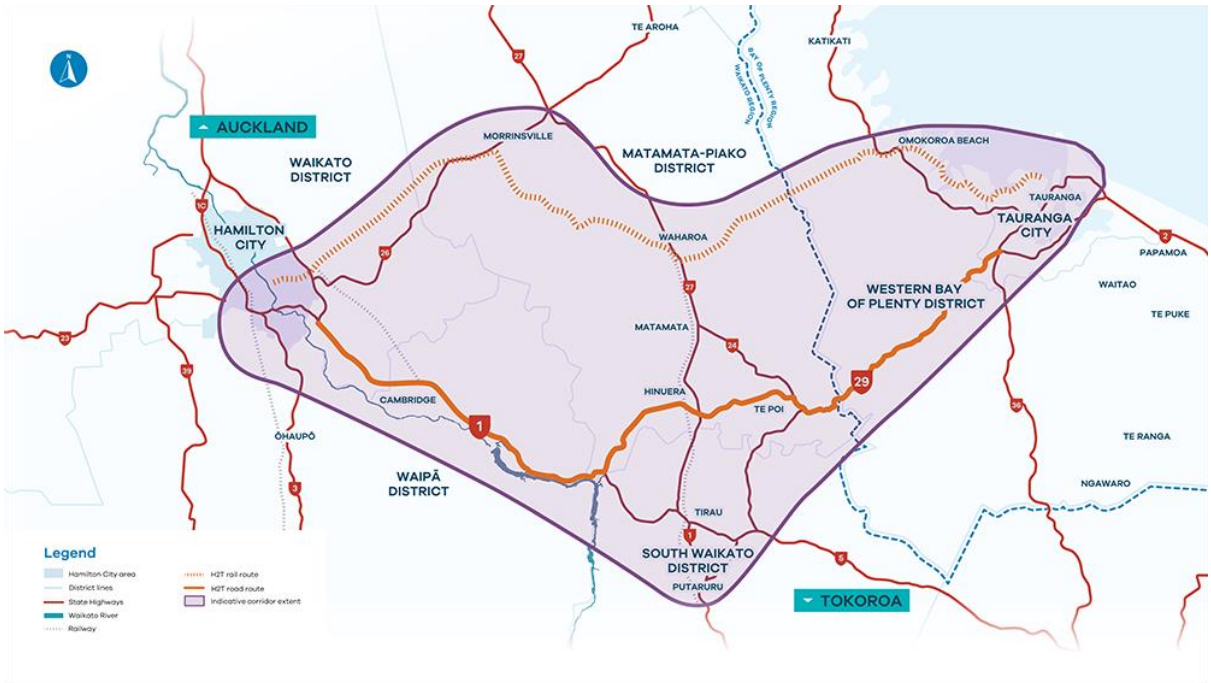
2 Study area

The outputs of the H2T Corridor Spatial Study are focused on the Waikato Region's portion of the Corridor (Figure 2.1:), although the inter-relationship with Tauranga and Western Bay of Plenty is critical, and the analysis takes into account developments and growth drivers in both the Waikato and Bay of Plenty regions.

The study area is defined to include the area around and between State Highways 1 and 29 and the East Coast Main Trunk (ECMT) rail line, and so includes parts of the FPP and SG territorial authorities, and the northern part of neighbouring South Waikato District (around Tīrau and Putāruru, both of which are south of the state highway, but relevant for this study because of their proximity to it).

The study area is anchored by the large metropolitan urban areas of Hamilton and Tauranga and their peripheral greenfields growth areas at each end, with towns and smaller settlements located between, including Cambridge, Morrinsville, Matamata, Waharoa, Tīrau, and Putāruru.

Figure 2.1: H2T study area Corridor



Population and economic activity in the Corridor has increased considerably over the last nearly thirty years. Population has been assessed from a starting point of the 1996 Census, and employment from a slightly later starting point of 2000, when the current business demography framework was adopted. The Corridor's population increased from 254,320 in 1996 to over 451,190 in 2024, a growth rate of

2.1% per annum, which is a strong growth rate to be sustained over a long period (Figure 2.2).[2] Most of the population growth (89%) within the Corridor has been focused on the seven largest urban areas, and most of that urban growth (85%) was in Hamilton and Tauranga[3]. Cambridge has also grown strongly, almost doubling in size since 1996, accounting for 6% of Corridor population growth. SmartGrowth Western Corridor has grown significantly, with its population increasing almost ten-fold since 1996 (albeit from a low base), accounting for 5% of the total H2T Corridor population growth. Other towns midway between Hamilton and Tauranga (Morrinsville, Matamata, Tīrau, and Putāruru) have grown less quickly and have contributed to a small share of growth (around 4% of Corridor population growth combined).

Figure 2.2: H2T Corridor population 1996-2024

Location	1996	2001	2006	2011	2016	2021	2024	Growth p.a.
Hamilton	113,260	121,140	134,650	145,520	160,720	177,020	189,660	1.9%
Cambridge	12,190	12,960	14,240	16,020	17,990	21,450	22,400	2.2%
Morrinsville	6,140	6,410	6,810	7,220	7,820	8,540	9,680	1.6%
Matamata	6,120	6,370	6,600	7,030	7,840	8,940	9,540	1.6%
Tirau	800	750	770	750	780	890	930	0.5%
Putaruru	4,380	4,050	4,000	4,070	4,280	4,520	4,580	0.2%
SmartGrowth Western Corridor	1,160	1,420	1,510	1,990	3,300	7,590	10,090	8.0%
Tauranga	79,380	93,060	106,460	116,380	129,110	147,590	152,420	2.4%
Other rural	31,150	33,390	37,270	40,830	44,110	49,370	51,890	1.8%
Total Corridor	**254,580**	**279,550**	**312,310**	**339,810**	**375,950**	**425,910**	**451,190**	**2.1%**

Economic growth in the study area has followed a similar pattern to population growth, with 92% of employment growth occurring in the Corridor's urban areas, and 88% of that urban area growth occurring in Hamilton and Tauranga. Employment in the study area increased from 139,650 in 2000 to over 258,000 in 2024, a growth rate of 2.6% per annum (Figure 2.3).[4]

Growth in the centre of the Corridor has been slower, although employment in Cambridge grew strongly and almost doubled in size since 2000. The employment in the Western Corridor grew from less than 300 in 2000 to over 6,600 in 2024, primarily as result of the Tauriko Business Estate developing after 2010. Employment in the towns in the centre of the Corridor either grew less quickly (Morrinsville and Matamata), or declined (Tīrau and Putāruru) since 2000, and together the central part of the Corridor accounted for only 2% of total study area employment growth.

[2] Statistics New Zealand (2024) Population Estimates 1996-2024, SA1.
[3] Because the SmartGrowth Western Corridor includes some areas within Tauranga City, Tauranga used in this report excludes those areas, and so is less than the total Tauranga City area.
[4] Statistics New Zealand (2024) Population Estimates 1996-2024, SA1.

Figure 2.3: H2T Corridor employment 2000-2024

Location	2000	2003	2006	2011	2016	2021	2024	Growth p.a.
Hamilton	68,810	77,720	88,900	87,760	96,960	114,070	123,950	2.5%
Cambridge	5,300	5,260	6,110	6,600	7,550	10,150	10,570	2.9%
Morrinsville	3,210	3,410	3,460	3,490	3,710	3,850	4,200	1.1%
Matamata	3,610	3,690	3,830	3,850	4,190	4,670	4,660	1.1%
Tirau	450	500	370	270	270	310	390	-0.6%
Putaruru	2,210	1,910	1,810	1,600	1,760	1,940	1,900	-0.6%
SmartGrowth Western Corridor	270	310	570	720	2,050	4,800	6,620	14.3%
Tauranga	42,780	50,020	56,440	59,540	67,730	78,830	83,400	2.8%
Other rural	13,010	13,390	13,980	15,560	17,480	20,630	22,330	2.3%
Total Corridor	**139,650**	**156,210**	**175,470**	**179,390**	**201,700**	**239,250**	**258,020**	**2.6%**

Traffic volumes across the Kaimai Range on State Highway 29 have grown steadily over the past two decades, reflecting these increases in population, economic activity, and freight demand between the Bay of Plenty and Waikato.

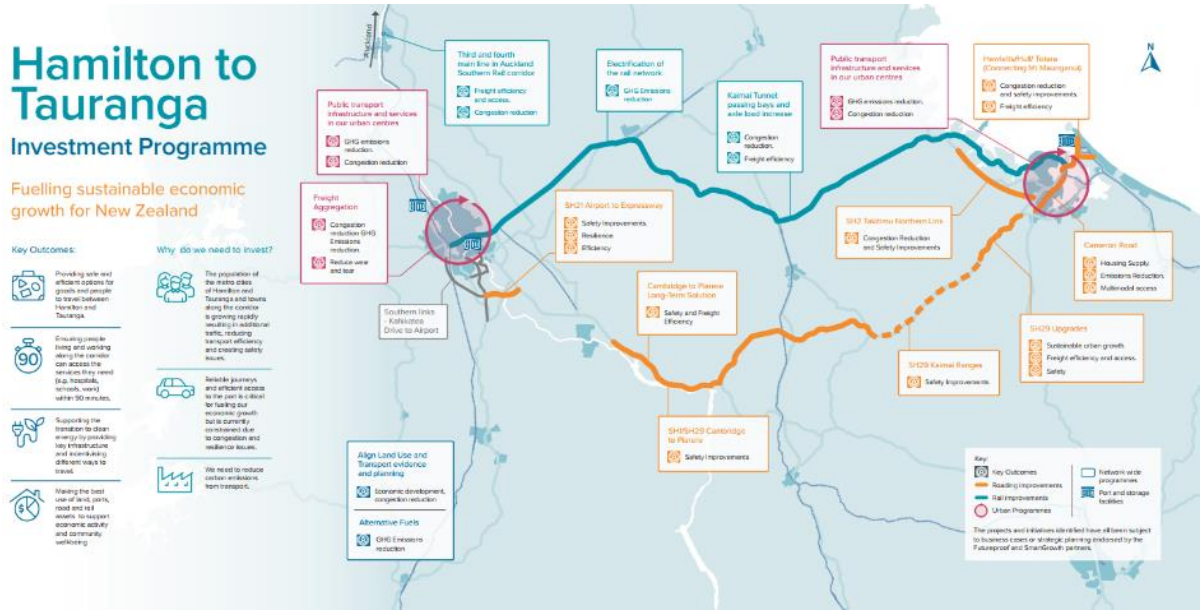
Daily vehicle numbers have risen from around 9,000 in the mid-2000s to over 14,000 today,[5] with heavy commercial vehicles consistently making up 15–20% of this volume. This growth in both light and heavy vehicle movements highlights the increasing importance of the Corridor for inter-regional connectivity, particularly for freight and logistics.

[5] State Highway 29 at the Kaimai Summit - TMS Site ID: 01N05487

3 H2T Corridor transport investments

The H2T Corridor transport investments are focused on the main state highways, and to a lesser extent the ECMT rail line, between Hamilton and Tauranga. The available business cases and transport strategies have been used to establish the timing, scale, and transport outcomes for each part of the H2T Corridor. Planned road and rail investments in the H2T Corridor are well summarised in Figure 3.1, which is contained in both the Future Proof Strategy (the FPP Future Development Strategy), and the SmartGrowth Strategy. [6]

Figure 3.1: H2T investment programme



3.1 Road investments

The investments in roading, mostly on SH1 and SH29, within the H2T Corridor are planned to significantly reduce travel times and improve freight movement and road user safety. The Corridor is critical for strategic inter-regional freight, particularly to and from the Port of Tauranga. Current and planned investments along the Corridor are comprised of discrete projects, as summarised below.

3.1.1 Hamilton Southern Links improvements

Hamilton Southern Links has been identified in the Government Policy Statement on Land Transport (GPS 2024) as a Road of National Significance. This Corridor extends from SH1/Kahikatea Drive at the northern end, passing in an east-west direction through a central interchange north of Hamilton Airport, before crossing the Waikato River and connecting to the Waikato Expressway southeast of Tamahere. A central connection extends from SH3/SH21 in the south through the central interchange

[6] Future Proof Partners, *2024 Future Proof Strategy*, Figure 7, and Figure 8 of the SmartGrowth Strategy.

to connect to the Peacocke arterial network in the north. The Project is listed in Schedule 2 of the Fast Track Approvals Act. The project's investment case is being prepared, and it is anticipated it will be taken to the NZTA Board in September 2025, and to date funding has been approved for developing the investment case and property purchase

3.1.2 Ruakura Eastern Transport Corridor

The Ruakura Eastern Transport Corridor is planned to be a strategic four-lane Corridor designed for freight and regional traffic, to and from the Ruakura Superhub. Additionally, it features a grade-separated connection over the ECMT, enhancing connectivity between residential and employment areas. The project has funding approved to complete the design and consenting phase, with construction indicated for 2027-2030 in the National Land Transport Plan.[7]

3.1.3 Cambridge to Piarere SH1 improvements

The SH1 Cambridge to Piarere (C2P) project will extend the Waikato Expressway by 16km, creating a four-lane expressway from the southern end of the Waikato expressway to the recently completed Piarere roundabout, providing a 2.2 minute travel time saving and a 90% reduction in unplanned disruptions and improving journey reliability. The C2P project has been identified in the GPS 2024 as a Road of National Significance, with funding prioritised in the 2024-2027 National Land Transport Plan.

NZTA lodged notices of requirement and resource consent applications with the Environmental Protection Authority in December 2024, and the process is expected to be completed by the end of 2025.[8] The 2021 business case suggested that this project would be consented by 2026 and constructed between 2030-2035, which included an allowance for appeals and property purchases.[9] The Project is now listed in Schedule 2 of the Fast Track Approvals Act, and prioritisation of the project could mean that it is completed earlier than previously planned, although a conservative completion date of 2035 is assumed for this assessment.

3.1.4 Kaimai Ranges SH29 improvements

SH29 Piarere to Tauriko improvements will enhance connections between Tauranga and Waikato. The recommended programme from the 2016 business case had construction of passing lanes, intersections, and corner easing between Piarere and Te Poi, and intersection upgrades and the Kaimai Loop between Te Poi and Kaimai summit as first priorities, indicatively was to be completed by 2025.[10]

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[7] Transport Minister, *Ruakura Four-Lane Road to Boost Hamilton's Economic Growth | Beehive.Govt.Nz*, June 4, 2025,
[8] NZTA, "SH1 Cambridge to Piarere Project Updates – February 2025," February 24, 2025.
[9] NZTA, *SH1: Cambridge to Piarere (C2P) Long Term Improvements - Detailed Business Case (DBC)*, Issue 7 (2021).
[10] NZTA and Opus International Consultants Ltd, *Tauriko Network Programme Business Case* (2016).

The second priority was to undertake intersection safety improvements and bridge widening works between Kaimai summit and Tauriko, to be completed by 2035.

The total project would result in a 3.6 minute time saving and a reduction in the number of road closures. The 2018 re-evaluation report concluded that the programme of works should focus on safety improvements and recommended that a Detailed Business Case be developed.[11] The Tauriko West and Omanawa bridge upgrades are underway and expected to be completed in 2026.[12]

For the purposes of this assessment, it is conservative to assume that the original completion of 2035 may not be achieved because many of the potential improvements for the programme have not yet been confirmed, although some upgrades (Tauriko and Omanawa bridge) will be completed before 2030.

3.1.5 SmartGrowth Western Corridor – SH29 Tauriko West

Transport planning in Tauranga and Western Bay of Plenty includes a focus on several strategic Corridors which are planned to support urban growth, and further growth at Port of Tauranga.

Of most direct relevance to the H2T Corridor study, significant works ($1.5b from the RLTP, but $2.8-3.3b from recent government information) are planned for the SH29/29A Western Growth Corridor spread across four stages (orange line in Figure 3.2).

The works include replacing a section of SH29 near the entrance to Tauriko (Redwood Interchange to Takitimu North Link Interchange), widening existing SH29A from Takitimu Drive Toll Road to Barkes Corner, and new interchanges, intersection upgrades, and overbridges (Figure 3.2). This work is part of the Tauriko West RoNS, and is required to enable the development of housing and business growth in the SmartGrowth Western Corridor, improve travel time reliability, and decrease travel times and accidents.[13]

Not all funding has yet been confirmed, with decisions to unlock funding made by the NZTA Board as each phase of the project progresses. At present, the lack of transport infrastructure is an impediment to economic activity. The ongoing uncertainty around when that investment will be made continues to affect investment by the private sector and other public sector agencies and will therefore impact on the potential to realise "whole of H2T corridor" improvements.

[11] NZTA, *TAIP Re-Evaluation: SH29 Piarere to Tauriko* (2018).
[12] NZTA, Tauriko Network Connections Detailed Business Case.
[13] Transport Minister, "Tauriko West Road of National Significance Gets Green Light to Move Forward," *Beehive.Govt.Nz*, April 22, 2025.

3.1.6 Tauranga Central Corridor – City and Port Connections

There are various proposed roading improvements within Tauranga that will improve connection to the city and ports, including Cameron Road to the Tauranga CBD, and roads out to Mount Maunganui (Hewletts/Hull/Totara).

The Cameron Road improvements (light blue in Figure 3.2) are separated into two stages, with the northern part (stage 1, Harington Street to 17th Avenue) completed in 2024.[14] The initial Cameron Road Stage 2 DBC was completed in January 2024. The DBC was not endorsed by the NZTA Board as it did not align with the Government Policy Statement on Land Transport 2024 (GPS 2024). TCC chose to rework the project to better align with the strategic priorities of the GPS 2024. However, because a co-funding share from NZTA was unavailable during this NLTP period (2024–27), TCC investigated options within the envelope of previously supported funding tools that deliver value for money, prioritising housing intensity and roading throughout. Three preferred options were presented to Council for consideration, with a resolution to engage with the community on these options prior to further decision making.

The Mount Maunganui improvements (green in Figure 3.2) will enable the separation of inter-regional freight traffic from local traffic along Hewletts Road/Hull Road/Totara Street. These improvements will accommodate and speed-up traffic flows across the city and to the Port and are planned to be constructed by 2031.[15] There are also other transport upgrades planned to improve access to the Port of Tauranga, including SH29A links from the Western Corridor and SH2,[16] and rail upgrades from Wiri (additional lines and passing areas) which will ease congestion on SH29 and SH2.

3.1.7 SmartGrowth Northern Corridor – Takitimu North Link

Away from the SmartGrowth Western Corridor, there are other proposed transport network improvements in Tauranga that will contribute to an increased ability to handle growth in traffic volumes and are intended to increase reliability in the network generally, with some positive implications for the H2T Corridor.

Work on Tauranga's Northern Corridor includes the Takitimu North Link, a vital transport link supporting economic growth and providing an efficient, reliable and safe route between Tauranga and Ōmokoroa. Takitimu North Link will provide an alternative route to SH2, moving trucks away from local roads and supporting economic growth. It is a key part of the Bay of Plenty region's Connected Centres programme developed by the Urban Form and Transport Initiative. The project will address long-standing and worsening safety and congestion issues facing the existing SH2 Corridor, and aims

[14] Tauranga City Council, "What's Changed - Cameron Road Stage 1 – Let's Talk Tauranga," (2025)
[15] Tauranga City Council, "Moving around Our City Easily - Tauranga City Council."
[16] NZTA, "Tauriko Enabling Works | NZ Transport Agency Waka Kotahi," (2025).

to improve resilience and reliability, and support well-established strategic urban growth objectives. Regional consents as well as alterations to existing designations are required.

Stage 1 is a new 6.8km four-lane road connecting SH29 Takitimu Drive through to SH2 west of Te Puna and is due for completion in 2028 (the eastern end of the red Northern Growth Corridor in Figure 3.2). Stage 2 involves construction of a four-lane, median-divided highway to replace the existing SH2 Corridor between Te Puna and Ōmokoroa, as an extension of Stage 1, and has been listed in Schedule 2 of the Fast Track Approvals Act.

Figure 3.2: Tauranga strategic corridors[17]

3.2 Rail investments

The Future Proof Strategy plans for there to be investment in the ECMT rail line.[18] The investment programme suggests that future rail works might include electrification of the line, Kaimai passing bays, freight aggregation in Hamilton, and public transport provision within Hamilton and Tauranga. However, under the 2024-2027 Rail Network Investment Programme KiwiRail's focus is on track renewal, resilience, and incremental improvements on ECMT, rather than major projects, and the Programme does not include budget for improvements to this part of the rail network.[19]

[17] Bay of Plenty Regional Council, *Regional Land Transport Plan* (2024)., page 4
[18] Future Proof Partners, *2024 Future Proof Strategy* (2024).
[19] KiwiRail, *Rail Network Investment Programme 2024-27* (2024).

In 2016 there was sufficient capacity in the ECMT, such that it was not a constraint to freight handling.[20] An indicative business case to assess electrification of the ECMT line is nearing completion,[21] but there is no publicly available information on its outcome. However, we understand that freight movements by rail between Auckland and Waikato-Bay of Plenty are currently constrained by limited rail capacity within Auckland. Planned rail improvements in Auckland, including the Southern Line third and fourth tracks, may influence outcomes across the broader network by enabling greater freight volumes to move between regions. These investments could have implications for freight volumes on the rail network within the H2T Corridor.

In 2020 FPP and SmartGrowth commissioned an exploratory examination of the potential for metropolitan passenger services between Hamilton and Tauranga, but that report did not assess the viability of any potential service.[22] There is no such service at present, and at present none is funded. While previous regional plans have noted a passenger service as a possibility,[23] for now the Corridor's rail upgrades are freight-focussed, although many improvements (e.g. better signalling, additional track) would also benefit any future passenger trains.

3.3 Port investments

Port of Tauranga has begun the Stella Passage development, a significant infrastructure project aimed at increasing capacity of the Port without expanding its terrestrial footprint.[24] The project includes extending the size of the container berth allowing more and larger vessels to be accommodated, wharf extensions to alleviate congestion and provide new infrastructure, and dredging to allow access for larger vessels. The Port has only recently lodged an application under the Fast-track Approvals Act 2024 for the Stella Passage, and it will be some time before the outcome of that application is known.

Ruakura Inland Port in eastern Hamilton (a joint venture between Tainui Group Holdings and Port of Tauranga) commenced operations in late 2023, and future development is proposed to occur over three more major stages that will be developed progressively until the early 2040s. Stage one is a 17ha development which includes construction of two 800m rail sidings to cater for what will be 80-plus cargo train movements each week. Initially the port will have a capacity of 200,000 TEU (shipping containers) per year, increasing to 1 million TEU when the port is fully developed. [25]

[20] NZTA, *TAIP Re-Evaluation: SH29 Piarere to Tauriko*; NZTA, *Tauriko Network Connections Detailed Business Case* (2023).
[21] KiwiRail, *Statement of Corporate Intent 2026-2028* (2025).
[22] KiwiRail, *Bay of Plenty Metro Passenger Service Opportunities* (2020).
[23] Waikato Regional Council, *Waikato Regional Land Transport Plan (RLTP) 2021-2051* (2021).
[24] "Stella Passage Development | Port of Tauranga | New Zealand," *Port of Tauranga Limited*, n.d., accessed July 24, 2025, https://www.port-tauranga.co.nz/community/our-environment/stella-passage-development/.
[25] https://www.ruakura.co.nz/explore-the-superhub/ruakura-inland-port/

The proposed developments at Ruakura and Port of Tauranga will have a bearing on land use scenarios in the H2T Corridor, given their locations at each end of the Corridor and the large volumes of freight projected to be handled in each location.

3.4 Public Transport

The H2T Corridor Investments specifically target roads and not public transport or active modes. However, there will be broader opportunities for investment in public transport and other modes within the study area, which would also improve connections and outcomes along the Corridor, with subsequent economic and social benefits.

3.5 H2T Corridor transport investment summary

For the purposes of the economic modelling in this Options assessment it is assumed that the planned road investments within the Corridor will be completed over the next 30 years, based on known programming. These investments will improve the travel time and reliability for trips along the Corridor's state highway, improve freight movement and road user safety, and enable planned urban growth.

The status, delivery timeline and benefits of each investment, current at the date of this report, is set out in Appendix XXX.

Figure 3.3 provides an overview of the time savings from road travel in the H2T Corridor that are applied in the economic modelling, drawn from publicly available information such as business cases where available.[26] Time savings for movement through the Corridor associated with the Southern Links improvements are unavailable, and have been assumed.

In total, it is assumed that there will be a time savings of 10.8 minutes for travel between Hamilton and Tauranga, which is a reduction of around 13% compared to the current travel time.[27] Between the towns in the Corridor the travel time saving range from 1-10%, however there are some pairs where there are no travel time savings (e.g. Morrinsville to Matamata, Tīrau to Putāruru). There will also be improvements in reliability and resilience, both in terms of reduction in disruptions and congestion in peak times, both of which cannot be established from the available data within the business cases.

[26] C2P from the 2021 business case, P2T from the 2018 business case, and Tauranga from the Tauriko network connections business case.
[27] This assumes that travel between Hamilton and the other areas in the corridor benefit from the time savings associated with the Southern Link. However, potential travel to some parts of Hamilton will not benefit from the Southern Link as they use alternative routes.

Figure 3.3: H2T Corridor travel improvements – time savings and reduction in disruptions

Corridor Improvements	Length (km)	Time savings	Completion
Hamilton improvements*	18	2.0	2034
Cambridge to Piarere improvements	16	2.2	2035
Kaimai Ranges improvements	50	3.6	2035
Tauriko West SH29 improvements**	20	3.0	2050

**The Southern Link business case is underway, we have assumed 2 mins time saving.*

*** Tauriko Network Connections business case suggests savings for freight movement in peak.*

The travel time savings highlight the potential for significant improvements to network performance. However, these benefits should be viewed as indicative rather than definitive, as they reflect an aggregation of individual project-level assessments rather than outputs from an integrated, pan-regional transport model. While each project has the potential to contribute meaningfully to corridor efficiency, the scale and timing of benefits will depend on the sequencing, scope, and delivery of these projects.

Information that is available indicates that there is planned to be limited investment in the rail network within the Corridor apart from maintenance, with no significant improvements planned. For this report it is assumed that the rail network is not improved significantly, that there is sufficient capacity to handle growth in freight volumes, and that there are no inter-city or metropolitan passenger rail services developed in the next 30 years.[28]

[28] New Zealand Infrastructure Commission (2025) National Infrastructure Pipeline.

4 H2T growth scenarios

We have adopted a scenario approach to modelling future land use in this assessment, which is necessary as the future is inherently uncertain, and land use is strongly influenced by business and individual behaviour, which introduce additional uncertainty. The scenario approach provides insights on the likely economic response to changes in the transport network, detailing industry types expected to locate or expand within the Corridor, along with the scale and type of residential growth that improved connectivity might attract. Our methodology and assessment draw on an extensive review of local and international literature[29]. The scenarios are derived on an 'all else being equal' basis, in relation to movements between Auckland-Hamilton, and Auckland-Tauranga in relation to imports, exports and freight volumes.

4.1 Methodology

4.1.1 Overview

The method adopted in the scenario analysis is designed to model the additional impacts that could result specifically from transport infrastructure investments along the Corridor. It is important to note that the urban areas in the Corridor are expected to experience substantial growth even without these transport improvements, driven by broader regional development trends and existing planning frameworks. The methods presented in this section therefore represent estimations of net additional growth attributable to transport investments, not the absolute growth the Corridor will experience (other than the baseline scenario used for comparison – section 4.1.3).

The modelling approach examined industrial, commercial, and residential land use changes that could occur under each scenario. The focus was on quantifying growth in land use demand above current levels, to understand the impact of transport-driven development and to enable comparison between different scenario outcomes. The assessment examined which industries would be most likely to respond to reduced travel times, travel costs, land values, and improved connectivity.

[29] Including: Torbjørn Aasen Stigen et al., *Impacts of Highway Induced Land Use Changes on Transport Demand* (2024); J Williamson et al., *The Economic and Land Use Impacts of Transformational Transport Investment*, NZ Transport Agency research report 479 (2012); I Wallis et al., *Travel Time Saving Assessment*, NZ Transport Agency research report 570 (2015); A Byett et al., *The Economic Impacts of Connectivity*, NZ Transport Agency research report 608 (2017); D Hanson et al., *Dynamic Clustering and Transport Appraisal*, Waka Kotahi NZ Transport Agency research report 680 (2021); A Byett et al., *Assessing Induced Road Traffic Demand in New Zealand*, Waka Kotahi NZ Transport Agency research report 717 (2024). ; Maria Börjesson et al., *Land-Use Impacts in Transport Appraisal* (2014) ; I Wallis et al., *The Implications of Road Investment*, NZ Transport Agency research report 507 (2012).; NZTA, *Monetised Benefits and Costs Manual*, Version 1.7.2 (2024).

The modelling also estimated population-driven growth throughout the Corridor, recognising that new employment opportunities and improved accessibility would attract additional residents.[30] This population growth generates its own economic impacts through increased demand for housing and commercial services. The assessment therefore quantified both the dwelling requirements for new residents and the additional commercial space needed to serve the expanded population base.

By focusing specifically on transport-related impacts, this approach enables us to understand what transport investments could achieve above and beyond the growth that will occur through other drivers. The scenario comparisons reveal how different spatial development patterns could emerge depending on how transport improvements influence business location decisions and household residential choices.

4.1.2 Scenario definition

Formative and Enspire, in consultation with FPP and the other stakeholders, have defined four scenarios to provide an understanding of the range or 'cone' of outcomes that are most important for planning. The actual outcome is likely to fall within the range of outcomes shown by the scenarios, but it is not necessary to model all the alternatives within the range, as it is the outer limits of the range that are most help to guide future land use planning.

The four scenarios adopted in this assessment are:

- **Baseline**: a business-as-usual growth projection, and the counterfactual against which the other scenarios are assessed.
- **Metro Gravity**: is based on the modelling of new demand associated with the travel time savings from the H2T investment and tends to stimulate the greatest increased demand at the metropolitan ends of the Corridor.
- **Central Gravity**: is based on modelling of new demand associated with the land market changes from the H2T and tends to stimulate greater increased demand in the central parts of the Corridor, relative to the Metro scenario, although still with less growth going to the central parts of the Corridor than the metro ends.
- **New Node**: is based on the establishment of an indicative new business node developing in the central area of the Corridor. This scenario is informed by case studies of new nodes that have formed in other Corridors after transport network investment.

There is a chance that development outcomes fall outside the range shown in the scenarios, however planning for urban growth need not attempt to account for every possible eventuality. The National Policy Statement on Urban Development (NPSUD) acknowledges this uncertainty and requires

[30] For the most part the activity attracted to the region and Corridor area will have occurred elsewhere in New Zealand, and would be considered a transfer effect when considering the project at a national level.

councils to have multiple growth projections but directs that councils should plan for "expected" or "most likely" demand.[31] It is acknowledged that changes in government policy direction on spatial and urban planning are likely within the near future, with the future requirements for growth projections also likely to change. Nevertheless, there is value in testing alternative (and maybe 'less likely') scenarios to understand the implications of outcomes not envisaged in the 'more likely' scenarios. Also, there could be other investments in the transport network outside of the corridor that could impact connectivity. It is not possible to assess what may or may not occur outside the Corridor within the scope of this research.

4.1.3 Baseline scenario method

The Baseline growth scenario draws from existing demand projections that each council produces to meet the requirements of the NPSUD, which are contained within the latest Housing and Business Capacity Assessments (HBCA). Those assessments have been undertaken based on the current growth patterns and do not consider the potential increase in demand that could be generated in the H2T Corridor because of the investments in the transport network. In most cases the projections in the HBCAs are also applied as exogenous inputs within the traffic modelling for the business case assessments to establish the travel time savings and other benefits associated with the H2T investments. There is no feedback loop from the transport models into the HBCA land use models to account for changes in transport outcomes associated with the investment. Therefore, the baseline growth scenario does not account for potential additional changes in land use within the Corridor that may be generated by changes in the transport network.

For this report the following demand projections for residential dwellings have been adopted:

- Future Proof Partners (2023) NPS-UD Housing Development Capacity Assessment: demand for housing in Hamilton and Cambridge.[32]
- Matamata-Piako District Council (2022) Housing Assessment 2022: demand for housing in Morrinsville and Matamata.[33]
- South Waikato District Council (2024) Growth Plan Our People Our Place: demand for housing in Tīrau and Putāruru.[34]
- SmartGrowth (2022) Housing Capacity Assessment 2022: demand for housing in Bay of Plenty's 'Western Corridor' and Tauranga.[35]

For this report the following demand projections for business land have been adopted:

[31] National Policy Statement on Urban Development (2022) Policy 2 and section 3.24.
[32] S Fairgray, *NPS-UD Housing Development Capacity Assessment Future Proof Partners* (2021).
[33] Matamata-Piako District Council, *Housing Assessment 2022 Matamata-Piako District Council* (2022).
[34] South Waikato District Council, *2024-2054 Growth Plan Our People Our Place* (2024).
[35] D Phizacklea, *Housing Development Capacity Assessment for Tauranga and the Western Bay of Plenty* (2021).

- Future Proof Partners (2023) Business Development Capacity Assessment: for commercial and industrial land demand in Hamilton and Cambridge.[36]
- Matamata-Piako District Council (2023) Business Development Capacity and Demand Assessment: demand for commercial and industrial land in Morrinsville and Matamata.[37]
- South Waikato District Council (2023) South Waikato District Council Housing and Business Capacity Assessment: demand for commercial and industrial land in Tīrau and Putāruru.[38]
- SmartGrowth (2022) Tauranga City and Western Bay of Plenty Business Capacity Assessment: which provides demand for commercial and industrial land in the Western Corridor and Tauranga.[39]

While there are differences in the start and end years used in the reports, they all present growth for 30-year periods. For the purposes of this study the differences in start and end years will not be material to the overall assessment, and adopting the projections as one consistent time period will not impact the overall outcomes, but significantly aids in simplicity. It is not possible to replicate or update all of these studies, and we consider that even if this was undertaken that this would only result in small differences in demand outcomes.

4.1.4 Metro gravity scenario method

The Metro gravity scenario models the outcome in which new growth is generated within the Corridor as a result of increased connectivity driven by H2T transport investments. In essence, the economic theory suggests that investment in transport infrastructure can trigger broader economic and land use changes in the surrounding areas, shaping urban and suburban development patterns, which is also relevant to the other two alternative scenarios discussed in the following sections.

The underlying economic theory is that the benefits of transport improvements tend to be greatest in denser urban areas (i.e. agglomeration benefits are gravitational and non-linear), which means that improved transport links between major metropolitan areas tend to amplify growth in the urban areas along the Corridor. The impacts of investment in State Highways tend to primarily accrue to larger metropolitan areas that they connect (Hamilton and Tauranga), although also inducing some growth in the smaller towns and settlements within the Corridor.

Agglomeration benefits refer to the economic advantages that arise when businesses and people locate in close proximity to one another (the 'Cluster' effect) particularly in urban areas or around key infrastructure like transport Corridors. These benefits include access to a larger pool of skilled labour,

[36] G Akehurst and H Ashby, *Business Development Capacity Assessment 2023 Future Proof Partners* (2024).
[37] S Fairgray-McLean et al., *Business Development Capacity and Demand Assessment 2023: Update Matamata-Piako District* (2023).
[38] L McIlrath, *South Waikato District Council Housing and Business Capacity Assessment* (2023).
[39] L McIlrath, *Tauranga City and Western Bay of Plenty Business Capacity Assessment* (2022).

shared infrastructure and services, and improved matching between firms and suppliers or workers. By being near each other, businesses can operate more efficiently and respond more quickly to market opportunities, while workers have access to a broader range of employment options.

Another key benefit is knowledge spillovers, where ideas, innovation, and best practices are more easily shared between firms and individuals. This transfer of knowledge often occurs through formal networks, such as partnerships and industry groups, as well as informal interactions like chance meetings or staff mobility. These spillovers support innovation and productivity growth, particularly in knowledge-intensive sectors such as technology, finance, and advanced manufacturing.

Transport improvements that reduce travel times and improve connectivity can help unlock or extend agglomeration benefits. By expanding the effective labour market and enabling better access to suppliers and customers, such investments support business growth and can make certain locations more attractive for development. However, to fully realise these benefits, complementary land use planning, such as zoning changes and infrastructure provision, is needed to ensure that people and businesses can take advantage of the improved accessibility.

The literature review undertaken for the Gap Analysis suggests that new demand:

- Is generally relatively inelastic with respect to travel time savings, which means the change in economic activity tends to be proportionally smaller than the travel time savings. As an example, Agglomeration studies suggest a 1% increase in connectivity results in a 0.03% to 0.09% increase in productivity.[40]
- Varies depending on type of activity, with more first order impacts on industrial activities (especially freight dependent industries) and second order impacts on residential impacts with longer term changes in internal migration/commuting patterns.

There is limited transport modelling method in New Zealand that has undertaken detailed technical analysis of new demand and land use changes as the result of changes in the transport network, and limited local empirical research or theoretical modelling relating to the H2T Corridor. A recent study that applied a stylised model to assess the Waikato Expressway estimated that improvements in the road network between Auckland and Hamilton generated $161.8m in GDP for the region, which is around 0.25% of regional GDP.[41] This compares to a travel time savings of 10 minutes over a journey which is currently around 100 minutes between Hamilton and Tauranga, equivalent to a reduction in travel time of around 10%. Also Figure 4.9 shows other studies of New Zealand expressway investments which suggest that in most cases the productivity gains are similarly small in proportion

[40] Eivind Tveter, *Transport Network Improvements: The Effects on Wage Earnings* (2021); NZTA, *Monetised Benefits and Costs Manual* (2024).
[41] E Torshizian and M Maralani, *Great Decisions Are Timely Benefits from More Efficient Infrastructure Investment Decision-Making* (2022).

to travel time savings. The methodology for growth scenarios projects both residential and economic (industrial and commercial) growth based on increased connectivity within the Corridor, and the technical detail of the method is outlined in Appendix 2.

In summary, decreases in travel times increase connectivity and the effective density of Hamilton, Tauranga and the small urban areas in the Corridor between. Higher density can increase productivity through agglomeration effects. The NZTA provides a methodology for assessing agglomeration effects on GDP through the use agglomeration elasticities.[42] This approach and variations thereof have been applied to many transport impact related research around Aotearoa,[43] and we apply an adaption and extension of this methodology relevant to the scope of this project and nature of transport investments and expected economic impacts.

4.1.5 Central gravity scenario method

The Central gravity scenario assesses the potential outcome where the investment in the transport network increases the catchment within which urban activity will occur. In many cases this would be akin to a 'periphery gravity' scenario, however in the Corridor the periphery of the main metropolitan areas is the middle of the Corridor, an area that may become more attractive not only due to reduced travel times from the metro areas, but also because a bigger central area can now have reasonably convenient access to both metro areas, which helps for accessing twice the markets, workers, and (for multi-worker households) employment.

Broadly, when transport infrastructure is improved it results in changes in accessibility in more distant or previously less accessible locations (i.e. periphery of metropolitan area and the towns along the corridor). This means that land that was once considered too remote or costly to access becomes more attractive.[44] The effective cost of distance decreases, flattening the bid rent curve. This can trigger land use changes, such as expansion of suburban housing developments or dormitory towns, and growth of industrial or logistics hubs in cheaper, newly accessible areas. This can result in the shifting of development pressure away from high-cost, congested urban centres. Over time, this process can contribute to decentralisation, and changes in the spatial structure of urban activity, often requiring new infrastructure, services, and planning responses.

[42] NZTA, *Monetised Benefits and Costs Manual* (2024).
[43] For example: Ryan Greenaway-McGrevy and James Allan Jones, *Agglomeration, Congestion, and the Effects of Rapid Transit Improvements on Cities*, (2022).; Williamson et al., *The Economic and Land Use Impacts of Transformational Transport Investment*.
[44] Yeung-Nan Shieh, *An Early Use of Bid Rent Functions* (2003); Tatiana Filatova et al., *Agent-Based Urban Land Markets: Agentś Pricing Behavior, Land Prices and Urban Land Use Change*; Gilles Duranton and Diego Puga, *Urban Land Use, Handbook of Regional and Urban Economics* (2015)

The economic concept of Bid-Rent Theory[45] suggests that improved accessibility could result in changes in land values within the Corridor, which shifts the development frontier, and improves competition in the land market, leading to stronger growth away from the metropolitan areas at either end of the H2T Corridor, especially in smaller towns which become more accessible.

The literature review undertaken for the Gap Analysis suggests that changes in demand from accessibility are generally:

- Relatively inelastic with respect to land values[46], which means the change in economic activity tends to be proportionally larger than the changes in land values. Although the spread of point elasticities in the literature is wide[47]. As an example:
  - Industrial studies suggest a 1% decrease in land values results in a 0.2-1.5% increase in land demand[48].
  - Residential studies suggest a 1% decrease in land values results in a 0.1-1.6% increase in land demand[49].
- Varies depending on type of activity, with industrial activities being elastic with regard to land price and residential development being less elastic. Commercial activities tend to be inelastic in relation to land prices, which reflects the need of the businesses to locate in central areas.

There is limited research on elasticity of demand for land within the region or New Zealand, which makes assessment of outcomes in the Corridor using Bid-Rent theory problematic. While direct modelling of Bid-Rent theory is constrained by limited data on land value differentials and demand elasticities across the Corridor, and its intersection with location and preferences (for instance a 'Housing We Choose' study).[50] This analysis captures Bid-Rent effects indirectly through two key modelling levers: the spatial redistribution of economic activity and changes in household residential behaviour.

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[45] Yeung-Nan Shieh, *An Early Use of Bid Rent Functions* (2003); Tatiana Filatova et al., *Agent-Based Urban Land Markets: Agentś Pricing Behavior, Land Prices and Urban Land Use Change*; Gilles Duranton and Diego Puga, *Urban Land Use, Handbook of Regional and Urban Economics* (2015)

[46] B. James Deaton and Chad Lawley, *A Survey of Literature Examining Farmland Prices: A Canadian Focus*, (2022); Joseph Gyourko and Richard Voith, *The Price Elasticity of the Demand for Residential Land*, 2000; Eric A. Hanushek and John M. Quigley, *What Is the Price Elasticity of Housing Demand*, (1980); Joseph C Von Nessen, *An Assessment of Real Estate Impact Fees and the Economic Consequences for Horry County*2023

[47] Formative, *HCC Industrial Land Projections* (2025).

[48] S Davis et al., *Land Price Dynamics and Macroeconomic Fluctuations with Imperfect Substitution in Real Estate Markets* (2020).

[49] R Voith, *How Responsive Is the Demand for Residential Land to Changes in Its Price?*, *Business Review* Q3 (2001).

[50] R Yeoman and G Akehurst, *The Housing We'd Choose*, A report prepared for the Research and Evaluation Unit (RIMU), Auckland Council (2015).

The first lever operates through the spatial redistribution of specific economic activity away from the metropolitan endpoints toward the Corridor's centre. This scenario explores a development future where central Corridor communities capture a larger share of economic growth as transport improvements make these locations more viable for business activity.

Specifically, this redistribution applies only to additional out-of-corridor economic activity that is reassigned back into the Corridor as the region's supply chains strengthen and become more self-sufficient. This approach does not redistribute all economic growth within the Corridor, but rather focuses on the net additional economic activity that would traditionally leak outside the Corridor boundary (a reflection of the current economic structure of local and regional economy). Under this framework, a portion of the economic activities that would normally flow to suppliers outside the Corridor are instead captured by businesses within central Corridor communities. The internal economic linkages will strengthen over time due to baseline high growth future aided by transport improvements reducing transaction costs[51]. The technical detail of the method is outlined in Appendix 2.

The second aspect of the modelling examines how transport improvements might influence household residential location preferences, exploring a future where central Corridor communities become more attractive places to live as accessibility improves. To capture how households might consider relocating to central Corridor areas that become more accessible through transport improvements, particularly if these areas offer housing cost advantages compared to metropolitan locations, the model applies internal migration elasticities to existing migration patterns within the Corridor.[52] For the Central Gravity scenario only, we apply an internal migration elasticity to the existing internal migration structure within the Corridor (annual average of 5 years between 2018 and 2023 based on 2023 census data).

The Central Gravity scenario takes this a step further, modelling internal migration elasticities to existing migration patterns within the Corridor, using five-year average data from 2018-2023 census information. This approach models a mobile workforce, and how enhanced internal connectivity might encourage residents to relocate from higher-cost metropolitan areas to more affordable Corridor communities that have become functionally closer due to transport improvements. The technical detail of the method is outlined in Appendix 2.

[51] Anthony T. Flegg and Timo Tohmo, *Regional Input–Output Tables and the FLQ Formula: A Case Study of Finland* (2013)

[52] Florin Cucu, Roads, *Internal Migration and the Spatial Sorting of U.S. High-Skill Workers* (2025); Or Levkovich et al., *The Impact of Highways on Population Redistribution: The Role of Land Development Restrictions* (2017); "Waikato Expressway Shines a Spotlight on the South," *Lugtons*, (2022); "Transmission Gully's Big Winners and Lifelong Losers, Revealed | The Spinoff," accessed July 24, 2025

4.1.6 New Node scenario method

Finally, transport investment could encourage the development of a new node of activity. The New Node scenario was designed to assess potential land use changes that could occur if a large new business node was attracted to establish due to transport network improvements.

Potentially, if a new node was developed it could be focused on "enablers" in the Corridor e.g. existing rural industrial sites, rail links, or exits from State Highway. As an example, a new node may be attracted to Waharoa, Hinuera, Te Poi, Tatuanui/Waitoa or the SH27/29 crossroads.

There is one notable example of a large new node business-anchored development in the Auckland to Hamilton Corridor, namely Sleepyhead at Ohinewai (where stage 1 has been completed, and subsequent works are waiting on wastewater capacity to be created), and there is a proposal for a large (105ha) new Fisher and Paykel estate at Karaka, although that is yet to proceed through the plan change process. These types of development indicate a potential scale of new node development that could seek to establish somewhere along the Corridor. It is acknowledged that apart from primary product processing facilities such as dairy factories and meat processing plants, this type of development (large, stand-alone, and which establish because of access to raw material) is rare, because businesses generally benefit from co-locating in existing urban areas, and few businesses are large enough in their own right to require such a large land area.

Based on the Ohinewai and Karaka examples, it was determined that a new node of business land could be in the range of 50–100ha, and following consideration of growth patterns in the Corridor, this scenario models a substantial industrial development requiring 70ha of land. This scale represents an optimistic and significant industrial investment that could fundamentally alter the economic dynamics of the Corridor while remaining within the bounds of what has been successfully developed elsewhere in New Zealand.

The New Node scenario assumes the new industrial activity represents net additional economic growth rather than displacement from existing Corridor development (say from Hamilton or Tauranga). The 70ha industrial development is assumed to be diverted from locations outside the Corridor. It is further assumed that that economic activity would not have occurred within the region without the enhanced transport connectivity (at least in part) and is therefore not included in the baseline growth (section 4.1.3). We also assume the approximately 975 employees[53] required to operate this industrial facility represent net additional population growth to the region rather than internal redistribution of existing residents. These workers and their households are expected to relocate to the Corridor from other regions, bringing with them additional consumer spending,

[53] The employment was estimated based on observed density of industrial activity within the region. The employment density planned for Sleepyhead and Fisher & Paykel nodes may not be representative of the activity that could be achieved at the new node.

housing demand, and requirements for local services that create multiplier effects throughout the local economy. In this sense, the total economic impact of new industrial development is assumed to be net additional to the Corridor.

The New Node scenario starts with the Central Gravity scenario as its base, however is not merely the Central Gravity scenario plus additional growth. Instead, the New Node scenario replaces the internal migration assumptions of the Central Gravity scenario with different assumptions relating to how many people might be induced to move into the Corridor, and where they might move to. For most towns this means that their modelled dwellings will increase, but for Cambridge that number is modelled to decrease.

The reason for Cambridge's decrease is because Cambridge is currently heavily influenced by commuting, and that is assumed to continue, meaning that Cambridge benefits strongly under the Central scenario, relative to the Baseline and Metro scenarios. The New Node scenario assumes however, that internal migration patterns differ in response to the large 'shock' to the local economies of the node, resulting in Cambridge benefiting less from migration patterns under the New Node scenario than under the Central scenario, although would still be higher relative to the Metro and Baseline scenarios. In summary the New Node scenario results in some of the additional internal migration under the Central Gravity scenario shifting away from Cambridge and towards places nearer the new node, and, for example, Matamata is a beneficiary of that transfer.

The Central Gravity approach spreads development across several Corridor communities, which creates favourable conditions for a major industrial node. Rather than competing with Hamilton and Tauranga for workers and services, the industrial development benefits from the improved transport connections and stronger local supply chains that the Central Gravity pattern creates.

The new node's economic impact is made up of three components:

- Central Gravity baseline: All the agglomeration benefits, economic activity redistribution, household residential choice changes, and internal migration patterns modelled in the Central Gravity scenario.
- New industrial node: The 70ha industrial development represents a substantial overlay of new economic activity, bringing approximately 975 direct employment positions to the Corridor. This employment level is based on typical industrial land use densities and employment ratios observed in comparable New Zealand developments.
- Downstream economic impact: The industrial development generates significant indirect and induced economic effects as the 975 direct employees and their households create demand for local housing, retail, services, and other economic activities. These downstream effects are modelled using the ELM.

It is assumed for the purposes of this modelling that residential and commercial growth related to the new node would most likely still be accommodated in the existing large settlements (Matamata, Tīrau, Morrinsville, Cambridge, and Putāruru), rather than attached to the node itself.

For modelling purposes, the location of the potential new node was defined to be a generic location away from existing large settlements, and notionally somewhere near the centre of the Corridor. For this assessment it is assumed that the New Node is locate along SH29 and the supporting household growth commercial activity is attracted to existing towns which are in this location (i.e. Matamata, and to a lesser extent Tīrau, and Putāruru). However, the modelling specifically avoided assuming an exact location for this scenario, so as not to detract from the general modelled results with considerations of specific site feasibility or constraints, when the scenario is only hypothetical, and there is no actual proposal being assessed. The options for accommodating a new node can be informed by the assessment in section 0, however in the absence of any specific proposal, even a high-level location options assessment would not be possible until a later date.

4.2 Scenario land use modelling results

This section summarises results of the scenario modelling for the Corridor under each of the four modelled scenarios.

4.2.1 Baseline growth scenario

Figure 4.1 presents the total demand plus competitiveness margin for the long term (30 years) which is reported in each of the HBCA reports. In total there is demand for over 93,500 dwellings, 996ha of industrial land, and 321ha of commercial land.

Most of the growth is projected to be in the metropolitan areas of the Corridor, with Hamilton and Tauranga together projected to accommodate 79% of residential demand and 72% of industrial/commercial demand. Cambridge and the SmartGrowth Western Corridor are the next largest areas, accommodating around 6% and 10% respectively. The other towns in the middle of the H2T Corridor are projected to accommodate 1-2% of growth each (Morrinsville, Matamata, Tīrau and Putāruru). The projections in the HBCA are based on business-as-usual scenarios, which means that the projected demand described above is consistent with the structure of historic growth (as assessed in Figure 2.2 and Figure 2.3).

Figure 4.1: Baseline growth scenario long term demand (including margin)

Urban area	Residential (Dwellings)	Industrial (hectares)	Commercial (hectares)
Hamilton	44,400	398	144
Cambridge	5,800	29	28
Morrinsville	1,800	32	7
Matamata	1,600	33	3
Tirau	500	5	1
Putaruru	600	8	2
SmartGrowth Western Corridor	9,100	216	-
Tauranga	29,700	274	136
Total	**93,500**	**996**	**321**

Based on those dwelling projections the population within the urban areas of the Corridor could increase from 399,300 in 2024 to nearly 652,100 by 2054, which is equivalent to 1.6% per annum (Figure 4.2).[54] That strong growth is projected to be strongly influenced by growth in Hamilton (+124,170 people, 1.7% per annum) and the SmartGrowth Western Corridor/Tauranga (+103,030, weighted average 1.7%). For most of the other towns in the middle of the H2T Corridor the population growth is projected to be slower, at around 1% per annum (Morrinsville, Matamata, and Putāruru), although Cambridge (1.7%) and Tīrau are projected to have higher growth, at 2.8% per annum.

Figure 4.2: Baseline population growth scenario

Urban area	2024	Long term growth	2054	Growth p.a.
Hamilton	189,660	124,170	313,830	1.7%
Cambridge	22,400	14,550	36,950	1.7%
Morrinsville	9,680	4,590	14,270	1.3%
Matamata	9,540	3,770	13,310	1.1%
Tirau	930	1,190	2,120	2.8%
Putaruru	4,580	1,500	6,080	0.9%
SmartGrowth Western Corridor	10,090	27,240	37,330	4.5%
Tauranga	152,420	75,790	228,210	1.4%
Total	**399,300**	**252,800**	**652,100**	**1.6%**

The HBCA reports also estimate capacity for the towns to accommodate the growth projected. These assessments suggest that there could be insufficient capacity to meet the demand from the baseline growth in most of the urban areas along the H2T Corridor, and only Cambridge was found to have sufficient capacity. There have been a number of recent planning processes initiated to address the identified capacity deficits, including the Future Proof and SmartGrowth Future Development

[54] Applying dwelling to population from Census 2023, which ranges from 2.4 to 2.8 persons per dwellings within the Corridor and is around 2.7 persons per dwellings across the entire Corridor.

Strategies, multiple Plan Changes (including Private Plan Changes), Fast Track applications, and Regional Deals. These aspects are covered in section 0.

4.2.2 Metro gravity scenario

Figure 4.3 presents the total demand plus competitiveness margin for the long term (30 years) under the Metro gravity scenario. In total, including the baseline growth, there is projected to be demand for an additional 94,400 dwellings, 1,022ha of industrial land and 331ha of commercial land. Compared to the growth projected in the baseline scenario, most of the additional demand is located in the larger urban areas for the Metro gravity scenario.

- Hamilton: an additional 250 dwellings, 7.3ha of industrial, and 3.5ha of commercial land.
- Tauranga: an additional 320 dwellings, 7.7ha of industrial, and 3.3ha of commercial land.

The other urban areas close to the ends of the Corridor are projected to accommodate:

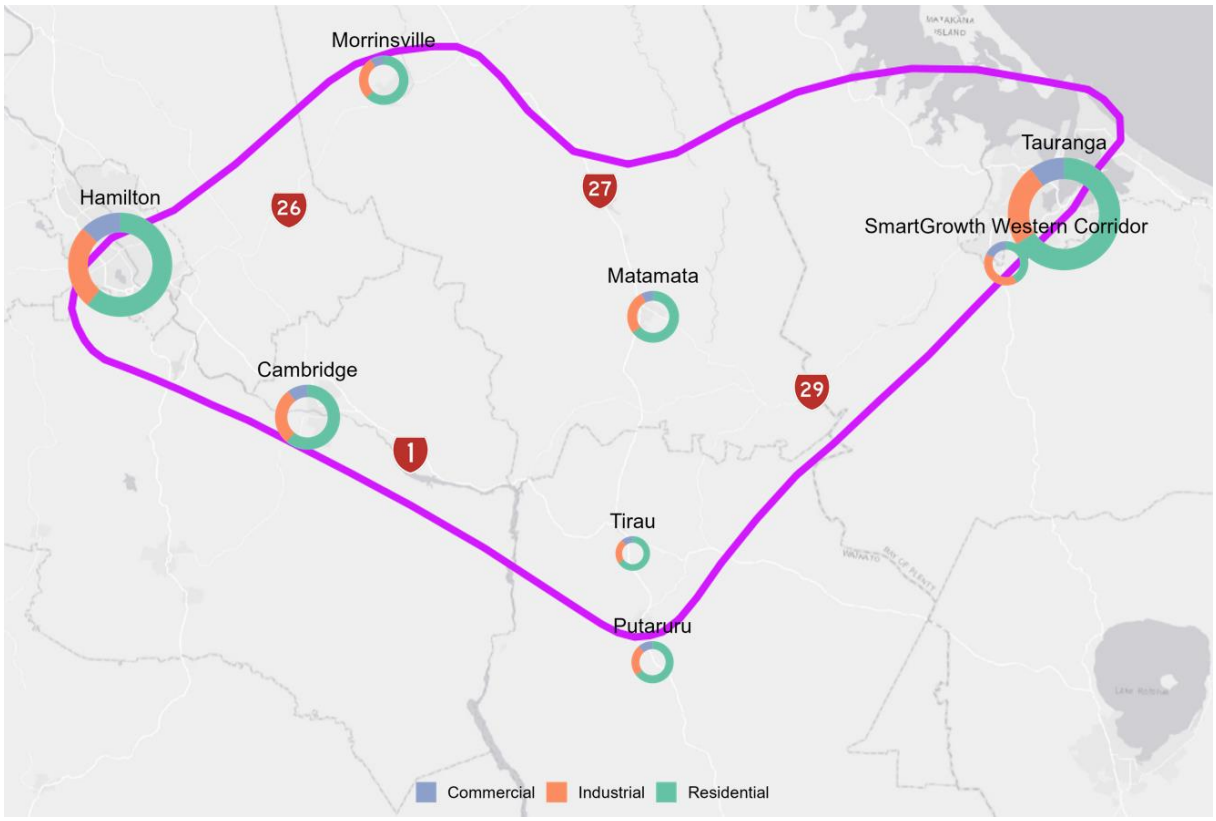
- Cambridge: an additional 100 dwellings, 3.1ha of industrial, and 1.1ha of commercial land.
- SmartGrowth Western Corridor: an additional 30 dwellings, 2.0ha of industrial and 0.9ha of commercial land.

The modelling indicates relatively small increases in demand over the baseline scenario for the towns in the centre of the H2T Corridor (Matamata, Morrinsville, Tīrau, and Putāruru) (Figure 4.4).

Figure 4.3: Metro gravity growth scenario, long term demand

Urban area	Residential (Dwellings)	Industrial (hectares)	Commercial (hectares)
Hamilton	44,655	405	147
Cambridge	5,901	32	29
Morrinsville	1,859	34	8
Matamata	1,671	35	4
Tirau	528	6	1
Putaruru	641	9	2
SmartGrowth Western Corridor	9,131	218	1
Tauranga	30,020	282	139
Total	**94,407**	**1,022**	**331**

Figure 4.4: Metro gravity growth scenario additional growth stimulated over Baseline



4.2.3 Central gravity scenario

Figure 4.5 presents the total demand plus competitiveness margin for the long term (30 years). In total there is demand for an additional 94,530 dwellings, 1,022ha of industrial land and 331ha of commercial land. Compared to the growth in the baseline scenario, most of the additional demand will be located in the larger urban areas along the Corridor (Figure 4.6).

The other urban areas close to the end of the H2T Corridor are projected to have demand for:

- Cambridge: an additional 600 dwellings, 6.5ha of industrial, and 2.8ha of commercial land.
- SmartGrowth Western Corridor: an additional 330 dwellings, 4.6ha of industrial, and 2.1ha of commercial land.

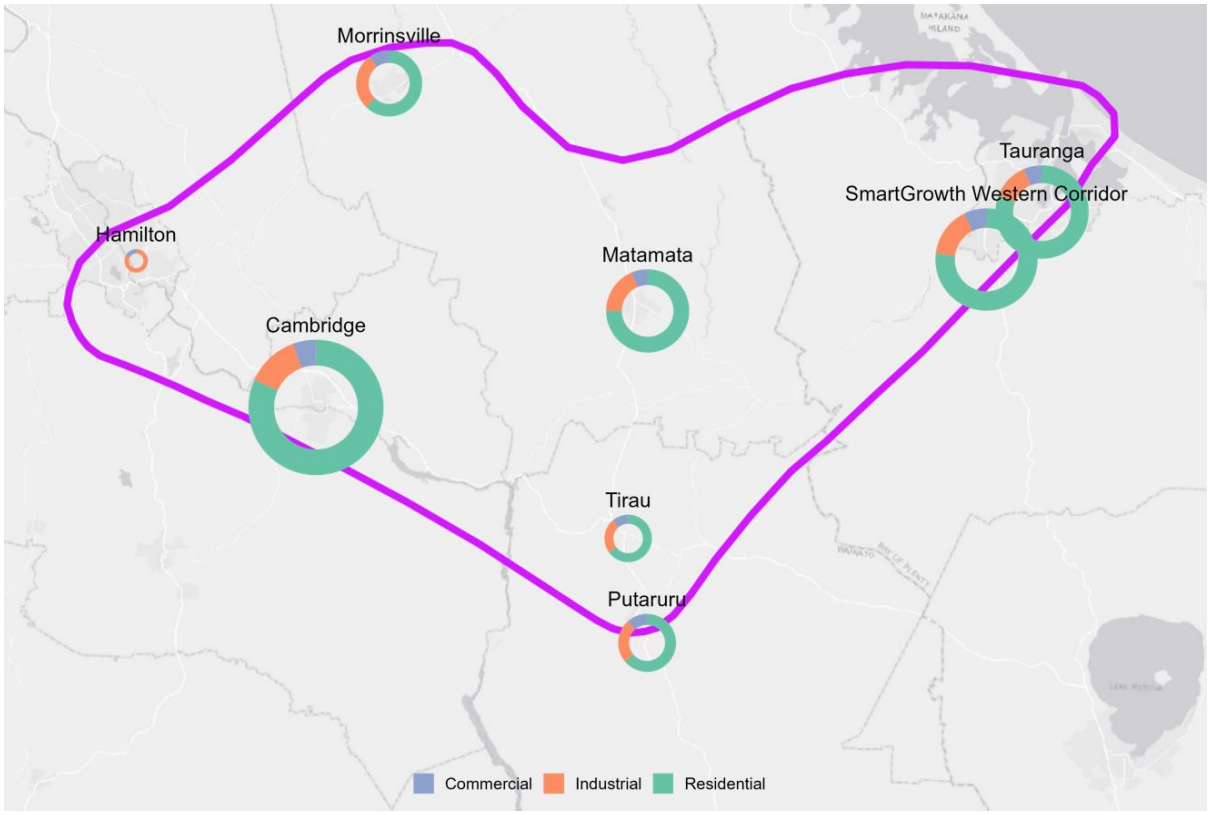
The other towns within the H2T Corridor are projected to accommodate:

- Morrinsville: an additional 110 dwellings and 4.6ha of industrial/commercial land.
- Matamata: an additional 220 dwellings and 4.7ha of industrial/commercial land.
- Tīrau: an additional 60 dwellings and 2.1ha of industrial/commercial land.
- Putāruru: an additional 85 dwellings and 3.4ha of industrial/commercial land.

Figure 4.5: Central gravity growth scenario, long term demand

Urban area	Residential (Dwellings)	Industrial (hectares)	Commercial (hectares)
Hamilton	43,709	399	144
Cambridge	6,422	36	31
Morrinsville	1,914	35	8
Matamata	1,824	37	5
Tirau	556	7	1
Putaruru	682	11	3
SmartGrowth Western Corridor	9,433	221	2
Tauranga	29,992	277	138
Total	**94,531**	**1,022**	**331**

Figure 4.6: Central gravity growth scenario additional growth stimulated over Baseline



4.2.4 New node scenario

Figure 4.7 presents the total demand plus competitiveness margin for the long term (30 years). In total there is demand for over 95,690 dwellings, 1,109ha of industrial land and 337ha of commercial land. Most of the additional demand is in the smaller towns in the Corridor, particularly in Matamata which as the largest town near the middle of the Corridor is a natural location to house workers who would work in the new node, and to accommodate commercial activities to support those workers, and for additional industrial activity that will benefit from the inter-industry linkages driven by activity in the

new node (Figure 4.8). The other towns in the middle of the H2T Corridor are projected to accommodate:

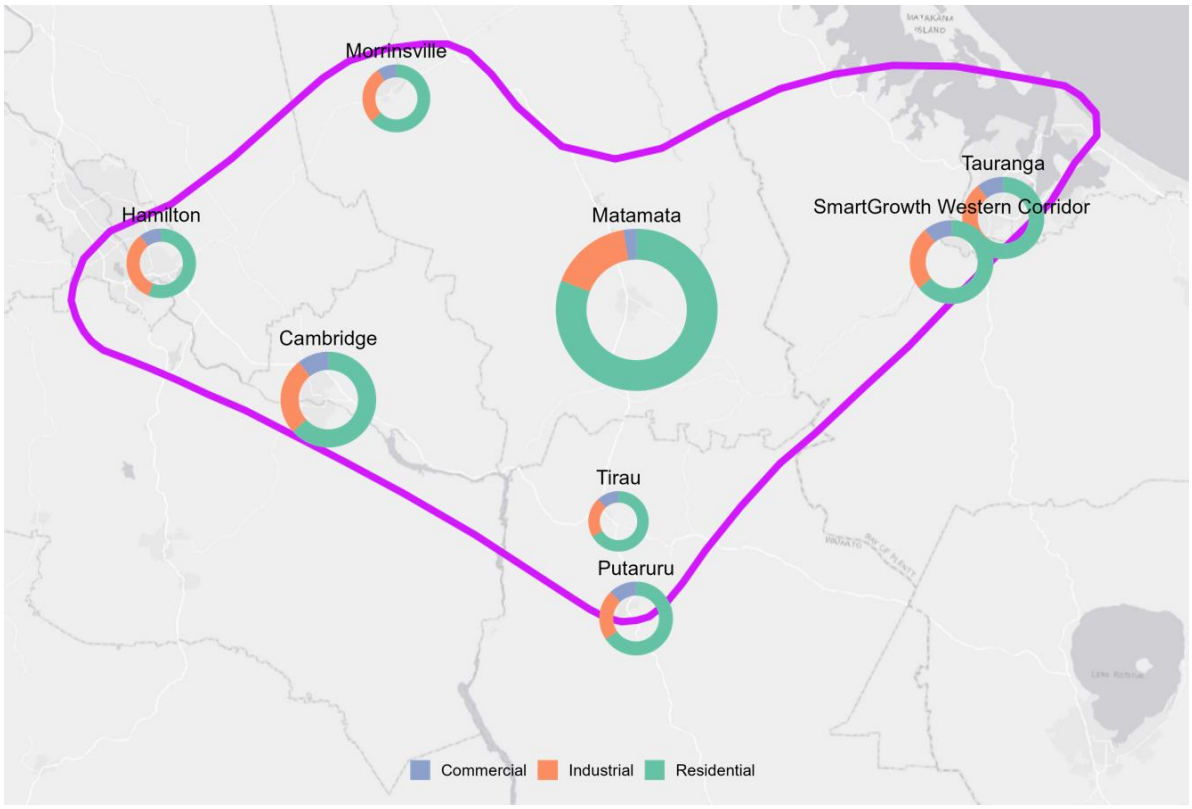
- Cambridge: an additional 270 dwellings and 11.1ha of industrial/commercial land.
- Morrinsville: an additional 140 dwellings and 5.4ha of industrial/commercial land.
- Matamata: an additional 960 dwellings and 10.8ha of industrial/commercial land.
- Tīrau: an additional 110 dwellings and 3.8ha of industrial/commercial land.
- Putāruru: an additional 170 dwellings and 5.8ha of industrial/commercial land.

Under the New node scenario there is projected to be demand in the SmartGrowth Western Corridor for an additional 220 dwellings, 5.5ha of industrial, and 2.5ha of commercial land, with a similar scale of projected additional demand in Tauranga (200 dwellings, 6.1ha of industrial, and 2.3ha of commercial land).

Figure 4.7: New node growth scenario, long term demand

Urban area	Residential (Dwellings)	Industrial (hectares)	Commercial (hectares)
Hamilton	44,524	403	145
Cambridge	6,075	37	31
Morrinsville	1,938	36	9
Matamata	2,560	42	6
New Node	-	70	-
Tirau	613	8	2
Putaruru	766	12	4
SmartGrowth Western Corridor	9,316	222	2
Tauranga	29,897	280	138
Total	**95,691**	**1,109**	**337**

Figure 4.8: New node gravity growth scenario additional growth stimulated over Baseline



The most notable increase in demand in the New node scenario compared to the other scenarios is in Matamata, and to a lesser extent the smaller towns of Tīrau and Putāruru. Demand for land in those towns is notably greater under the New node scenario due to the modelling assumption that the New node would be an industrial location, and population and commercial activity required to support that new node would be located away from the new node, and in existing towns. Given the assumed central location of that new node, the towns that modelled demand growth in residential and commercial activity would be directed primarily towards the largest closest town (Matamata), and then to smaller nearby towns (Tīrau and Putāruru) and more distant larger towns (Morrinsville and Cambridge). Explanation of these outcomes is provided in sections 4.3 and 0.

4.3 H2T growth scenario summary

The following subsections and figures outline the results for each urban area in the Corridor that are within the Waikato Region. The results are presented for all areas together in section 4.3.2 to enable comparison of the quantum of growth between areas, and then separately in the following sections so that difference between the scenarios can be understood for each area.

4.3.1 Interpretation of modelled outputs

The results from the modelling suggest that economic activity in the Waikato region may increase by an additional $200m of GDP under the Metro and Central scenarios compared to the Baseline. This

represents a 0.3% increase in economic activity from the H2T Corridor investment. If the New node scenario occurs the economic activity in the Waikato region may increase by an additional $455m of GDP under compared to the Baseline. This represents a 0.7% increase in economic activity from investments in the H2T Corridor.

New Zealand studies of expressway investments generally suggest an economic impact in the range of 0.1% to 0.6% of GDP for most regions,[55] while some studies of transport investments in Auckland show impacts of 1% or more of GDP (Figure 4.9).[56] While each study reflects different contexts in terms of travel time savings and the scale of the local economy, these findings provide a useful benchmark. The core scenarios (Metro and Central) assessed in this report show impacts in the range of 0.2% to 0.3% for Waikato and Western Bay of Plenty, which fall within this typical range, suggesting they are reasonable. The scenario involving the new industrial node generates an impact of around 0.7%, which is above the usual range but not significantly so, particularly given the scale and concentration of development assumed in this scenario.

Figure 4.9: New Zealand Expressway economic impact assessments

Expressway	Region	GDP Impact %	Source
Waikato Expressway	Auckland	0.11%	Principal Economics 2022
	Waikato	0.25%	
Wellington Roading	Wellington	0.16%	Allen Consulting 2004
H2T Corridor - Metro	**Waikato**	**0.31%**	**Formative 2025**
	Bay of Plenty	**0.21%**	
H2T Corridor - Central	**Waikato**	**0.33%**	**Formative 2025**
	Bay of Plenty	**0.20%**	
Waikato Expressway and Cambridge GVA	Waikato	0.42%	Byett, Stroombergen, Laird, and Paling 2017
	Bay of Plenty	0.33%	
Waikato Expressway and Cambridge SCGE	Golden Triangle	0.40%	
Warkworth to Wellsford	Northland	0.41%	NZIER 2023
	Auckland	0.61%	
Cambridge to Piarere	Region	0.53%	NZIER 2023
	Waikato	0.50%	
Tauranga Strategic Roads	Bay of Plenty	0.65%	Allen Consulting 2004
H2T Corridor - New Node	**Waikato**	**0.72%**	**Formative 2025**
	Bay of Plenty	**0.27%**	
Auckland Western Ring	Auckland	1.05%	Allen Consulting 2004
Auckland Motorway Decongestion	Lower	0.79%	NZIER 2017
	Upper	1.35%	

It is important to note that some of the activity attracted to the region and Corridor area will have occurred elsewhere in New Zealand, and would be considered a transfer effect when considering the

[55] Byett et al., *The Economic Impacts of Connectivity* (2017); Torshizian and Maralani, *Great Decisions Are Timely Benefits from More Efficient Infrastructure Investment Decision-Making* (2022); NZIER, *State Highway Network Investments - Assessing the Wider Economic Benefits* (2023).
[56] NZIER, *Benefits from Auckland Road Decongestion* (2017); Allen Consulting Group, *Benefits of Investing in New Zealand's Road Infrastructure* (2004).

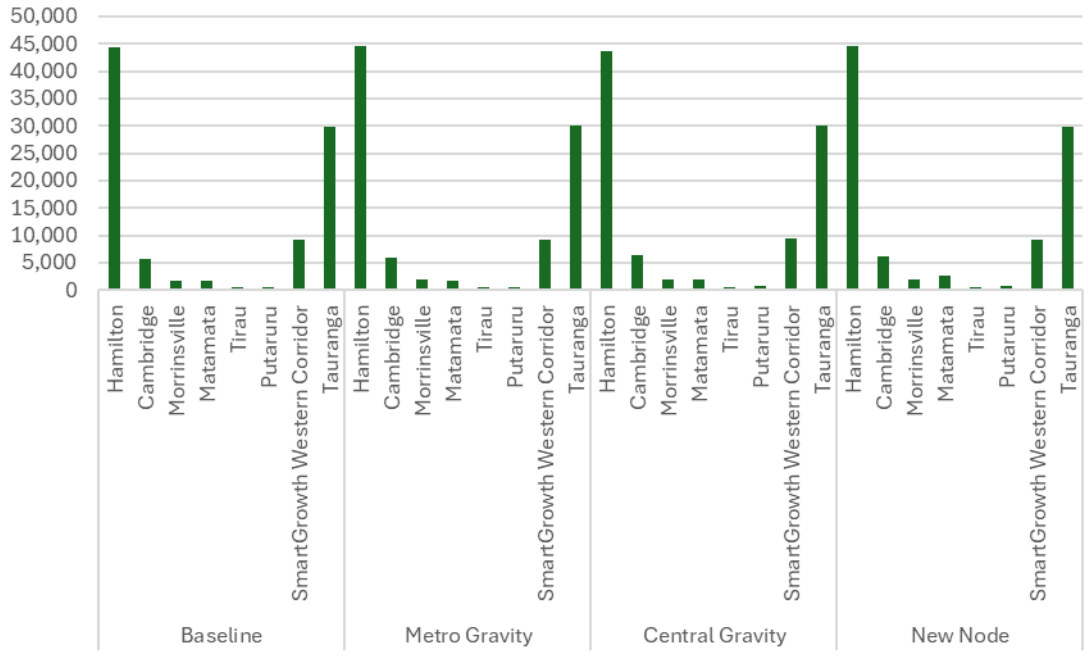
project at a national level. However, in this case where the important issue is to understand the local planning actions needed to accommodate the growth, the issue of the transfer effect is not relevant for this study, although would be for a broader project taking in Auckland and Bay of Plenty.

4.3.2 Corridor overview

Residential demand growth scenarios – Baseline, Metro, Central, and New Node

Hamilton and Tauranga as the two cities within the corridor will attract most of the residential growth modelled under each scenario (Hamilton: 47% under the Baseline, 47% Metro, 46% Central, and 47% New Node, Tauranga: 32% under the Baseline, 32% Metro, 32% Central, and 31% New Node). Hamilton growth is expected to reach 45,000 dwellings, with the next largest location of growth in the Future Proof area being Cambridge (6-7% in each scenario, growth of 5,800-6,400 dwellings), followed by Morrinsville and Matamata (each around 2% in each scenario), then Tīrau and Putāruru (1%) (Figure 4.10). Even though the ranges of growth appear small (particularly as graphed in Figure 4.11), the difference across the four scenarios of actually reasonably significant given the large mass of established activity, and the various scenarios represent a material change in the distribution of where future growth might seek to establish (as better shown in Figure 4.11).

Figure 4.10: Scenario modelled residential growth (dwellings)



Comparing growth under each scenario over and above the baseline growth projected in the study area's HBAs (Figure 4.11) shows that:

- the largest growth in demand for dwellings in Hamilton would be around +0.6% under the Metro gravity scenario, equivalent to 250 dwellings more than projected by the HBA. The

increased relative attraction of the Central area would result in less growth being directed to Hamilton under the New Node scenario (+0.3%, +130 dwellings) and a decline (achieving 1.6% less growth than the HBA projects) under the Central Gravity scenario (700 fewer dwellings than the HBA projects).

- For the smaller towns, generally the further east, the larger the additional demand under all scenarios, relative to the Baseline.
- Demand for additional dwellings in Cambridge under the Metro scenario is modelled to increase by nearly 2% more than the Baseline growth (+100 dwellings), and by over 10% more under the Central gravity scenario (+600 dwellings).
- Similar relativities, although slightly smaller shares in absolute terms, are revealed for Matamata, Morrinsville, Tīrau, and Putāruru, with the transport improvements modelled to stimulate some additional growth in dwelling demand, over and above the level projected in the HBA.
- In contrast to the towns near the centre of the H2T Corridor, SmartGrowth Western Corridor shows relatively modest additional demand across all scenarios, with the highest growth under the Central Gravity scenario (+3.7%, +330 dwellings). Tauranga demonstrates small relative increases (similar to the other large metro area – Hamilton) with additional dwelling demand peaking at just +1.1% under the Metro scenario (+320 dwellings) and minimal growth under the New Node scenario (+0.7%, +200 dwellings).

In interpreting these results in relation to the New Node scenario, it is necessary to understand that that scenario effectively equates to the addition of the equivalent of a new town being established in the middle part of the Corridor, albeit split across several locations, mostly Matamata, Tīrau, Putāruru, and Morrinsville. That town-equivalent represents a large impact on towns of this size, hence the significance of some of the effects shown under this scenario.

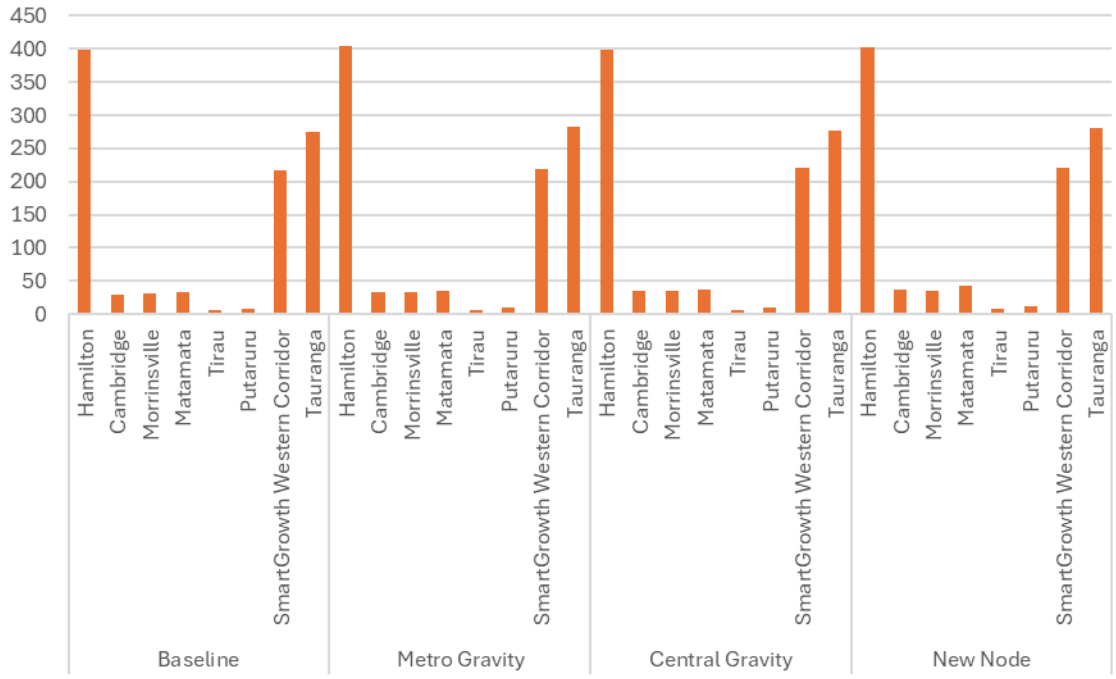
Figure 4.11: Growth in demand for residential dwellings relative to Baseline scenario

	Dwellings			%		
	Metro Gravity	Central Gravity	New Node	Metro Gravity	Central Gravity	New Node
Hamilton	250	-700	130	0.6%	-1.6%	0.3%
Cambridge	100	610	270	1.7%	10.5%	4.6%
Morrinsville	60	110	140	3.8%	6.9%	8.6%
Matamata	70	210	1,010	4.7%	14.8%	72.1%
Tirau	30	60	110	6.1%	11.7%	22.9%
Putaruru	40	90	170	7.4%	14.2%	27.9%
SmartGrowth Western Corridor	30	330	220	0.3%	3.7%	2.4%
Tauranga	320	290	200	1.1%	1.0%	0.7%

Industrial demand growth scenarios – Baseline, Metro, Central, and New Node

Hamilton will attract most of the industrial growth modelled under each scenario (79% under the Baseline, 87% Metro, 75% Central, and 74% New Node) with growth being close to 400ha, with the next largest location of growth in the Future Proof area being Cambridge (6-7% in each scenario, growth of 29ha under the Baseline, and 32-37ha under the other scenarios), followed by Morrinsville and Matamata (each around 6-7% in each scenario), then Tīrau and Putāruru (1-2%) (Figure 4.12). As for the residential summary above, the difference between locations is visible in Figure 4.12, but the difference between scenarios is better shown in Figure 4.13.

Figure 4.12: Scenario modelled industrial growth (ha of industrial land)



Comparing growth under each scenario over and above the baseline growth projected in the study area's HBAs (Figure 4.13) shows that:

- The largest growth in demand for industrial land in Hamilton would be +1.8% under the Metro gravity scenario (equivalent to 7ha more than under the Baseline scenario), with the increased relative attraction of the Central area resulting in less growth for Hamilton under the New Node scenario (+5.1ha) and Central Gravity (+1.2ha) scenarios relative to the Metro scenario, but still greater than the Baseline.
- Matamata and Morrinsville would have a quite significant increase in growth in demand for industrial land, relative to the Baseline, at +6% each under the Metro scenario, and more than double the impact under the other two scenarios, so the additional growth is in the order of 3-4ha more than the Baseline scenario. The New Node scenario is modelled

to have a more significant effect on Matamata, resulting in demand for nearly 14ha more industrial land there than under the Baseline scenario.

- Demand for additional industrial land in Cambridge under the Metro scenario is modelled to increase by nearly 10% more than the Baseline growth (equivalent to an extra 3ha), and by 21% more under the Central gravity scenario (an extra 7ha).
- Similar relativities are revealed for Tīrau, and Putāruru, with demand equivalent to about an additional 1-2ha in each place under each scenario, although slightly stronger under the New Node scenario.
- SmartGrowth Western Corridor shows modest increases in industrial land demand across all scenarios, with growth ranging from +0.9% under Metro Gravity (+2.0ha) to +2.6% under New Node (+5.5ha), while Tauranga demonstrates strong demand under the Metro Gravity scenario (7.7ha, +2.8%), with more moderate increases of around 3-6ha under the Central Gravity (+1.1%) and New Node (+2.2%) scenarios.

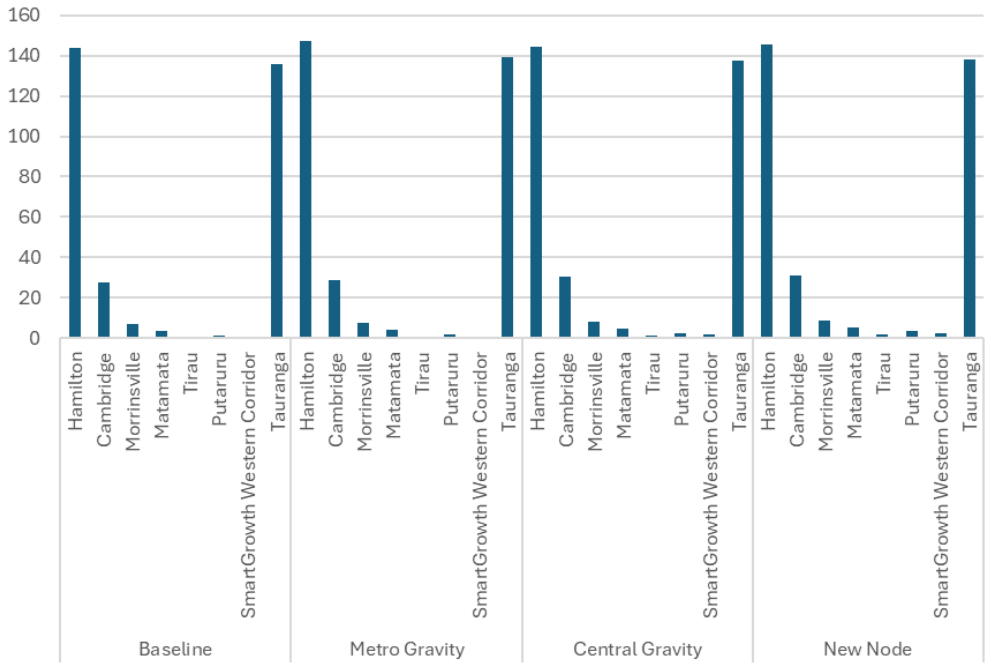
Figure 4.13: Growth in demand for industrial land relative to Baseline scenario

	Industrial land (ha)			%		
	Metro Gravity	Central Gravity	New Node	Metro Gravity	Central Gravity	New Node
Hamilton	7.2	1.2	5.1	1.8%	0.3%	1.3%
Cambridge	3.1	6.1	7.3	10.5%	20.8%	24.7%
Morrinsville	1.9	3.3	4.0	5.9%	10.3%	12.5%
Matamata	2.0	3.5	13.7	5.9%	10.4%	41.0%
Tirau	0.7	1.4	2.4	13.4%	26.2%	45.2%
Putaruru	1.1	2.2	3.8	13.4%	26.2%	45.2%
SmartGrowth Western Corridor	2.0	4.6	5.5	0.9%	2.1%	2.6%
Tauranga	7.7	3.1	6.1	2.8%	1.1%	2.2%

Commercial demand growth scenarios – Baseline, Metro, Central, and New Node

Hamilton will attract most of the commercial growth modelled under each scenario (78% under the Baseline, 77% Metro, 75% Central, and 74% New Node) with growth being close to 145ha, and the next largest location of growth in the Future Proof area being Cambridge (15-16% in each scenario), followed by Morrinsville and Matamata (each around 2-4% in each scenario), then Tīrau and Putāruru (1-2%) (Figure 4.14). As for the residential and industrial summaries above, the difference between locations is visible in Figure 4.14, but the difference between scenarios is better shown in Figure 4.15.

Figure 4.14: Scenario modelled commercial growth (ha of commercial land)



Comparing growth under each scenario over and above the baseline growth projected in the study area's HBAs (Figure 4.15) shows that:

- the largest growth in demand for commercial land in Hamilton would be +2.4% under the Metro gravity scenario (equivalent to 3.5ha more than under the Baseline scenario), with the increased relative attraction of the Central area resulting in less growth for Hamilton under the New Node scenario (+1.6ha) and Central Gravity (+0.2ha) scenarios relative to the Metro scenario, but still greater than the Baseline.
- Demand for additional commercial land in Cambridge under the Metro scenario is modelled to increase by 4% more than the Baseline growth (equivalent to an extra 1.1ha), and by 9.5% more under the Central gravity scenario (an extra 2.6ha).
- Matamata and Morrinsville would have a quite significant increase in growth in demand for commercial land in percentage terms, albeit off a low base. There, additional growth is in the order of 0.5-2ha more than the Baseline scenario in each case.
- Similar amounts of additional demand growth are revealed for Tīrau and Putāruru, with demand equivalent to about an additional 0.5-1ha in each place under each scenario, although slightly stronger under the New Node scenario.
- SmartGrowth Western Corridor represents a new area for commercial land development under these scenarios, with demand ranging from 0.9ha under Metro Gravity to 2.5ha under New Node, reflecting the likely future need to provide commercial space to support the population of the greenfields growth areas. Tauranga shows moderate additional

commercial land demand of +2.4% under Metro Gravity (+3.3ha), with smaller increases under Central Gravity (+1.5ha) and New Node (+2.3ha) scenarios.

Figure 4.15: Growth in demand for commercial land relative to Baseline scenario

	Commercial land (ha)			%		
	Metro Gravity	Central Gravity	New Node	Metro Gravity	Central Gravity	New Node
Hamilton	3.5	0.2	1.6	2.4%	0.2%	1.1%
Cambridge	1.1	2.6	3.0	4.0%	9.5%	10.7%
Morrinsville	0.6	1.2	1.4	8.3%	16.6%	18.9%
Matamata	0.5	1.2	2.2	15.9%	35.6%	63.9%
Tirau	0.3	0.7	1.4	56.6%	110.9%	226.7%
Putaruru	0.5	1.0	2.1	32.6%	63.9%	130.6%
SmartGrowth Western Corridor	0.9	2.1	2.5	New to Area		
Tauranga	3.3	1.5	2.3	2.4%	1.1%	1.7%

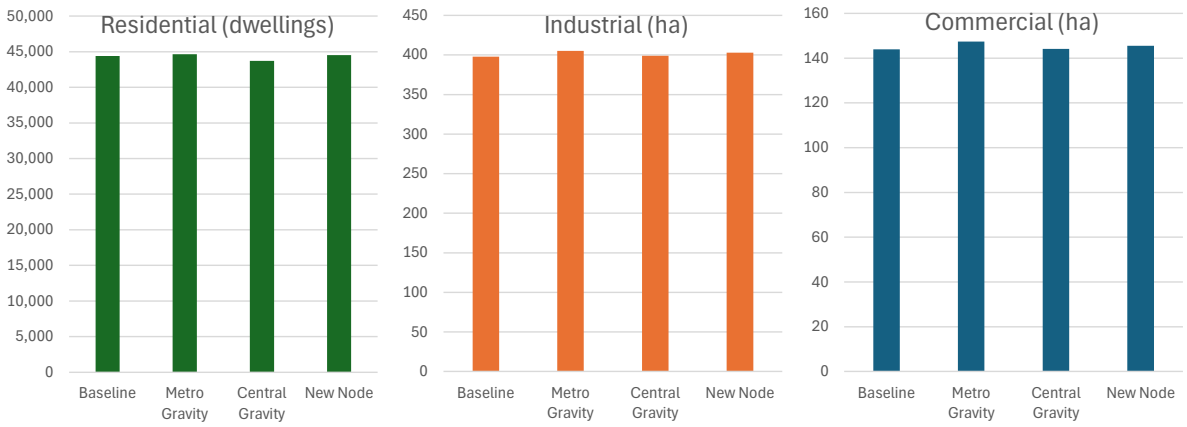
4.3.3 Hamilton growth

Hamilton City is expected to attract a large share of the growth in the Corridor for all three types of land use. While there is some variation in the quantum of demand in each scenario this is dwarfed by the overall background baseline growth, leaving variations around that baseline to be relatively small in percentage terms.

Figure 4.16 shows charts of the net additional growth expected in Hamilton over the next 30 years, with four scenarios shown for each of the three land uses. The difference between the height of the bars of each colour is due to the different modelled growth under each scenario, with growth remaining positive (and in fact very similar in quantum) under each scenario, but showing slight differences as the result of different drivers of growth in the different locations. Other towns' charts will show different relativities, benefitting more from some scenarios, and less from others. For Hamilton the following outcomes are shown:

- Residential growth is expected to fall within the range of 44,400 to 44,700 dwellings.
- Industrial growth is expected to fall within the range of 398 to 405ha of land.
- Commercial growth is expected to fall within the range of 144 to 147ha of land.

Figure 4.16: Hamilton modelled growth



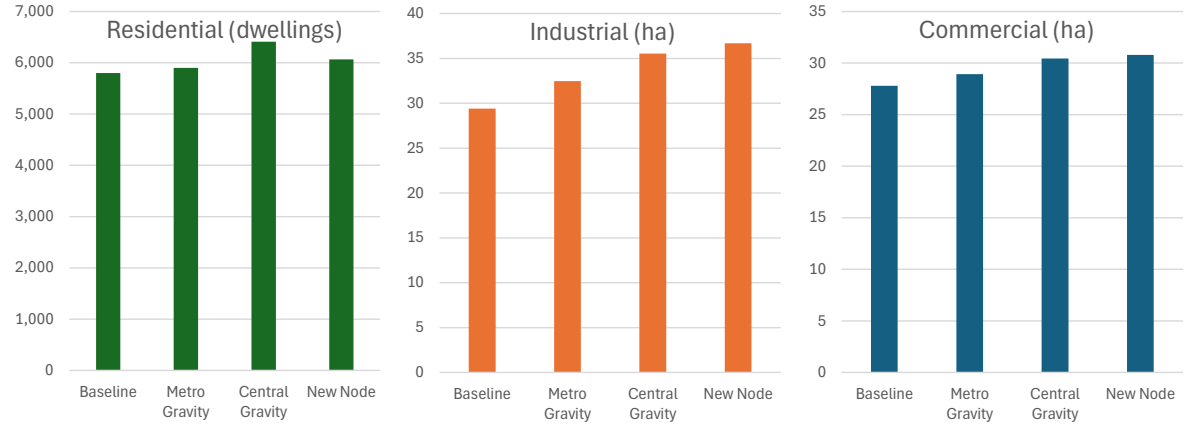
A large share of the dwelling and commercial demand in Hamilton might be expected to be accommodated in the existing urban area, and the extent of greenfield land required will be dependent on how much of the intensification that is enabled in the urban area is taken up by the market. The various scenarios modelled show a divergence in growth anticipated of less than 2% for each land use type, indicating there is likely to be a lack of need for any material change in land use provision in Hamilton compared to that being planned for under current baseline planning.

4.3.4 Cambridge growth

Cambridge is expected to attract a sizable share of the growth in the Corridor for all three types of land use. While there is some variation in the quantum of demand in each scenario this is mostly related to the overall background baseline growth. Figure 4.17 shows the following outcomes:

- Residential growth is expected to fall within the range of 5,800 to 6,400 dwellings.
- Industrial growth is expected to fall within the range of 29 to 37ha of land.
- Commercial growth is expected to fall within the range of 28 to 31ha of land.

Figure 4.17: Cambridge modelled growth



Using the maximum point in the range of the scenarios would suggest a need for around 490ha of new land to accommodate the total growth modelled in Cambridge, with some additional land under each scenario, and variation between the different scenarios, indicating that there is potential for land use demand in Cambridge to respond to improvements in the transport network in different ways. Section 4.6 summarises the sufficiency of development land capacity under each scenario. Land use planning in Cambridge should factor that potential variance into account, and would be well advised to consider that current land use projections may be reached earlier than anticipated as a result of increased connectivity of Cambridge with Hamilton and Tauranga. The quantum of additional growth facilitated is shown by the difference in the height of the bars in Figure 4.17, and might equate to up to an extra 7ha of industrial land, or 3ha of commercial land.

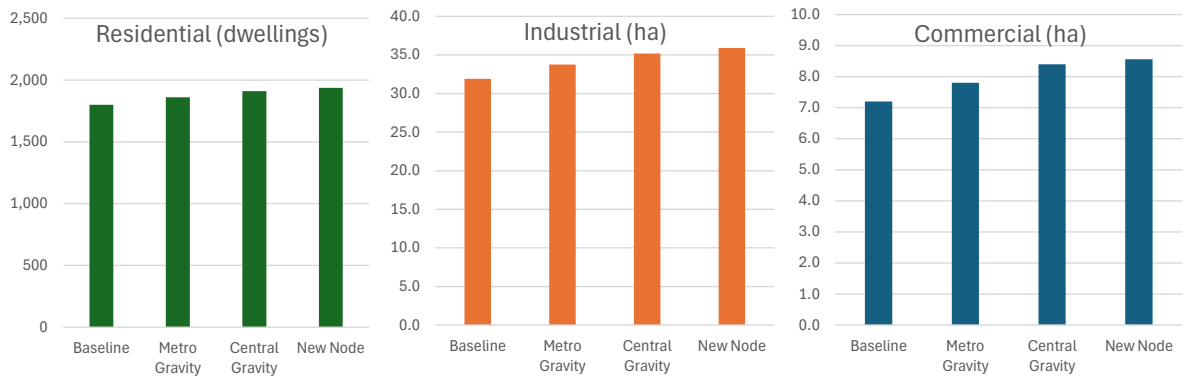
The modelled land demand in Cambridge might, subject to constraints, be provided in various locations, such as existing greenfield areas, intensification/redevelopment in the existing urban area, or new greenfield areas (Fastrack, Private Plan Changes, Future Development Strategy, etc). The latest HBCA notes that there is sufficient capacity for residential (10,400 dwellings), and industrial (64ha) to meet the range of outcomes in the scenarios. However, there is insufficient capacity to meet the commercial demand with only 6ha of existing supply available which means a potential shortfall of up to 25ha, applying the range shown by the scenarios.

4.3.5 Morrinsville growth

Morrinsville is modelled to attract a small share of the growth in the Corridor for all three types of land use, and while there is a large variation in the quantum of growth between the scenarios, that is relatively small in terms of land area, because of the low baseline growth projected. Figure 4.18 shows the following outcomes:

- Residential growth is expected to fall within the range of 1,800 to 1,940 dwellings.
- Industrial growth is expected to fall within the range of 32 to 36ha of land.
- Commercial growth is expected to fall within the range of 7.2 to 8.5ha of land.

Figure 4.18: Morrinsville modelled growth



Using the maximum point in the range of the growth scenarios would suggest a need for around 170ha of new land to accommodate the growth modelled in Morrinsville. There is variation in the different scenarios, particularly with regard to industrial land demand, indicating that there is potential for land use demand in Morrinsville to respond to improvements in the transport network in different ways. Land use planning in Morrinsville should factor that potential variance into account, and would be well advised to consider that current land use projections may be reached earlier than anticipated as a result of increased connectivity of Morrinsville with Hamilton and Tauranga. The quantum of additional growth facilitated is shown by the difference in the height of the bars in Figure 4.18, and might equate to up to an extra 4ha of industrial land.

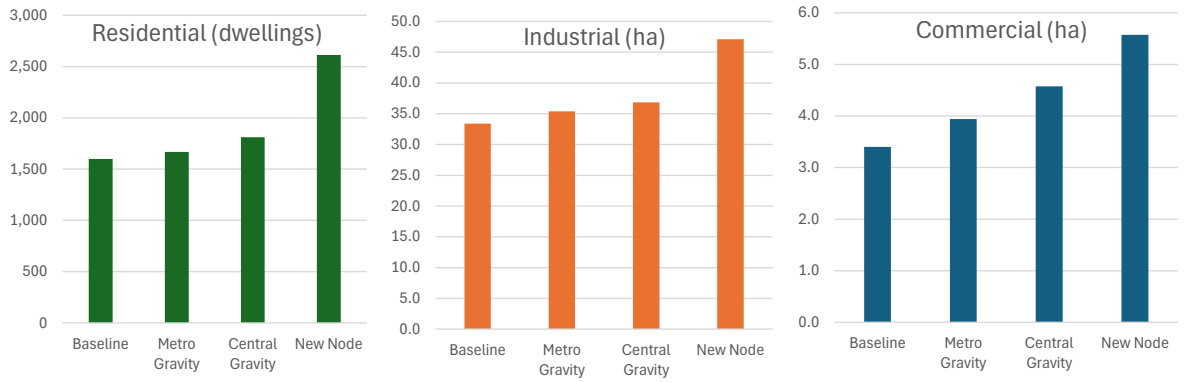
The modelled land demand in Morrinsville might, subject to constraints, be provided in various locations, such as existing greenfield areas, intensification/redevelopment in the existing urban area, or new greenfield areas (Fastrack, Private Plan Changes, Future Development Strategy, etc). The latest HBCA notes that there is sufficient capacity to meet the range of outcomes in the scenarios for commercial demand (13ha). However, there is insufficient capacity to meet residential (1,500 dwellings), and industrial (24ha) demand with a potential shortfall of up to 440 dwellings and 12ha of industrial land, applying the range shown by the scenarios.

4.3.6 Matamata growth

Matamata was expected to attract a small share of the growth in the Corridor for all three types of land use – residential, industrial, and commercial. This means that there is more variation in the quantum of demand in each scenario because the background baseline growth was relatively small. Further, Matamata would service a large proportion of the potential additional demand arising if a new node was developed, which would be the highest growth outcome for the town. Figure 4.19 shows the following outcomes:

- Residential growth is expected to fall within the range of 1,600 to 2,600 dwellings.
- Industrial growth is expected to fall within the range of 33 to 47ha of land.
- Commercial growth is expected to fall within the range of 3 to 6ha of land.

Figure 4.19: Matamata modelled growth



Using the maximum point in the range of the growth scenarios would suggest a need for around 230ha of land to accommodate the growth modelled in Matamata, although large amounts are already identified and will be available to do so. There is significant variation in the different scenarios for all the land use types, indicating that there is potential for land use demand in Matamata to respond to improvements in the transport network in different ways.

Of all the towns along the Corridor, Matamata's demand outcomes are the most strongly influenced by the H2T Corridor investment. Land use planning should factor that potential variance into account, and current land use projections may be reached earlier than anticipated as a result of increased connectivity of Matamata with Hamilton and Tauranga. The quantum of additional growth facilitated is shown by the difference in the height of the bars in Figure 4.19, and might equate to up to an extra 1,000 dwellings, 14ha of industrial land, and 3ha of commercial.

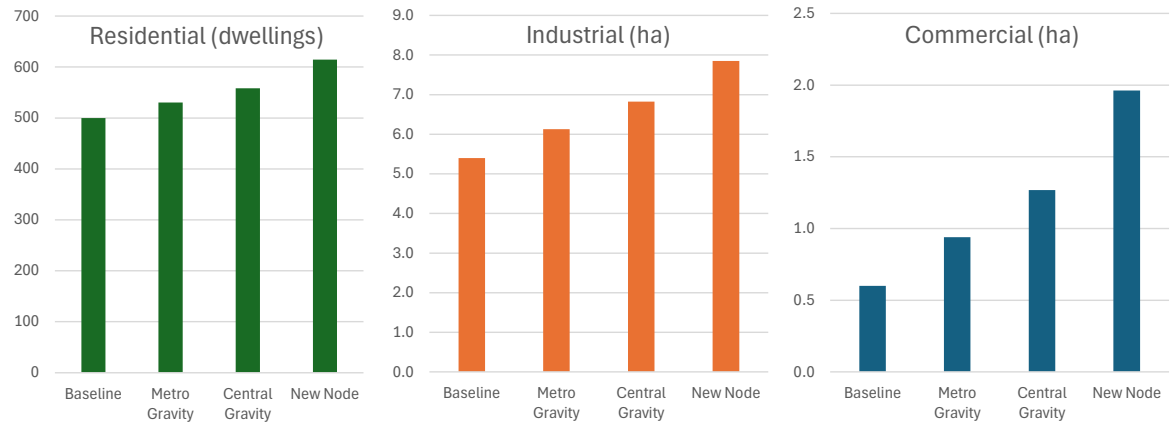
The demand shown in the scenarios could be accommodated within Matamata via either existing greenfield areas, intensification/redevelopment in the existing urban area, or new greenfield areas (Fastrack, Private Plan Changes, Future Development Strategy, etc). The latest HBCA notes that there is sufficient capacity for to meet the range of outcomes in the scenarios for commercial demand (11ha). However, there is insufficient capacity to meet residential (1,300 dwellings), and industrial (11ha) demand with a potential shortfall of up to 1,300 dwellings (given the New Node scenario's demand growth of 2,600 dwellings) and 36ha of industrial land. The shortfall of residential dwellings would be reduced if the proposed Ashbourne development proceeds (530 dwellings and 250 retirement units).

4.3.7 Tīrau growth

Tīrau was expected to attract a small share of the growth in the Corridor for all three types of land use. This means that there is more variation in the quantum of demand in each scenario because the background baseline growth was relatively small. Modelling shows that the town would service potential demands if a new node was developed in the centre of the Corridor, and that New Node scenario would be the highest growth outcome for the town. Figure 4.20 shows the following outcomes:

- Residential growth is expected to fall within the range of 500 to 620 dwellings.
- Industrial growth is expected to fall within the range of 5.4 to 7.8ha of land.
- Commercial growth is expected to fall within the range of 0.6 to 2.0ha of land.

Figure 4.20: Tīrau modelled growth



Using the maximum point in the range of the growth scenarios would suggest a need for around 50ha of new land to accommodate the growth modelled in Tīrau. There is variation in the different scenarios for all the land use types, indicating that there is potential for land use demand in Tīrau to respond to improvements in the transport network in different ways.

Like Matamata, Tīrau's demand outcomes are strongly influenced by the H2T Corridor investment. Land use planning in Tīrau should factor that potential variance into account, and would consider that growth may be greater than expected, once the effect of transport changes and increased connectivity of Tīrau with Hamilton and Tauranga are taken into account. The quantum of additional growth facilitated is shown by the difference in the height of the bars in Figure 4.20, and might equate to up to 2.4ha of industrial land, and 1.4ha of commercial, which is much higher than the baseline demand outcomes.

The modelled land demand in Tīrau might, subject to constraints, be provided in various locations, such as existing greenfield areas, intensification/redevelopment in the existing urban area, or new greenfield areas (Fastrack, Private Plan Changes, Future Development Strategy, etc). The latest HBCA notes that there is insufficient capacity for all types of land use, residential (400 dwellings), industrial (1ha), and commercial (0.3ha) which means a potential shortfall of up to 200 dwellings, 7ha of industrial land, and 2ha of commercial land, applying the range shown by the scenarios.

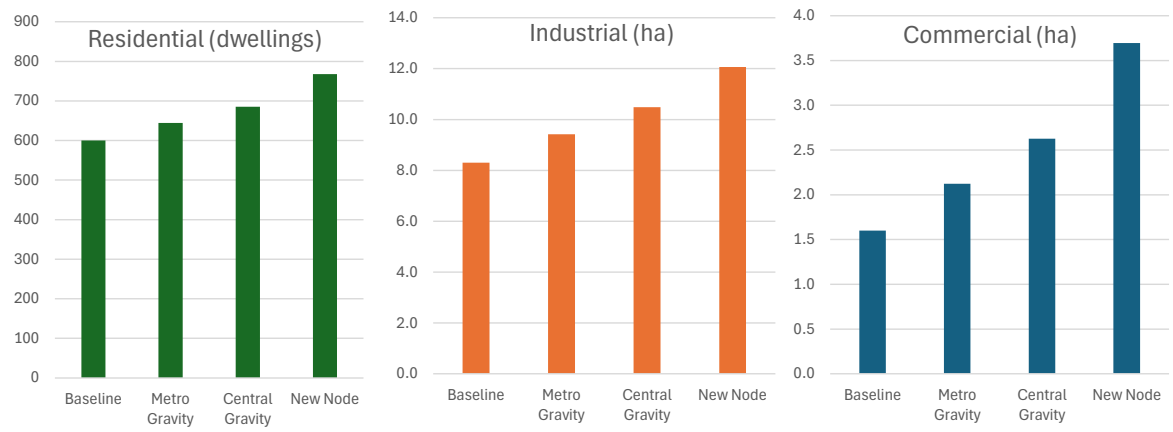
4.3.8 Putāruru growth

Putāruru was expected to attract a small share of the growth in the Corridor for all three types of land use – residential, industrial, and commercial. This means that there is more variation in the quantum of demand in each scenario because the background baseline growth was relatively small. Figure 4.21 shows the following outcomes:

- Residential growth is expected to fall within the range of 600 to 800 dwellings.
- Industrial growth is expected to fall within the range of 8.3 to 12.1ha of land.

- Commercial growth is expected to fall within the range of 1.6 to 3.7ha of land.

Figure 4.21: Putāruru modelled growth



Using the maximum point in the range of the scenarios would suggest a need for around 60ha of new land to accommodate the growth modelled in Putāruru, although there is some variation in the different scenarios, indicating that there is potential for land use demand in Putāruru to respond to improvements in the transport network in different ways. Land use planning in Putāruru should be cognisant that land use projections may be reached earlier than anticipated as a result of increased connectivity of Putāruru with Hamilton and Tauranga. The quantum of additional growth facilitated is shown by the difference in the height of the bars in Figure 4.21, and might equate to up to an extra 4ha of industrial land, or 2ha of commercial land.

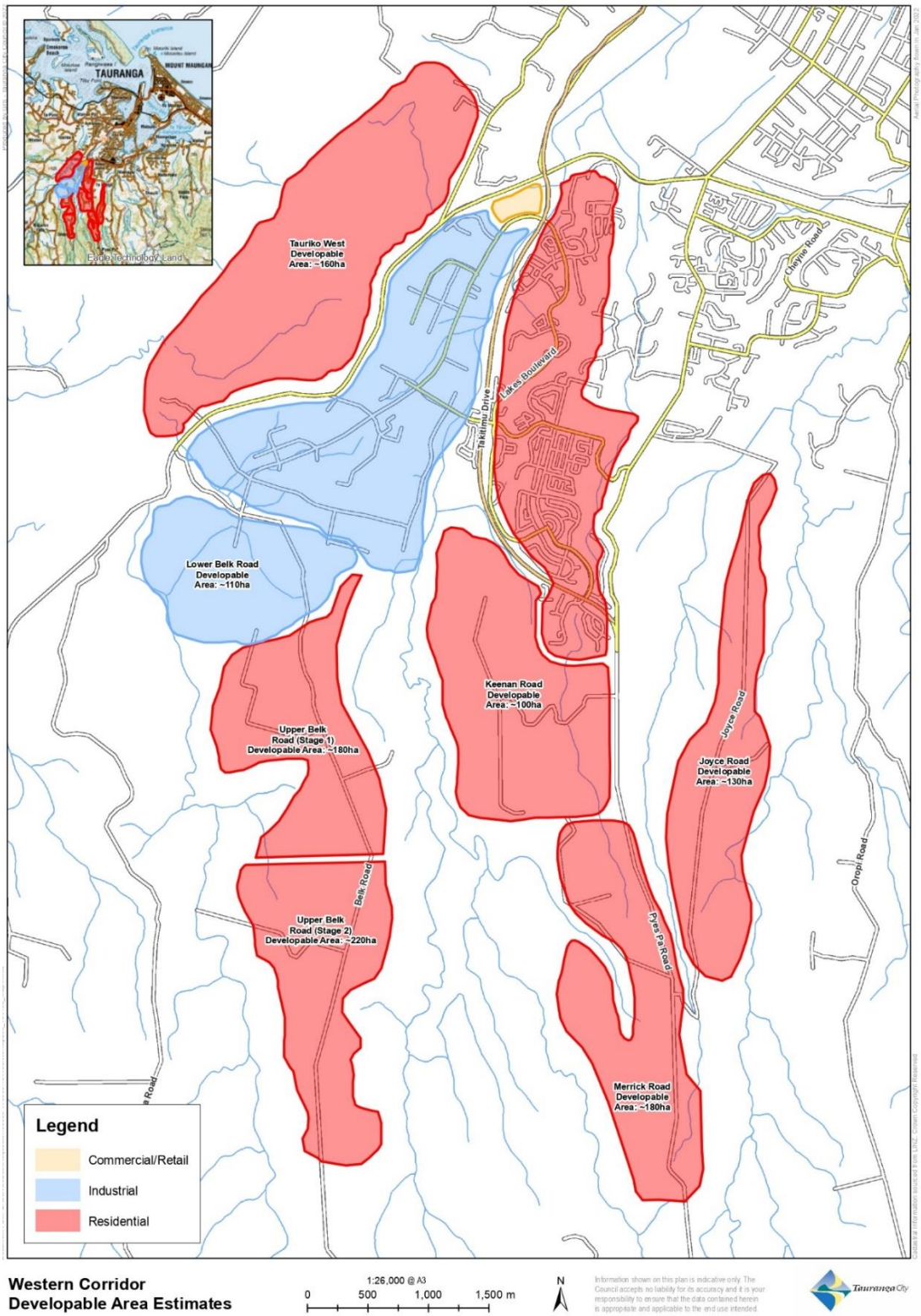
The modelled land demand in Morrinsville might, subject to constraints, be provided in a range of locations, although the latest HBCA notes that there is insufficient capacity for all types of land use, residential (430 dwellings), industrial (6.4ha), and commercial (2.1ha) which means a potential shortfall of up to 340 dwellings, 6ha of industrial land, and 2ha of commercial land, applying the range shown by the scenarios. However, because the Putāruru economy has declined in recent years, there may be spare capacity available for business occupation, although this would need some further investigation to test the potential sufficiency of existing supply to accommodate any increased demand arising from transport network improvements.

4.3.9 SmartGrowth Western Corridor growth

For this assessment the SmartGrowth Western Corridor is defined to include the growth areas in the area around Tauriko that straddles the Tauranga City-Western Bay of Plenty boundary (Tauriko, Tauriko West, Pyes Pā, Lower and Upper Belk Road, Keenan Road, Joyce Road and Merrick Road), as shown in Figure 4.22. The Western Corridor includes the Tauriko Business Estate, an established 200+ hectare industrial area developed from 2007 to leverage its proximity to the Port of Tauranga as a key international logistics hub and strategic transport links to Waikato and Auckland.

Growth planning for this area is still in progress, and for the purposes of this assessment has been assumed to accommodate projected growth of 9,050 dwellings and 216ha of industrial demand. Because the SmartGrowth Western Corridor includes some areas within Tauranga City, the Tauranga section following excludes those areas, and so is less than the total Tauranga City area.

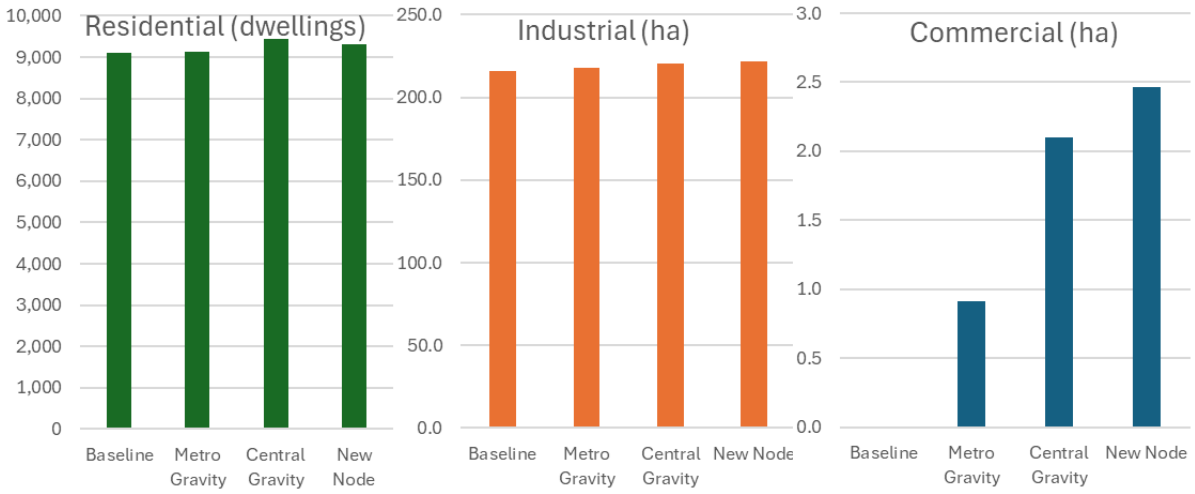
Figure 4.22: SmartGrowth Western Corridor



SmartGrowth Western Corridor is expected to attract a moderate share of the growth in the Corridor for residential and industrial land use, with commercial land use representing a new development opportunity in this area. The baseline growth is substantial for residential development, meaning that variations between scenarios are relatively small in percentage terms, though still meaningful in absolute numbers. Figure 4.23 shows the following outcomes:

- Residential growth is expected to fall within the range of 9,100 to 9,430 dwellings.
- Industrial growth is expected to fall within the range of 218 to 222ha of land.
- Commercial growth is expected to fall within the range of 0 to 2.5ha of land.

Figure 4.23: SmartGrowth Western Corridor modelled growth



Using the maximum point in the range of the growth scenarios would suggest a need for around 850ha of new land to accommodate the growth modelled in SmartGrowth Western Corridor. There is some variation between the different scenarios, particularly for commercial land demand which represents entirely new development in this area.

Most of the modelled land demand in SmartGrowth Western Corridor would be likely to be provided in greenfield growth areas, such as those identified in Figure 4.22, given the limited development in the area now. The commercial land demand represents entirely new provision in this area of around 1.5ha, and would be required to support the growing local population. It is noted that SmartGrowth has a committed Key Action in its Implementation Plan to review its commercial centres strategy, which will help identify requirements based on local and citywide demand for commercial land over the next 30 years.

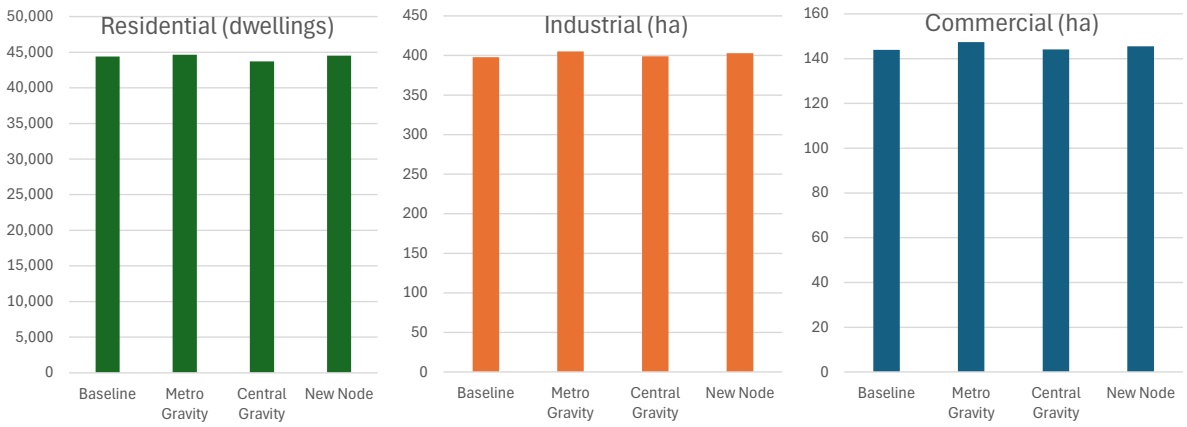
4.3.10 Tauranga growth

As discussed above, the SmartGrowth Western Corridor includes the part of Tauranga City around Tauriko, and so data summarised in this section refers to that smaller subset of Tauranga, and not all of Tauranga City in its entirety.

Tauranga City is expected to attract a large share of the growth in the Corridor for all three types of land use. While there is some variation in the quantum of demand in each scenario this is dwarfed by the overall background baseline growth, leaving variations around that baseline to be relatively small in percentage terms. Figure 4.24 shows the following outcomes:

- Residential growth is expected to fall within the range of 29,700 to 30,020 dwellings.
- Industrial growth is expected to fall within the range of 277 to 282ha of land.
- Commercial growth is expected to fall within the range of 137 to 139ha of land.

Figure 4.24: Tauranga modelled growth



A large share of the dwelling and commercial demand in Tauranga might be expected to be accommodated in the existing urban area, and the extent of greenfield land required will be dependent on how much of the intensification that is enabled in the urban area is taken up by the market. Using the maximum point in the range of the growth scenarios would suggest a need for around 2,420ha of new land to accommodate the growth modelled in Tauranga, although most of that is projected under the Baseline scenario, with relatively small increases under the other scenarios. There is minimal variation between the different scenarios for all land use types, indicating that Tauranga's substantial baseline growth means the transport network improvements have a relatively modest additional impact compared to other locations along the Corridor. This indicates that the current land use projections are unlikely to require material adjustment as a result of the H2T Corridor investment. H2T option assessment

Demand for residential, commercial and industrial development identified under each of the scenarios modelled needs to be accommodated within the context of existing development and infrastructure provision, and subject to recognition of environmental, social and cultural values. Options for accommodating growth will need to consider whether the scales of development predicted are likely to adversely affect existing values, and whether such effects can be avoided, remedied or mitigated.

Options to manage and accommodate increasing demand include steering growth to particular locations (such as brownfield intensification sites, or greenfield areas not subject to specific

constraints), or mitigating constraints (such as flood protection mitigation) to minimise or avoid adverse effects. Another, less desirable option can be changing policy to enable development in otherwise constrained locations, although that has obvious shortcomings.

The study area contains taonga such as the Waikato River, local rivers and their riparian areas, wetlands, peat soils, indigenous forests, ecosystems that support species such as bats and lizards, landscapes with high amenity values, heritage sites, and an abundance of highly productive soils. Future urban, commercial or industrial development starts with the recognition and protection of these features in line with the purpose of the Resource Management Act, national policy statements (such as Indigenous Biodiversity and Freshwater Management), and regional and local planning documents. Managing the risks from natural hazards and the effects of climate change such as flooding and landslides by avoiding vulnerable areas is also significant when planning for growth.

The assessment applied in this research adopts a meso-spatial approach, meaning that results are not presented at a very spatially detailed level, but rather limited to a township-scale spatial resolution. The meso approach is necessary because it is not possible to assess the nature of every type of constraint across the length of the entire Corridor, how they interact, and the potential for mitigation. The approach is intended identify the potential options for accommodating growth within the Corridor using a high-level strategic assessment.

Based on existing data we have identified and mapped areas where there are known environmental and cultural attributes that should be protected, and areas considered to be unsuitable to accommodate development due to identified risks. These are presented as 'No Go' and 'Go Carefully' areas to protect and avoid. These are indicative areas, and not definitive, and detailed site-specific assessments of environmental values and constraints will be required when future residential, commercial or industrial areas are proposed for development in plan changes and resource consent applications, and in the revision or preparation of district or regional plans. The available data does, however, provide valuable insights to inform the review of the Future Development Strategy.

Zoning and rules in Regional and District Plans have, through complying with the RMA, already taken national direction and some of the known constraints into account. However, from discussions with the Department of Conservation, detailed site-specific ecological assessments to identify ecological values should take place before any development planning proceeds for any potential site, because identifying these values after applications for resource consents have been lodged is too late. If ecological values are identified, the developers can then make plans to avoid affecting these values from the outset. The resource consenting process then represents a final opportunity to undertake more detailed site-specific assessment to identify any environmental features which have not previously been identified. Consents will then bind developers to implement protective environmental management measures, through conditions, before any development can proceed.

4.4 No Go and Go Carefully

This section outlines the data and approach used to assess No Go and Go Carefully areas, based on environmental, social, cultural, and planning GIS layers. The maps presented provide summary outputs for the entire Corridor and detail for each town to support the discussion of options for accommodating growth.

4.4.1 No Go areas

No Go areas typically have significant risks or potential impacts associated with land use. The following layers have been used to define No Go areas in the Corridor[57]:

- Public conservation land and QEII National Trust Covenants[58]: The Conservation Act defines 'conservation' as: "*the preservation and protection of natural and historic resources for the purpose of maintaining their intrinsic values, providing for their appreciation and recreational enjoyment by the public, and safeguarding the options of future generations*." Conservation land includes National Parks held under the National Parks Act 1980, Wildlife areas protected under the Wildlife Act 1980, Conservation areas are protected under the Conservation Act, some of which is stewardship land, and reserves are held under the Reserves Act.
- Areas zoned as Reserves by District Councils.
- Wetlands: ecologically valuable and threatened ecosystems.
- The Waikato River: the river and its riparian areas are of high ecological and cultural significance.
- Cultural sites: Marae and wāhi tapu marae are sites of high cultural significance, and it is not appropriate to plan new development at existing marae or wāhi tapu sites, other than development associated with the marae.
- High erosion risk areas: because development in these areas is not advised due to the risk to future developments.
- Peat soils: intact peat wetlands represent unique hydrological and ecological environments that support threatened endemic flora and fauna and are carbon sinks. Peat soils are also only suitable for development with extensive drainage which is expensive to develop.

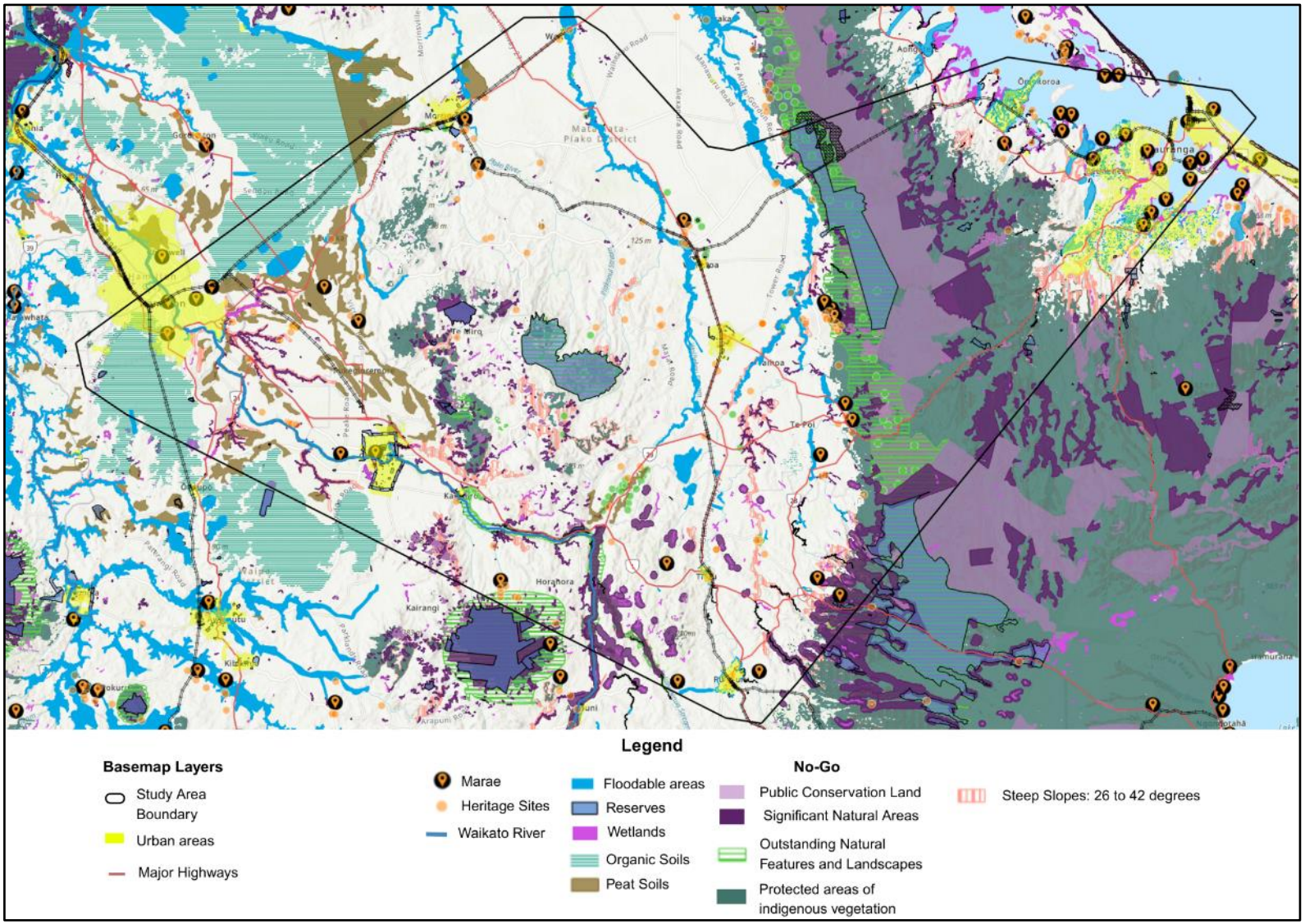
[57] List of GIS data used to compile maps is in included in Appendix 1

[58] Queen Elizabeth II National Trust (Ngā Kairauhī Papa) is an independent statutory organisation and a registered charity. It was set up in 1977 to 'encourage and promote, for the benefit of New Zealand, the provision, protection, preservation and enhancement of open space'. Open Space (as described in the Queen Elizabeth II National Trust Act 1977) means any area of land or body of water that serves to preserve or to facilitate the preservation of any landscape of aesthetic, cultural, recreational, scenic, scientific or social interest or value.

- Land that is steep (26-35°) or very steep (36-42°): many planning instruments have requirements for managing earthworks when developing steep land.
- Significant Natural Areas (SNA): Under the RMA, councils are required to identify and protect SNAs, which contain threatened native species or rare habitats, on either private or public land.
- Outstanding Natural Features and Landscapes (ONFL): These areas are mapped in the Waikato Regional Policy Statement and in the Waipa and South Waikato District Plans and include indigenous forest areas, landscapes of high amenity value, and outstanding landscapes.
- Mapped floodable areas: where there is a risk to housing, industry and infrastructure.
- Organic Soils.
- Protected areas of indigenous vegetation: these are of high ecological value.

There are also other individual sites of high tourist and recreation value, such as Hobbiton and Te Waihou River, which may influence the identification of No Go areas. Figure 4.25 shows the No Go areas described above.

Figure 4.25: H2T Corridor No Go summary



4.4.2 Go Carefully areas

Go Carefully areas are those in which values could be adversely affected if land is developed due to natural hazards and cultural, ecological, and planning constraints:

- Major riparian areas: are likely to be of high ecological significance.
- Areas for bat roosting and commuting: This layer represents the outcome of a study where a group of bat ecologists worked with the Waikato Bat Alliance to identify areas of landscape-scale protection across Hamilton City, Waikato District and Waipā District. These layers aim to provide bat habitat protection for roosts, foraging and commuting, habitat connection and healthy landscapes. These areas are identified in order to assist councils in prioritizing areas for bat protection and restoration efforts.
- Highly productive land: land in land use categories 1 and 2 are protected for primary production use under the National Policy Statement for Highly Productive Land.[59]
- Hazardous Activities and Industries List (HAIL) sites, where site remediation of contaminated soils is required.
- Areas of slight to moderate erosion risk, representing a risk to future developments.
- Moderate slopes (16 – 25°).

There are also other individual sites of high tourist and recreation value, such as Hobbiton and Te Waihou River, which may influence the identification of Go Carefully areas.

The Waikato Regional Policy Statement does not identify any Outstanding Natural Features or Landscapes in the study area, nor are there any karst landscapes or geothermal resources.

Figure 4.26 shows the 'Go Carefully' areas that could pose challenges for development. When combined, the Go Carefully areas cover a significant portion of the study area. Figure 4.27 combines No Go and Go Carefully areas. From this figure a band of less seemingly affected Central High Country between Morrinsville in the north and Putāruru in the south of the study area appears evident, but this topographical area is subject to sheet and soil slip, and river-bank erosion.

The National Policy Statement for Highly Productive Land (NPS-HPL) recognises highly productive land as a resource with finite characteristics and long-term values for land-based primary activities, but requires management of HPL is required to consider interaction with urban development.[60] Policy 5 requires Tier 1 and 2 territorial authorities to allow the rezoning of highly productive land to urban

[59] Only Land Use category 1 and 2 land has been included in the maps
[60] National Policy Statement for Highly Productive Land, 2022 Policies 1 and 2

only if required to meet demand under the NPSUD, and there are no other options for providing for that demand, and if the benefits outweigh the costs: These requirements have proven a reasonably high bar in various applications around the country, although changes proposed by the government that are available for comment, including removing LUC 3 from the land that restrictions would apply to, would lower that bar to some degree.

Figure 4.26: H2T Corridor Go Carefully summary

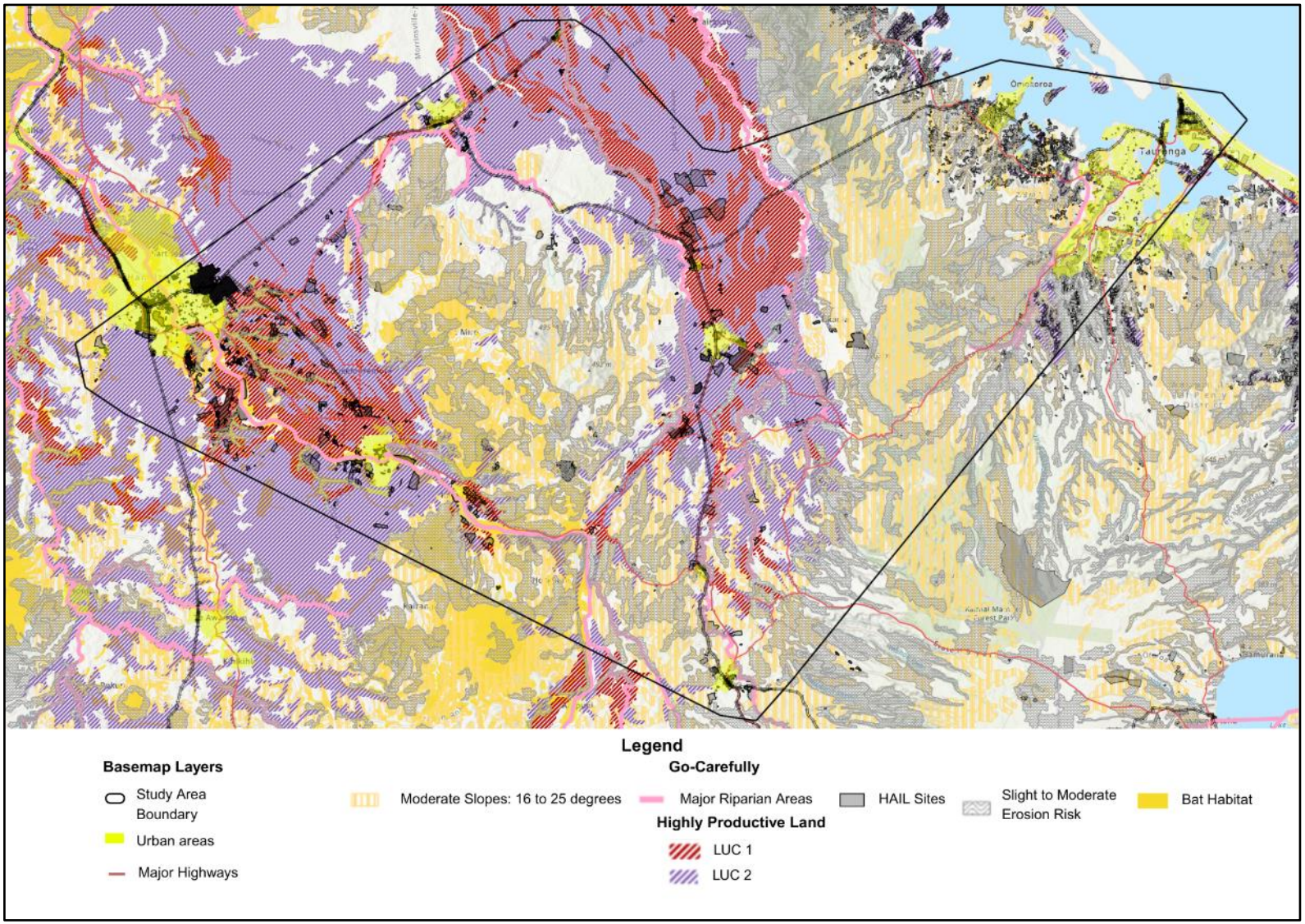
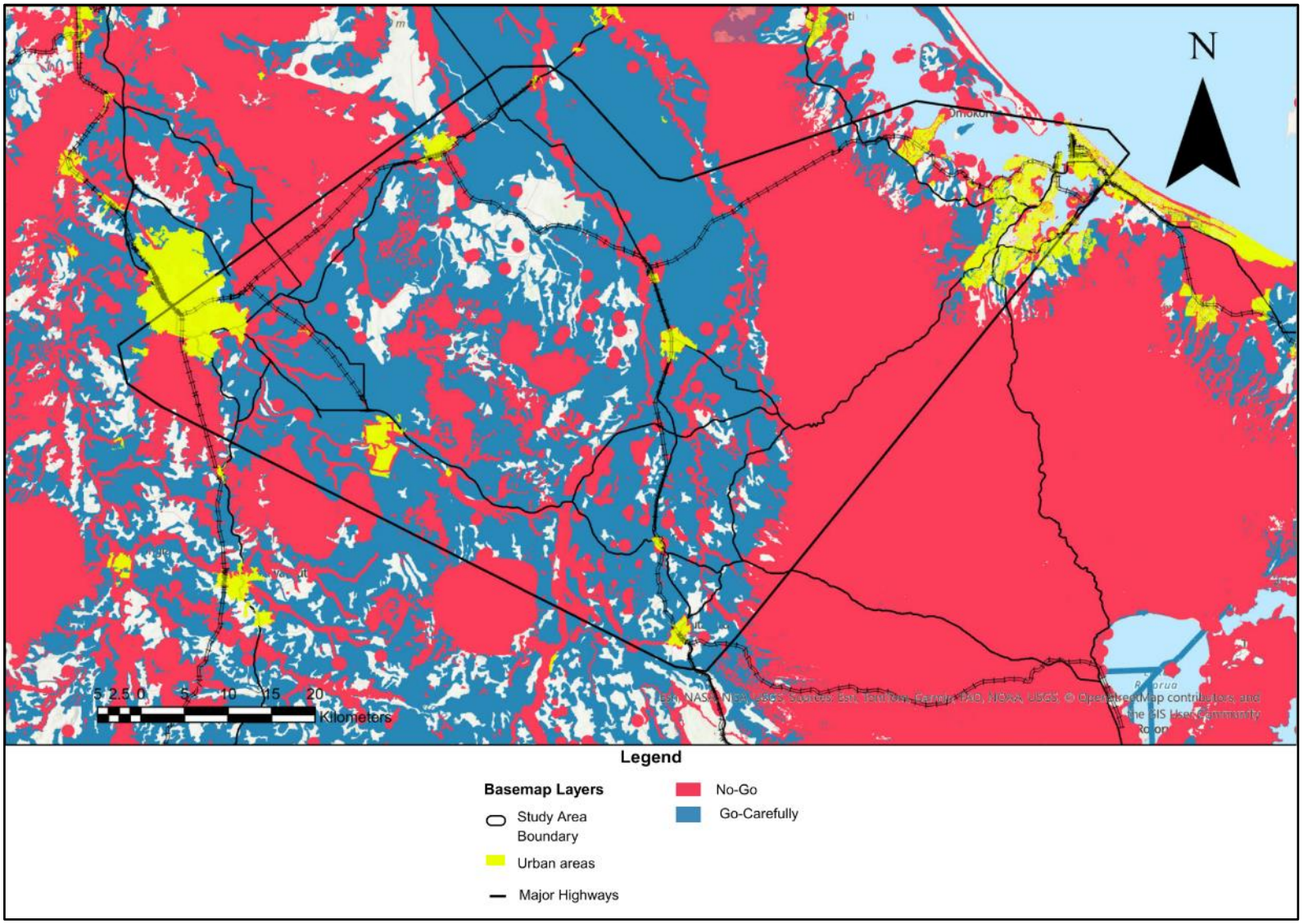


Figure 4.27: H2T Corridor No-Go and Go-Carefully Summary



4.5 Hamilton options

The large scale of land demand and supply in Hamilton is modelled to be affected to only a very small degree by the scenarios applied, and the different distributions of growth along the Corridor will not materially change the sufficiency of land supply, as is the case with the smaller towns along the Corridor in the Future Proof area. Further, there are a number of large new areas of proposed supply that will contribute to meeting future land demand in Hamilton, and those will be subject to various constraints as described below.

Figure 4.28 shows No Go and Go Carefully areas around Hamilton. Those areas are dominated by highly productive land, with high ecological values associated with the Waikato River, which forms a green Corridor that provides habitat for species such as long-tailed bats. Areas of peat also constrain easy development.

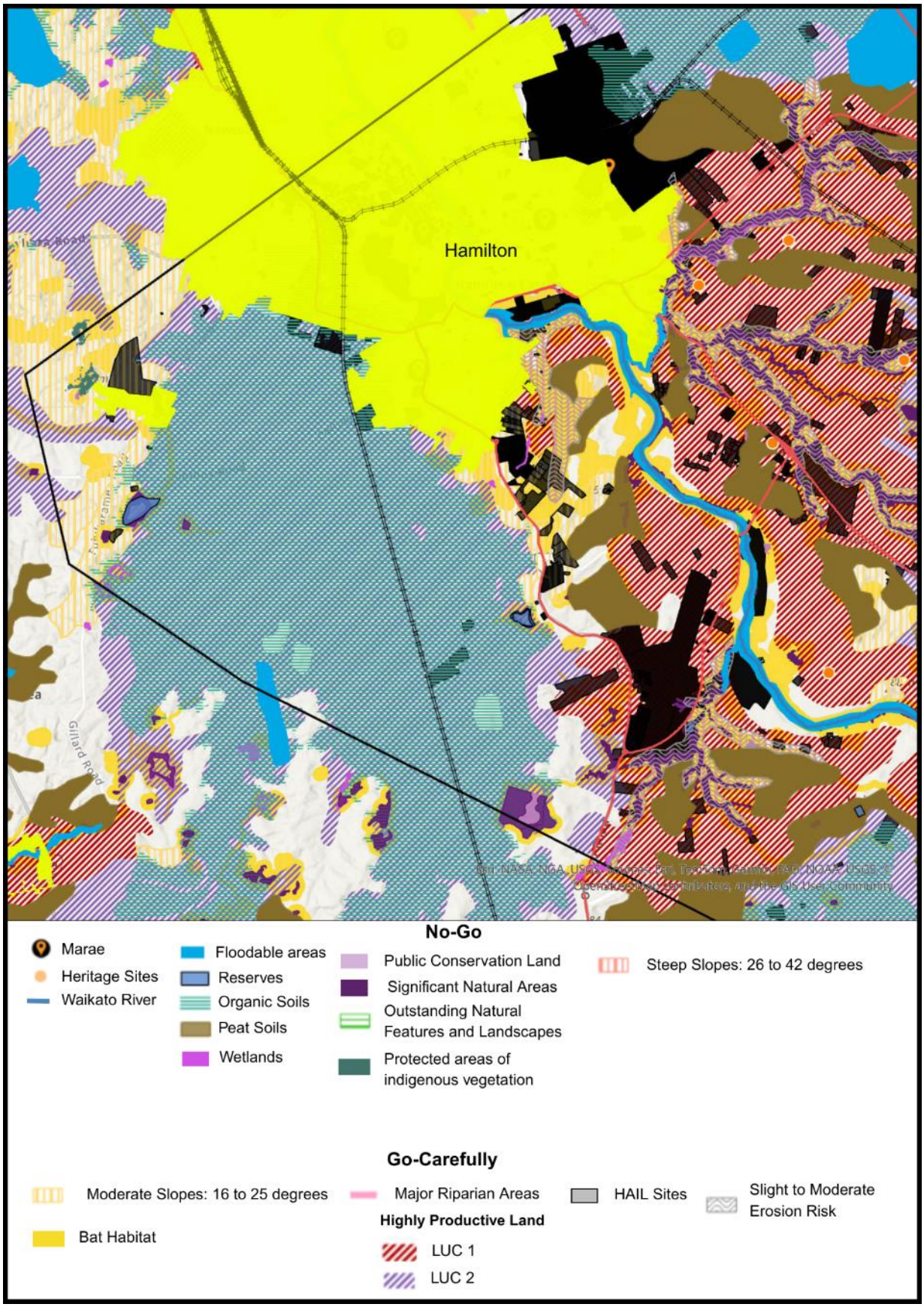
A shortage of wastewater infrastructure is predicted in the Hamilton City Council area until the Southern Wastewater Treatment Plant is commissioned, as managed through the infrastructure constraints overlay in the Hamilton City District Plan over all of Hamilton's residential zones. An interim solution could be self-service in some areas, although is unlikely to be supported in urban areas. Water supply also has allocation issues, but these do not cause an immediate constraint. Other potential future sources of water are yet to be defined. Stormwater requires enough space for stormwater retention ponds, which would take up some of the space available, and stormwater management areas have been particularly space hungry in Ruakura.

Proposals that are currently under resource consent consideration under the Fast-track Approval process are not shown in Figure 4.28. Current and potential future Fast-track applications in and around Hamilton cover approximately 1,200ha, although not all are expected to eventuate. Industrial proposals account for half of that area, and applications include the Southern Links Proposal (in the south-west), and Te Kowhai East.

In December 2024, a joint proposal for a Waikato Regional Deals plan was submitted by the Waikato Regional Council and Mayoral Forum (including Hamilton City Council). That proposal outlined major infrastructure, housing, transport, water, and economic diversification initiatives intended to be part of the plan, and although the region was not initially selected among the first tranche of regional deals in July 2025,[61] work on priority projects continues. Projects related to Hamilton include Hamilton Southern Links, Ruakura (inland port, residential, and rail-connected logistics hub), and Hamilton Central City enhancements.

[61] First tranche was Auckland, Western Bay of Plenty, and Otago/Central Lakes, https://www.waikatoregion.govt.nz/community/whats-happening/news/media-releases/waikato-to-forge-ahead-despite-regional-deals-knockback/

Figure 4.28: Hamilton No Go and Go Carefully



4.6 Cambridge options

As for Hamilton, Cambridge is surrounded by HPL that is prioritised for agricultural use. Another influential feature is the Waikato River, which has a Cultural Landscape Alert in the Waipā District Plan. The river's green Corridor has high ecological values, including habitat for long-tailed bats. There are also significant areas of peat soils and floodable areas around Cambridge (Figure 4.30).

Additional urban expansion of the town will need to be preceded by careful ecological assessments, and would need to deal with the loss of highly productive land t. The HBA concludes that there is planned capacity for an additional 10,400 dwellings, 64ha of industrial land, and 5.9ha of commercial land in Cambridge (Figure 4.29). The scenario modelling indicates that the HBA-indicated capacity will be more than adequate to supply land for residential and industrial needs, although there may be a shortfall of land to supply commercial demand, with a deficit of around 22ha of commercial land possible in 30 years' time. Improved accessibility to Cambridge may result in the increased future viability of a sub-regional industrial area of possibly future large format retail in Hautapu.

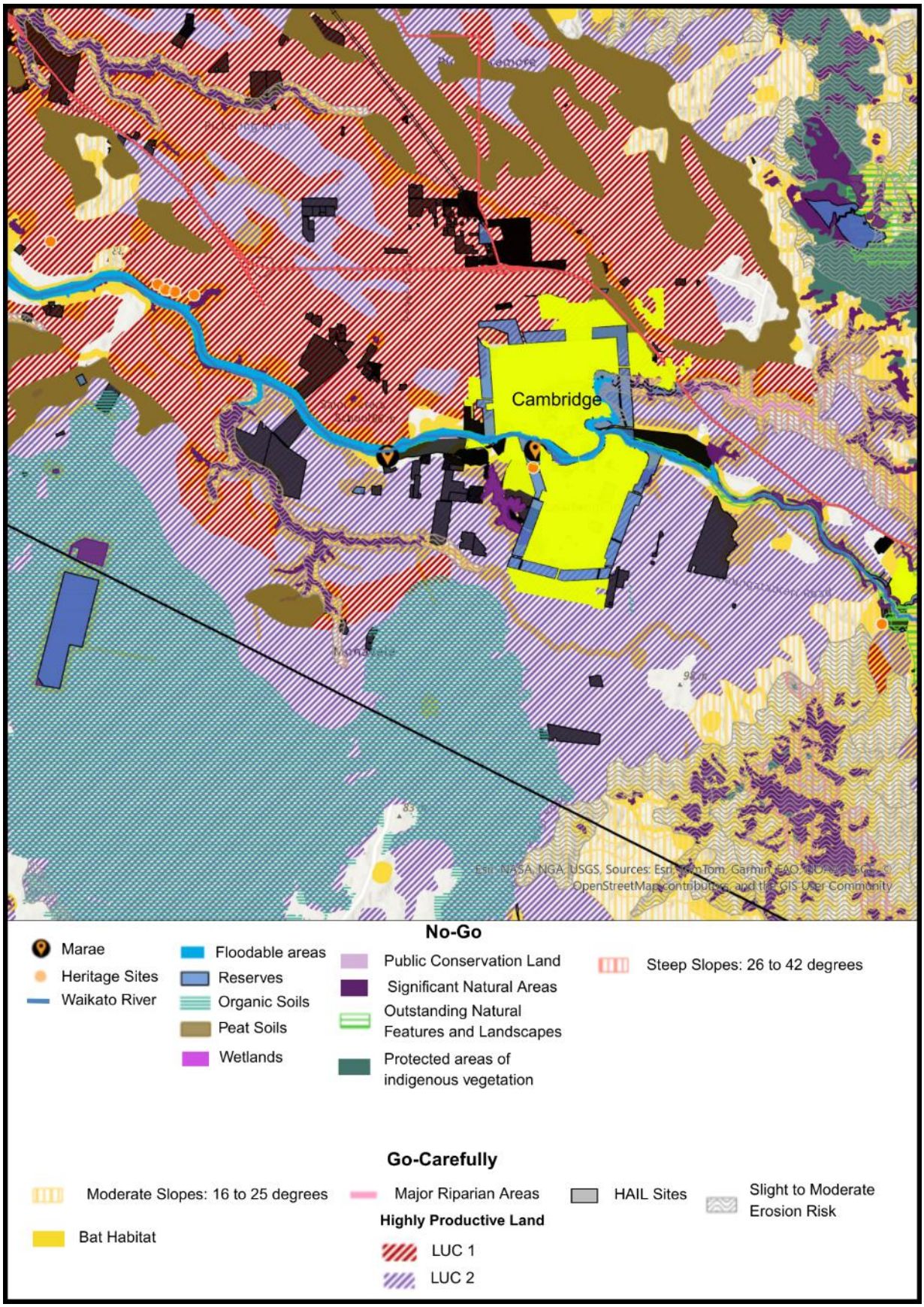
Figure 4.29: Cambridge sufficiency of land supply under HBA and modelled scenarios

	Residential (Dwellings)	Industrial (hectares)	Commercial (hectares)
Demand			
Baseline	5,800	29.4	27.8
Maximum scenario	6,420	37.0	30.9
HBA capacity	10,400	64.2	5.9
Sufficiency			
HBA	4,600	34.8	-21.9
Maximum scenario	3,980	27.2	-25.0

Accommodating that additional 22ha of commercial land could be challenging, particularly given the amount of HPL around Cambridge, but is an existing known challenge that the HBA identifies, and the scenario modelling would increase the HBA-identified shortfall of 22ha only by another 3ha (Central gravity and New node scenarios) to a shortfall of 25ha.

Waters infrastructure is not a constraint in Cambridge, with recent investment creating a large amount of new capacity to provide for the identified growth cells. There has been some discussion around the potential for new rail infrastructure linking Cambridge with Hamilton City, however the Hamilton-Waikato Metro Spatial Plan selected Bus Rapid Transit as the preferred option.

Figure 4.30: Cambridge No Go and Go Carefully



4.7 Morrinsville options

The HBA concludes there is capacity in Morrinsville for an additional 1,500 dwellings, 24ha of industrial land, and 13ha of commercial land, with sufficient commercial and industrial land identified in Morrinsville to provide for future demand, but a shortfall of residential land. The growth scenarios modelled in section 4.3.5 indicate that the 13ha of commercial land identified would be sufficient to provide for growth under all modelled scenarios, with at least 4ha surplus supply under even the highest growth scenario (New node) (Figure 4.31).

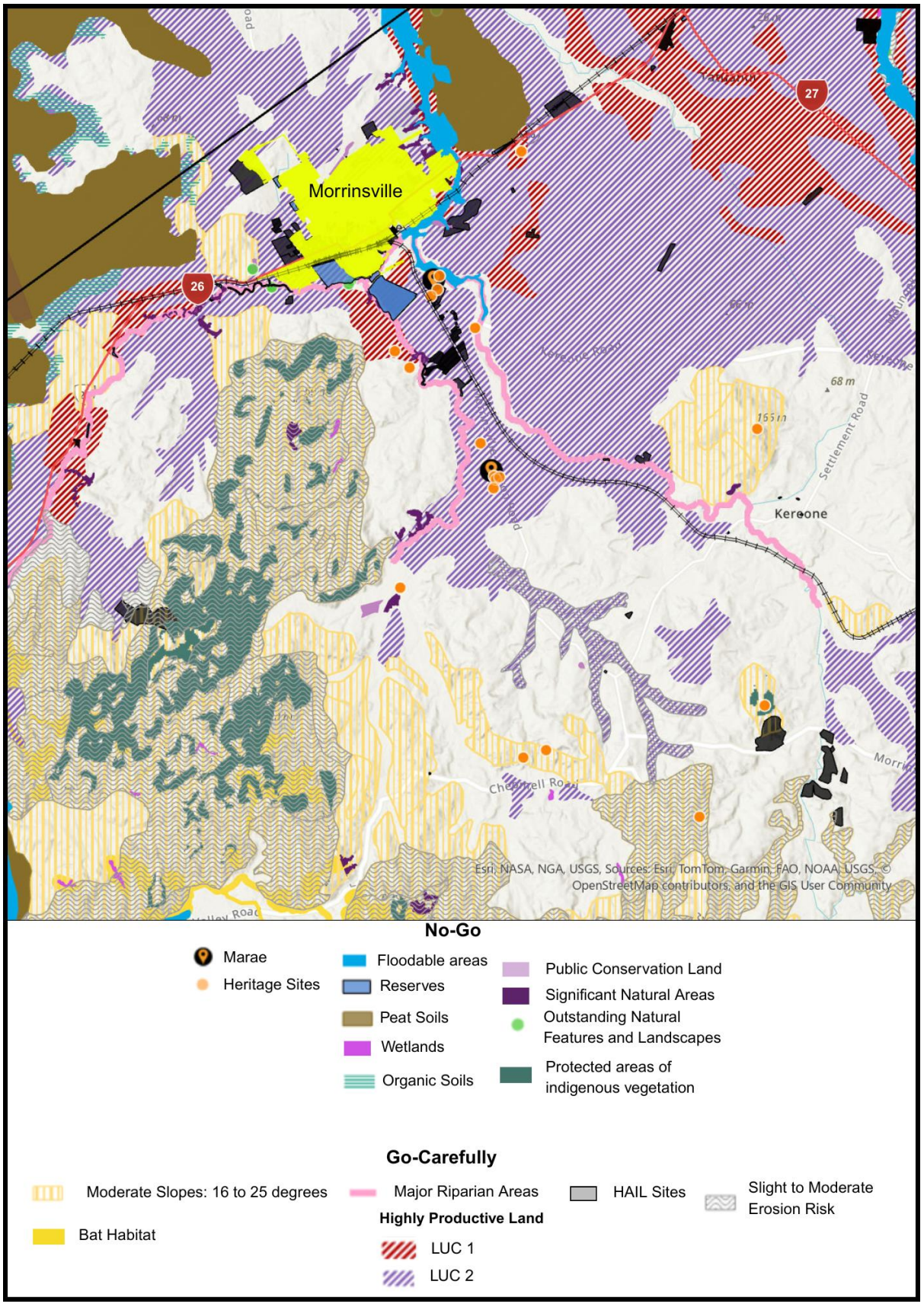
The HBA identifies that there is projected to be insufficient supply of industrial and residential land to meet demand under the baseline (HBA) scenario. The scenarios modelled for this study project even higher demand growth, meaning the modelled shortfall of residential and industrial land supply would be even greater than the HBA expects. For residential activity the HBA projects a shortfall of around 300 dwellings, and that is projected to be 440 (i.e. an increase of 140 dwellings compared to the HBA projection) under the New node scenario (the scenario with the highest growth projected). Similarly for industrial land, the HBA's projected shortfall of just over 8ha might be as high as 12ha if demand is as high as the strongest growth scenario modelled, resulting in the HBA's modelled shortfall increasing by 4ha.

Figure 4.31: Morrinsville sufficiency of land supply under HBA and modelled scenarios

	Residential (Dwellings)	Industrial (hectares)	Commercial (hectares)
Demand			
Baseline	1,800	31.9	7.2
Maximum scenario	1,940	36.0	8.6
HBA capacity	1,498	23.6	12.8
Sufficiency			
HBA	-302	-8.3	5.6
Maximum scenario	-440	-12.4	4.2

Much of the areas around Morrinsville is either river, riparian areas, or highly productive soils. The hill country south of Morrinsville shows less features that are mapped as No Go or Go Carefully, although it does have moderate erosion risk and is not contiguous with the town, and so would present urban design challenges for development, and more logical development areas are likely to be to the north of the town, in the same direction as the recent Lockerbie development (Figure 4.32**).**

Figure 4.32: Morrinsville No Go and Go Carefully



4.8 Matamata options

The baseline (HBA) projections indicate that there will be sufficient capacity to accommodate demand for commercial activities, with a long-term surplus of 7.2ha. There would also be a surplus if growth is higher than anticipated in the HBA, with a surplus of 5.0ha of commercial land remaining if growth is as high as modelled under the New node scenario.

It is a different matter for residential and industrial land supply. The HBA projects a shortage of 22ha of industrial land, and a shortage of residential land equivalent to some 300 dwellings. If demand is as high as projected under the New node scenario, those deficits would increase to 36ha of industrial land, and over 1,300 dwellings.

In that context, development in Matamata of the scale modelled under the New Node scenario in section 4.2.4 (up to an extra 1,000 dwellings, 14ha of industrial land, and 3ha of commercial) would be challenging, although it is acknowledged that there is a pathway for development to proceed under the NPS-HPL (Figure 4.33).

Figure 4.33: Matamata sufficiency of land supply under HBA and modelled scenarios

	Residential (Dwellings)	Industrial (hectares)	Commercial (hectares)
Demand			
Baseline	1,600	33.4	3.4
Maximum scenario	2,620	47.2	5.6
HBA capacity	1,308	11.0	10.6
Sufficiency			
HBA	-292	-22.4	7.2
Maximum scenario	-1,310	-36.2	5.0

Further, there are two large developments proposed on the edges of Matamata. Ashbourne is a residential and retirement development of 530 homes and 250 retirement units, 1.8 km south-west of the centre of Matamata. Ashbourne has been referred to the Fast-track approvals process, and includes two solar farms, (13 ha and 25 ha, with sufficient output to power 8,000 homes).[62] Ashbourne's 880 potential dwellings would go a long way to accommodating the 1,300 additional dwellings identified under the New node scenario, although still leaving a shortfall of around 400 dwellings for which there would be demand (under that scenario) in Matamata, but no supply. The next strongest demand scenario (Central gravity) is modelled to direct 800 fewer dwellings of demand to the Matamata area, meaning the capacity identified under the HBA and Ashbourne would together be sufficient to provide for that residential demand under all but the New node scenario.

[62] https://www.fasttrack.govt.nz/projects/ashbourne, retrieved 16 July 2025

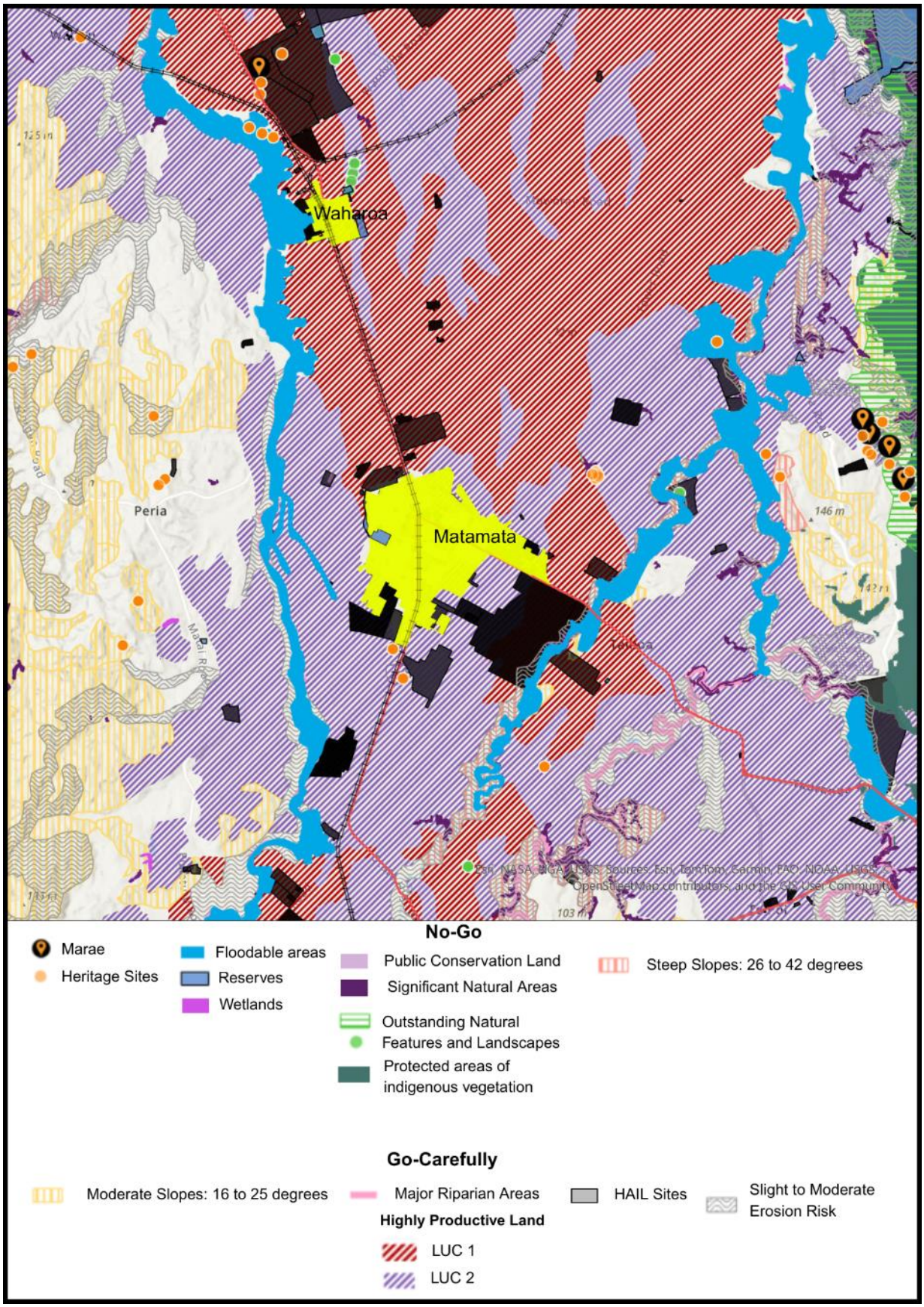
The second proposal is for a new industrial zone on the eastern approach to town (Calcutta Farms), although that proposal in its current form has been downscaled (understood to be around 20ha, but which has not yet been accepted by MPDC) from an earlier iteration, reportedly due to HPL concerns.[63] The Calcutta Farms plan change would, if approved and together with other vacant industrial land in the town, be sufficient to provide for demand under the HBA scenario, although with demand exceeding supply sometime in the long-term under the highest-growth modelled scenario (New node), with a deficit of around 14ha by the ned of the long-term under that scenario.

Matamata is surrounded by highly productive land, making development in any direction challenging in the context of the NPS-HPL. The Waihou River and its tributaries are an environmentally significant feature in the Matamata-Piako District, although it is far enough south of the town that it is unlikely to be a constraint to development.

Matamata-Piako District Council has advised that from an infrastructure perspective, shifting services that were planned for the eastern side of Matamata to the western side is possible. Outside of Matamata, the smaller towns of Waharoa, Te Poi and Hinuera are not anticipated to have significant growth, partly due to infrastructure servicing (particularly waters) constraints, likely limiting the ability of those settlements to accommodate growth, although there has been some recent residential growth in Te Poi. Waharoa, Te Poi and Hinuera are all surrounded by HPL, which, as with the large towns and along with infrastructure concerns, will represent a challenge to accommodating growth.

[63] https://www.waikatotimes.co.nz/nz-news/350333299/developer-bobs-weaves-beat-productive-land-rule-matamata, retrieved 16 July 2025

Figure 4.34: Matamata Area No Go and Go Carefully



4.9 Tīrau and Putāruru options

4.9.1 Tīrau

The HBA identifies very limited capacity for industrial, commercial or residential land in Tīrau, and a shortfall of capacity for each type, equivalent to 4.4ha of industrial land, 0.3ha of commercial land, and land enough to accommodate 100 dwellings. Under the modelled scenarios those shortfalls would be larger, at nearly 7ha of industrial land under the New node scenario (5.9ha under Central gravity), 1.7ha of commercial land under the New node scenario (1.0ha under Central gravity), and 210 dwellings (160 under Central gravity) (Figure 4.35).

South Waikato District Council has been preparing for a plan change for urban growth that, in addition to infill and intensification, includes changes to the Growth Plan,[64] including 4ha in Tīrau. The Growth Plan includes a greenfields residential area of 347 allotments to the west of the town, which aligns with areas not mapped as No Go or Go Carefully. An industrial and business zone with 112 lots is indicated north of the town, and a future urban zone with 311 allotments is south of the town. Besides these areas, there are constraints east of the town, particularly the Oraka Stream, a tributary of the Waihou River (Figure 4.37). Those new growth areas would provide broadly sufficient capacity to accommodate growth under all scenarios, although that sufficiency is dependent on the proposed changes to the Growth Plan becoming operative, and translating into zoning changes.

Figure 4.35: Tīrau sufficiency of land supply under HBA and modelled scenarios

	Residential (Dwellings)	Industrial (hectares)	Commercial (hectares)
Demand			
Baseline	500	5.4	0.6
Maximum scenario	620	7.9	2.0
HBA capacity	402	1.0	0.3
Sufficiency			
HBA	-98	-4.4	-0.3
Maximum scenario	-210	-6.9	-1.7

The wastewater treatment plant is located north of Patetere Street, with land available for plant extensions, and various upgrades to wastewater and water supply infrastructure will be required to meet growth projections. Council is currently looking for a new water supply, away from the floodable areas, to service Tīrau. In general, Tīrau and Putāruru have fewer development constraints than many other central parts of the Corridor, and might, subject to infrastructure servicing constraints, be candidates to accommodate demand that it is more difficult to direct towards other towards in the central Corridor (e.g. Matamata) should constraints elsewhere prove difficult. However, from the

[64] South Waikato District Council, *2024-2054 Growth Plan Our People Our Place*.

assessment above other towns may those other constraints do not seem as though they will be insurmountable, based on the scale of growth projected.

4.9.2 Putāruru

As in Tīrau, the HBA identifies very limited capacity for industrial, commercial or residential land in Putāruru, and a shortfall of capacity equivalent to 1.9ha of industrial land, and land enough to accommodate 170 dwellings. The HBA does indicate sufficient commercial land capacity, with a baseline surplus at 30 years of 0.5ha. Under the modelled scenarios there would be insufficient land in all three classes, with a shortfall of nearly 6ha of industrial land under the New node scenario (4.4ha under Central gravity), 1.6ha under the New node scenario (0.6ha under Central gravity), and 340 dwellings (260 under Central gravity) (Figure 4.36).

Putāruru is located at the intersection of state highways 1, 5, and SH27, making it a good location in terms of road logistics. There are a number of HAIL sites around Putāruru, and those would require assessments to determine the risk to human health, and possible mitigation measures to mitigate risk.

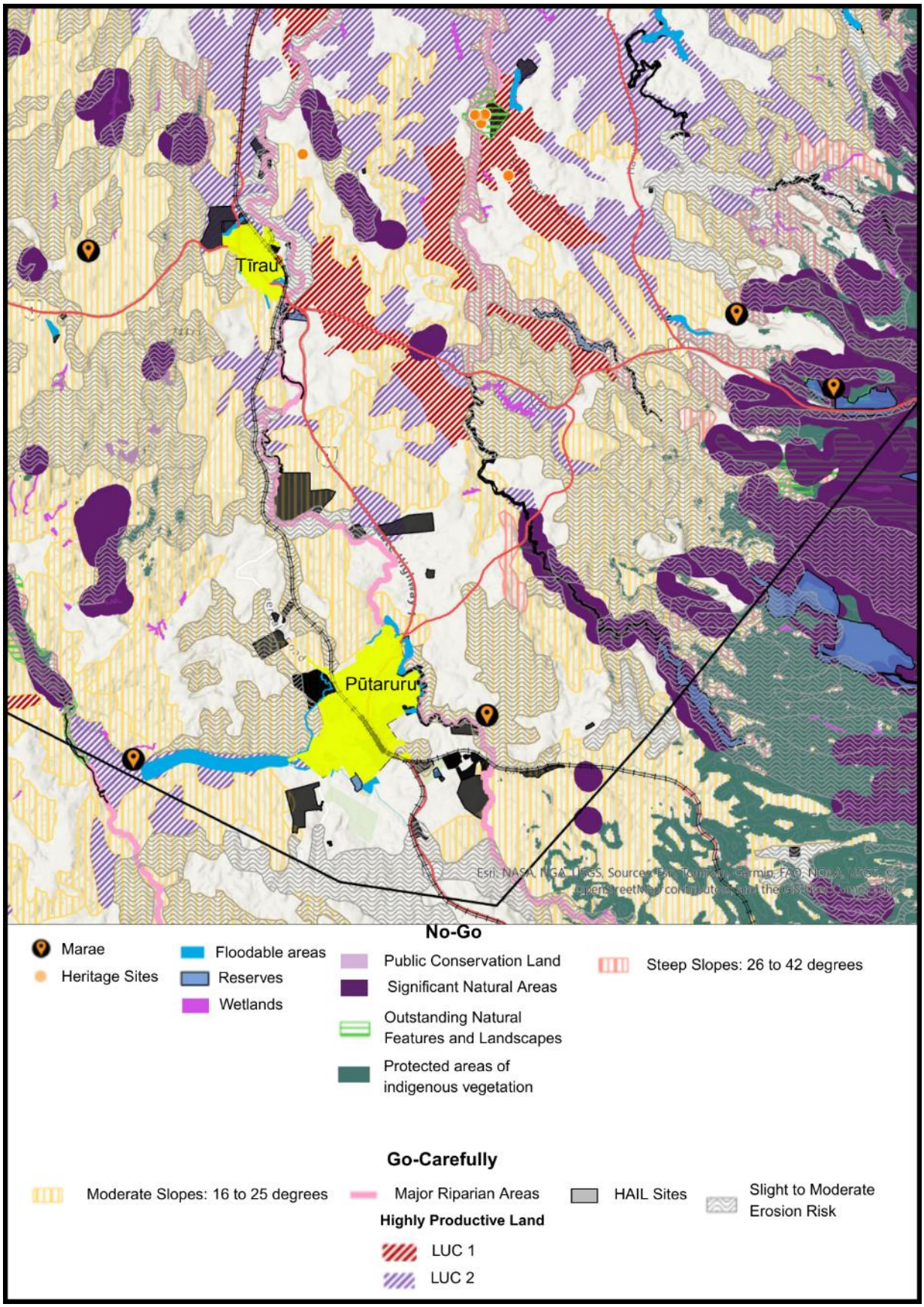
The Oraka Stream is located east of the town, and is identified as a Significant Natural Feature in the District Plan, while tributaries of the Waikato River flow to the west of the town, although there are large areas located far enough away from these watercourses that they are not likely to constrain development.

Figure 4.36: Putāruru sufficiency of land supply under HBA and modelled scenarios

	Residential (Dwellings)	Industrial (hectares)	Commercial (hectares)
Demand			
Baseline	600	8.3	1.6
Maximum scenario	770	12.2	3.7
HBA capacity	430	6.4	2.1
Sufficiency			
HBA	-170	-1.9	0.5
Maximum scenario	-340	-5.8	-1.6

The South Waikato Growth Plan provides for a combination of greenfield residential, residential infill and mixed-use growth in Putāruru, although the existing regional water and wastewater consents do not provide enough capacity to support development, and the Growth Plan identifies that future industrial growth would need to be dry industry and to be able to reuse and attenuate stormwater, as there is no capacity for wet industry in the wastewater network, although a new wastewater treatment plant is being planned.

Figure 4.37: Tīrau and Putāruru No Go and Go Carefully



4.10 Tauranga and SmartGrowth Western Corridor Options

Tauranga, like Hamilton, is expected to accommodate a significant share of the H2T Corridor's residential, industrial, and commercial growth under all scenarios. However, the scenario modelling suggests that the additional demand for land in Tauranga resulting from H2T Corridor transport investments is relatively modest in percentage terms, reflecting the already high levels of baseline growth projected. As such, the sufficiency of land supply is largely a function of underlying demographic and economic growth trends, rather than a material shift in demand caused by improved Corridor connectivity.

Tauranga is already planning for significant growth, with major development areas in the Western Corridor expected to provide a significant component of the city's future housing and employment land supply. However, this is contingent on delivery of major infrastructure, especially transport investment, to unlock capacity. In this context, the risk for Tauranga is less about accommodating additional demand arising from Corridor improvements, and more about whether the assumed growth can be realised if those improvements are delayed or not delivered.

Figure 4.24 shows that residential demand in Tauranga ranges from approximately 29,700 to 30,020 dwellings across the scenarios, with a similarly narrow band of industrial (277-282ha) and commercial (137-139ha) land demand. Comparable numbers for the SmartGrowth Western Corridor (Figure 4.23) show residential demand of 9,100 to 9,430 dwellings, with 218-222ha of industrial land, and up to 2.5ha of commercial land. This variation represents an increase of less than 2% across scenarios and reinforces the finding that H2T Corridor investment will have only a modest influence on the location and scale of growth in Tauranga and the Western Corridor. Consequently, the land use response required to accommodate this growth is unlikely to differ materially from current planning under the SmartGrowth Strategy and Future Development Strategy.

However, the land supply picture is not without constraint. Tauranga (including the SmartGrowth Western Corridor) is geographically constrained by harbour, hills, and productive rural land, with limited options for expansion beyond identified greenfield growth areas. The Tauriko West area is subject to long-running development processes involving complex infrastructure staging, flood hazard and environmental constraints, and unresolved funding. Any delays or underinvestment particularly on the SH29/29A corridors will have a direct impact on the city's ability to deliver the growth assumed under all scenarios, including the Baseline.

From an infrastructure perspective, Tauranga City Council's Infrastructure Strategy highlights high capital costs and limited council borrowing capacity as key constraints to timely delivery of growth-enabling infrastructure. A significant share of the city's future housing and industrial land supply is contingent on funding decisions by central government and NZ Transport Agency Waka Kotahi, and on mechanisms such as IFF and targeted rates being brought to bear.

While the transport investments modelled in the Corridor may only marginally increase demand in Tauranga, the delivery of those investments is foundational to achieving the growth already planned. As such, they are a critical dependency rather than a growth stimulant.

Tauranga and the SmartGrowth Western Corridor may benefit from the formalisation of a Regional and City Deal to support the alignment of local and central government investment priorities, de-risk long-term infrastructure commitments, and underpin shared housing and economic development outcomes. Such an arrangement could provide a more durable framework for investment certainty across the Corridor and ensure the delivery of infrastructure critical to the success of planned growth areas.

4.11 New Node options

The 'New node' scenario described in section 4.2.4 is modelled as a potential location somewhere near the centre of the Corridor, but a specific location for the node has not been specified because no actual proposal for a new node exists. The modelled new node is assumed to be some 70ha in area, which may limit viable locations in the Corridor, given the constraints identified above. An assessment of environmental and other constraints affecting that node's viability would be required if any such development proposal were to proceed.

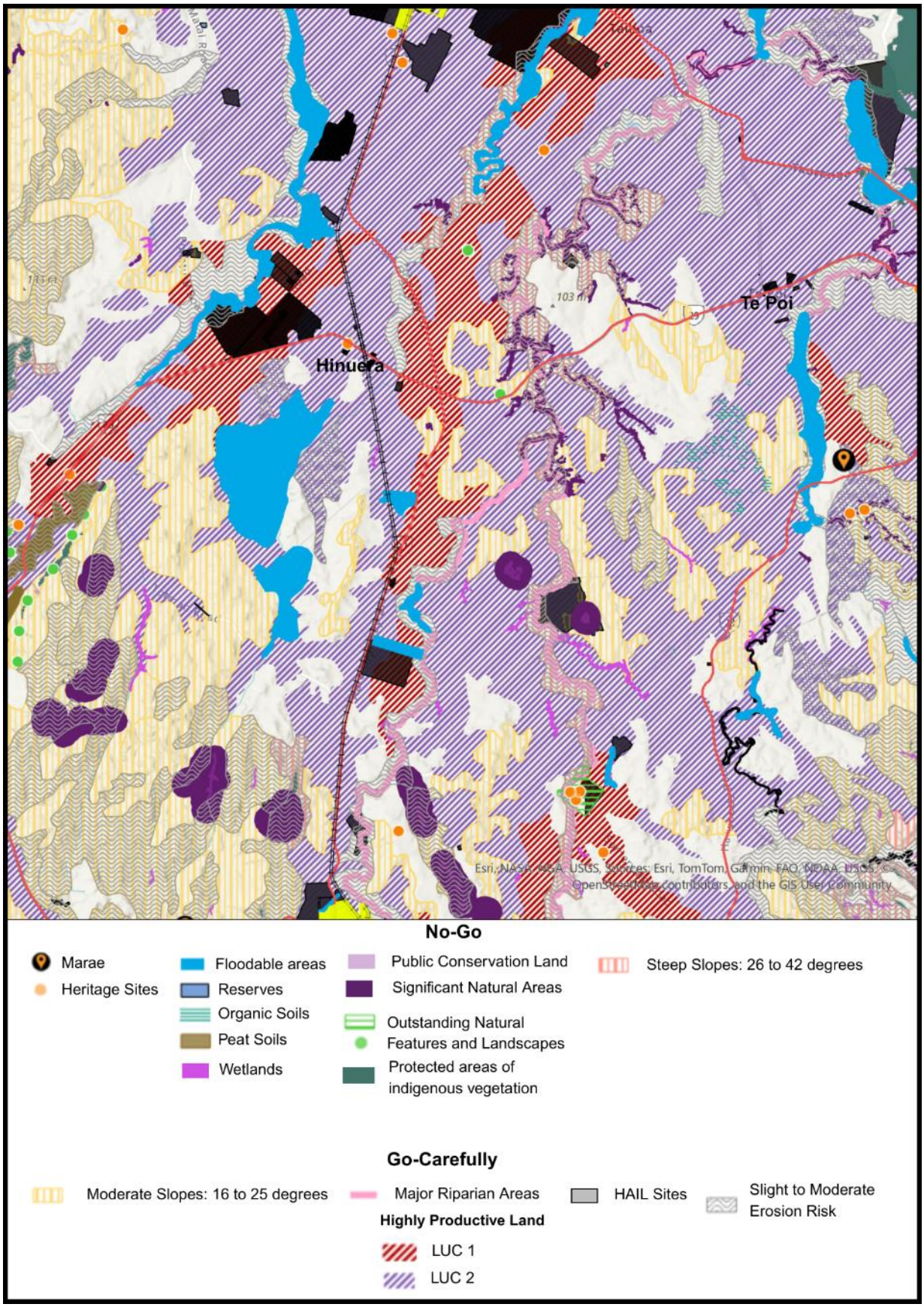
A new node would likely seek to make use of large sites close to rail and/or SH29. Infrastructure would be an important consideration, and may need to be self-contained if the new node is located well away from existing large settlements, or even if located in the vicinity of smaller settlements such as Te Poi, Hinuera or Waharoa. Because these smaller settlements are generally not supplied with reticulated waters infrastructure, and a large new node would likely generate significant new waters (and other) infrastructure needs, the new node developer would likely need to fund and construct that infrastructure themselves. The cost of that funding could also influence the viability of a new node in this location.

There are some constraints in these areas, however. Open Country Dairy Waharoa is located west of Waharoa adjacent to the Waitoa River. The Waitoa River has a major riparian area of environmental value, which also presents a flood hazard. West of the river and east of the existing town is dominated by pasture and is classified as LUC 1 and 2. As mentioned above, development highly productive land should only be consented if required to meet demand under the NPSUD, and there are no other options for providing for that demand, and if the benefits outweigh the costs. This would be a challenging consenting process.

Both Te Poi and Hinuera are surrounded by LUC2 land (Figure 4.38). While the NPS-HPL provides a pathway for plan changes that include rezoning rural HPL to residential to meet NPS-UD requirements,

rezoning this HPL may be a significant challenge. It is not yet clear whether the Fast-track Approvals Act would provide a mechanism to manage this.

Figure 4.38: Te Poi and Hinuera No Go and Go Carefully



5 Key study questions

In this section, the research above is used to respond to the eight key study questions posed by the Future Proof Partnership. The key questions were:

- What are the potential economic outcomes of transport investments including demand for development, types of jobs, and the necessary infrastructure required?
- What are the potential economic benefits of integrating land use with rail along this Corridor?
- What is the role of the Matamata-Piako District and South Waikato District in the growth and development of the upper North Island?
- How can we generate the necessary funds and resources to meet infrastructure demands? Specifically, are there any opportunities to use 'value capture funding' (funding from private landowners who benefit from public investment into the area) to fund the necessary growth infrastructure?
- How can we take a strategic approach to staging and sequencing infrastructure packages to achieve more efficient and effective outcomes?
- What additional infrastructure is likely to be required to support more housing and papakāinga along the Hamilton to Tauranga Corridor and what are the challenges in achieving this?
- Where will workers live, and will the housing and transport costs be affordable?
- How do we balance economic benefits with the need to protect and enhance our natural environment?

An additional subsection at the end of this section summarises social impacts that might arise from transport network changes. Those impacts are mentioned broadly throughout the assessment, and are relevant in many areas, and so are drawn together and expanded on in section 5.10 for ease of reference.

5.1 Supporting future growth

The focus of the assessment in sections 4 and 5 of this report is on establishing the range of potential growth outcomes in the H2T Corridor that could result from the investment in the transport network and broad meso-level options for accommodating the growth, taking into account the constraints in the Corridor.

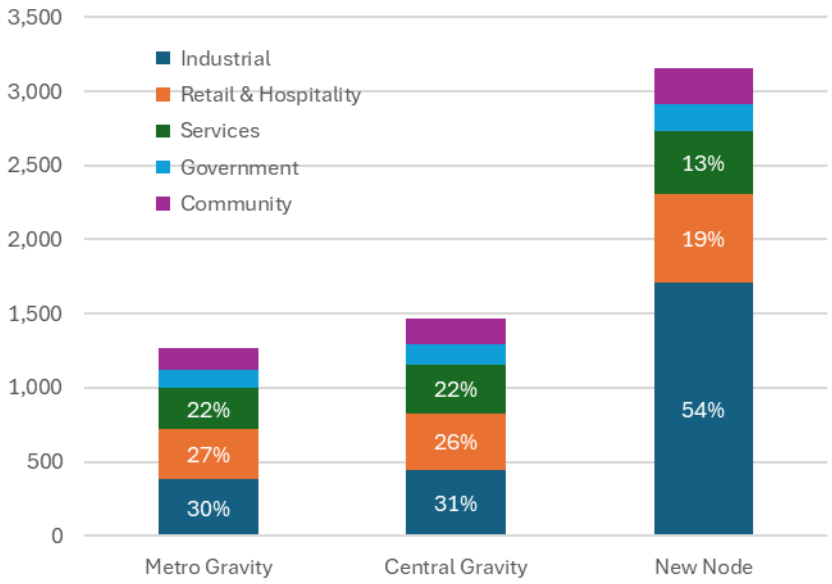
The research in the body of this report employs a scenario-based approach to establish the range of potential future land use patterns along the H2T Corridor, acknowledging the inherent uncertainties of the future. It focuses on potential economic responses and land use changes facilitated by improved transport connectivity. The assessment identifies key land uses that are likely to be impacted, such as

housing development, industrial (logistics and manufacturing), and commercial (retail and services) activity to support the growth spurred by these developments.

The scenario modelling assessed detailed outcomes for the industries in the Corridor, which shows that (Figure 5.1):

- most of the additional growth in employment is expected to be in activities that relate to industrial land uses – ranging from 30% in the Metro scenario to 54% in the New node scenario.
- a smaller, but important, growth in employment retail and hospitality activities is expected, ranging from 27% (Metro) to 54% (New node).
- additional employment growth is modelled in office-based activities, ranging from 22% in (Metro) to 13% (New node).

Figure 5.1: H2T Corridor additional employment growth by industry



The first key question is covered in the body of this report, which assesses the potential economic outcomes of transport investments in the H2T Corridor, including demand for development and types of jobs. In summary this assessment shows that the transport investments in the H2T Corridor could result in additional demand and hence different development outcomes. Although scenario modelling indicates that the largest absolute impacts from transport network investment will occur in the metro centres of Hamilton and Tauranga, the smaller towns along the Corridor, particularly Matamata and Tīrau, could experience significant changes in percentage terms. While the projected growth in these towns is modest in the context of the overall Corridor, it will still be important to ensure that local planning appropriately anticipates and manages this change.

It is important to reiterate that some of the activity attracted to the region and Corridor area will have occurred elsewhere in New Zealand, and would be considered a transfer effect when considering the project at a national level. However, in this case where the important issue is to understand the local planning actions needed to accommodate the growth, the issue of the transfer effect is not relevant for this study, although would be for a broader project taking in Auckland and Bay of Plenty.

5.2 Economic benefits of rail

Integrating land use with rail along the H2T Corridor presents an opportunity for long-term economic growth, especially when paired with future-focused infrastructure planning. The FPP strategy outlines potential investment in the ECMT line, including electrification, the creation of Kaimai passing bays, freight aggregation in Hamilton, and enhanced public transport provision in both Hamilton and Tauranga. KiwiRail's ECMT Electrification Detailed Business Case also recommends electrification of some of the ECMT from Hamilton towards Tauranga. Although these projects are not currently funded under the 2024–2027 Rail Network Investment Programme, which prioritises track renewal, resilience, and incremental improvements, their future implementation could unlock economic benefits for the region. Because the projects are not funded, the growth scenarios modelled in this report do not take into account significant changes in the rail network.

From an economic perspective, integrating land use with improved rail infrastructure can increase property values and support transit-oriented development in some economies. With enhanced rail service, areas around stations or freight hubs become more attractive for residential and commercial investment, and this can lead to higher-density, mixed-use developments that support efficient land use. However, the evidence for passenger rail services in the Corridor is weak at present, and the Hamilton-Waikato Metro Spatial Plan selected Bus Rapid Transit as the preferred option within the metropolitan area. Likewise, SmartGrowth's Urban Form and Transport Initiative choose a multimodal transport system focussed on a frequent bus network over the next 30 years. Passenger rail is seen as a possibility only in the longer term (30 years +). While the metro areas of Hamilton and Tauranga could benefit from strategically placing housing, business districts, and community services near future rail nodes, and smaller urban areas could also benefit from improved linkages to the rail network, that is likely to be some way off yet.

Investment in rail also stimulates job creation both in the short term through construction and in the long term through expanded economic activity. Although current upgrades to the ECMT are primarily freight-focused, infrastructure improvements such as better signalling and additional track capacity could lay the groundwork for future passenger services. Even without immediate passenger operations, better freight handling can reduce logistics costs, improve delivery times, and support regional industries, particularly those dependent on reliable transport to and from ports and major urban centres. There is also possibly some potential to make better use of underutilised existing rail facilities, which might be a less capital-intensive way of improving rail's contribution to the Corridor

economy. For example, the ECMT passes through Waharoa, although there are no material local freight businesses or obvious use of rail sidings there, and it is understood that most freight passes through the town rather than handling being undertaken there.

Moreover, improving rail capacity and integrating it with surrounding land use can enhance regional accessibility and workforce mobility. While a 2020 exploratory report by FPP and SmartGrowth considered metropolitan services between Hamilton and Tauranga, no service has been launched or funded, and the viability of such a service remains untested. Nevertheless, aligning land use planning with long-term rail improvements, especially if future passenger services become viable, positions the Corridor for sustainable growth, mode alternatives and reducing reliance on private vehicles, oftentimes with more certainty around travel and freight delivery times.

In summary, while current investments in the rail infrastructure in the Corridor are limited and focused primarily on freight, the strategic integration of land use with potential future rail developments could be important for economic outcomes. Rail can enhance productivity, improve freight supply times, attract investment, improve urban form, and future-proof the region's transport system, if funding aligns with long-term planning goals. There are also associated social benefits, including improvement in non-freight transport safety and travel time predictability as freight is removed from roads.

5.3 Role of Matamata-Piako and South Waikato areas

The Matamata-Piako and South Waikato districts play important roles in the region's economic landscape, with most activity focused on agriculture or primary sector activity. Matamata-Piako's agricultural activity anchors the district's economy and is primarily focused on dairy farming and processing, while South Waikato's economic identity is shaped significantly by its forestry and wood processing industries.

5.3.1 Matamata-Piako economic role

Matamata-Piako has experienced relatively slow growth compared to the other districts that are part of the H2T Corridor. Total employment increased from approximately 14,400 jobs in 2000 to around 19,200 in 2024. Much of the growth has been in sectors that are located in the urban areas, i.e. industrial, construction, and services. This growth has been offset by a decline (of about 500 workers) in the agriculture and primary sectors, which are predominantly located in the district's rural areas.

The employment in the urban areas of Morrinsville and Matamata increased over the same period, with a combined gain of about 2,000 jobs. This growth in jobs is lower than the population growth of around 6,400 residents. Journey-to-work data indicates that a significant proportion of residents now commute to other locations within the H2T Corridor for employment, mainly Hamilton and to a lesser extent Cambridge.

Matamata-Piako's role in the regional and upper North Island economy has gradually declined since 2000. The District's share of employment and GDP in the upper North Island fell from around 1.5% in 2000 to just over 1.2% in 2024. Over the same period, its share of the regional economy declined from 8.4% to 7.3%.

Looking ahead, increased investment along the Corridor is likely to improve connectivity between Matamata Piako and Hamilton, which suggests that the district's role (in relation to residential and business activity) in relation to the western part of the Corridor may increase. Corridor transport investment will also improve connectivity to Tauranga and the eastern part of the Corridor, leading to more opportunities for people to live in Matamata Piako and commute to Western Bay of Plenty and Tauranga, particularly as Tauranga continues its western expansion into Tauriko, and distance between the two areas decreases.

The growth scenarios assessed in this report suggest that Morrinsville and Matamata could grow at a faster rate than the baseline projections in current council assessments, as a result of the investment in transport infrastructure in the H2T Corridor. This would result in an increased role for the District, both within the region and the upper North Island economy. Notably, if a new industrial hub were established in the centre of the Corridor, it is likely that much of the supporting activity, such as housing, commercial services, and industrial suppliers would be accommodated in Matamata and Morrinsville. Based on the scenario modelling undertaken in this study, the combined growth in Matamata and Morrinsville over the 30 year period is as follows, with the lower end of the range being the baseline (HBA) figure:

- Residential growth is expected to fall within the range of 3,400 to 4,550 dwellings.
- Industrial growth is expected to fall within the range of 65 to 83ha of land.
- Commercial growth is expected to fall within the range of 11 to 14ha of land.

If this level of activity were to be accommodated within Matamata-Piako, the district's declining role over the last 20 years could potentially be reversed. However, it is important to acknowledge that even under these higher growth scenarios, the overall scale of change would be relatively modest in the wider regional or upper North Island economies, measured in fractions of a percent rather than larger step changes. As such, Matamata-Piako would remain a small part of the much larger regional economies of both Waikato and the upper North Island.

5.3.2 South Waikato economic role

Historically, South Waikato has experienced very low growth compared to other districts in the Corridor. Total employment declined from approximately 11,000 jobs in 2000 to around 10,000 in 2024. Much of this decline occurred in the agriculture and primary sectors, which are predominantly located in the district's rural areas outside of the Corridor, with around 600 jobs lost. However, the employment in the urban areas of Tīrau and Putāruru also declined over the same period, with a

combined loss of about 300 jobs, despite the towns experiencing population growth of around 700 residents in that time. Journey-to-work data indicates that a significant proportion of residents now commute to other locations within the Corridor for employment, a trend which Corridor transport improvements could either strengthen or reverse, depending on the economic response.

That employment decline has led to South Waikato's role in the regional and upper North Island economy declining since 2000. The District's share of employment and GDP in the upper North Island fell from 1.2% in 2000 to just over 0.7% in 2024. Over the same period, its share of the regional economy declined from approximately 6.4% to 3.8%.

Looking ahead, future scenarios suggest that the towns and the broader district economy could benefit from increased investment along the Corridor. This, combined with a deliberate effort by the district's Council to pursue growth and development, may lead to more local employment opportunities and greater economic self-sufficiency. The ECMT Kinleith spur passes through Tīrau, Putāruru and Tokoroa, and is dominated by logging freight, originating in the district's 60,000ha of forestry land. The rail spur also services other businesses, including the Fonterra factory at Lichfield, the Kinleith mill, and the newly opened Olam Food Ingredients factory in Tokoroa. The Olam factory is planned to have several expansions in the near future, which will be a positive for the district economy, although that positivity is balanced somewhat by continued uncertainty around the future of the Kinleith mill, following announced difficulties, and the decision earlier this year to close the paper part of the mill, with the loss of 250 jobs.[65]

The growth scenarios assessed in this report suggest that Tīrau and Putāruru could grow at a faster rate than the baseline projections in current council assessments, as a result of the investment in Corridor transport infrastructure. This would result in an increased role for the District, both within the region and the upper North Island economy, although Tīrau and Putāruru are still expected to function increasingly as commuter towns for Hamilton, Cambridge, and to a lesser extent, Tauranga.

However, if a new industrial hub were to establish in the centre of the Corridor, it is likely that some of the supporting activity, such as housing, commercial services, and industrial suppliers would be accommodated in the Tīrau and Putāruru. Modelling for this study indicates that the combined growth in Tīrau and Putāruru over the next 30 years is as follows:

- Residential growth is expected to fall within the range of 1,100 to 1,380 dwellings.
- Industrial growth is expected to fall within the range of 14 to 20ha of land.
- Commercial growth is expected to fall within the range of 2 to 6ha of land.

[65] https://www.rnz.co.nz/news/national/541815/more-than-200-jobs-to-be-axed-as-kinleith-mill-closes-paper-division, retrieved 17 July 2025

If this level of activity were to be accommodated within South Waikato, the District's declining role could potentially be reversed. However, it is important to acknowledge that even under these higher growth scenarios, the overall scale of change would be relatively modest in the wider regional or upper North Island economies, and South Waikato would remain a small part of the much larger regional economies of both Waikato and the upper North Island, although possibly becoming more connected to them.

5.4 Funding opportunities

Improving the transport network in the H2T Corridor is likely to stimulate additional growth from the baseline business as usual growth that is projected. With that growth comes increased infrastructure demands (local roads, waters, electricity, telecommunications, etc.), that must be funded. Traditional funding sources (central government transport funding, local council rates and borrowing) are often planned far in advance, and under pressure, meaning that additional funding tools may be needed so that growth is not limited by infrastructure constraints.

One approach gaining attention is value capture funding, which taps into the private land value increases and economic gains generated by public infrastructure investments. In essence, this means leveraging contributions from the landowners and developers who benefit from the new road improvements to help pay for the required infrastructure, rather than placing the full burden on general taxpayers or council debt. Value capture mechanisms therefore allow the public sector to capture a share of that windfall gain to invest in infrastructure. This approach is grounded in the 'beneficiary pays' principle – those who directly benefit from infrastructure (through higher land values, better access, or development potential) should contribute a fair share of the costs. By doing so, overall infrastructure funding can increase in an equitable way, reducing the increased funding burden on the public (as taxpayers and ratepayers).

New Zealand already uses some forms of value capture, and to generate funds from those who stand to gain from (in this case) transport improvements, and there are opportunities to expand these tools. There are several key mechanisms available in New Zealand, and these can be used together or individually:

- Development contributions: Councils commonly require property developers to pay development contributions or infrastructure growth charges under the Local Government Act 2002. This effectively captures value by making new developments fund the extra infrastructure they necessitate (e.g. new subdivisions paying for water pipes, local roads, etc.). A large share of growth-related infrastructure in New Zealand is funded this way, ensuring those who 'cause' the growth (developers and incoming residents) pay for facilities to support it. There are challenges with development contributions, including establishing causation, and accurately recognising the scale and range of infrastructure

required to support growth, but properly handled, development contributions can be a very good contributor to enabling growth in a financially equitable way. The government's proposed Going for Housing Growth programme (GfHG) proposes to change this approach towards a new infrastructure funding model based on development levies with the intent that the new approach would better enable councils to recover costs from unplanned or out-of-sequence development.

- Targeted rates and special levies: Councils can levy targeted rates on properties in a certain area to fund specific infrastructure projects. For example, a council might add a special rate for properties along a new highway Corridor to help pay for new intersections or upgrades by essentially charging benefiting property owners more for the added services.[66]. Targeted rates are an established tool that are widely used to fund projects such as town centre improvements and public transport initiatives. Recent court decisions[67] have upheld councils' ability to use targeted rates, although such charges can be politically sensitive by the community if viewed as unfair or inequitable. An extension of this concept is the Infrastructure Funding and Financing (IFF) levy, enabled by the IFF Act 2020, which allows an independent entity to raise finance for infrastructure and recover it via a levy on properties that benefit. This is similar to a targeted rate, but structured through a special-purpose vehicle so that council balance sheets are not overburdened.[68]
- Betterment taxes and land value uplift charges: True "value capture" charges focus on the increase in land value due to infrastructure. In theory, a betterment tax could be imposed so that when land values surge thanks to a new road or rezoning, a portion of that uplift is paid back to fund infrastructure. We understand that such charges are enabled in New Zealand legislation, for example section 326 of the Local Government Act 1974 empowers councils to recover land value increases from new or widened roads by charging the affected landowner the difference in value. That power is rarely used, politically hard to justify, and applies only to properties fronting the road, and not to other nearby properties that may also benefit from uplift.[69] The Urban Development Act 2020 gives Kāinga Ora similar powers to levy betterment payments, but New Zealand does not have a broader betterment tax. The state of Victoria in Australia recently introduced a windfall gains tax on rezoned land uplift, and in New Zealand the government signalled interest in value capture policies in the 2023 Coalition Agreement, but for now options under this value capture category are limited.

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[66] Simpson Grierson, *November 2024 Funding the Future Reviewing New Zealand's Infrastructure Funding & Financing Toolkit* (2024).
[67] Auckland Council v C P Group Ltd [2023] NZSC 53 and the Court of Appeal's decision in New Zealand Forest Owners Association Inc v Wairoa District Council [2023] NZCA 398
[68] https://localgovernmentmag.co.nz/mike-doesburg/, retrieved 2 July 2025
[69] https://localgovernmentmag.co.nz/mike-doesburg/, retrieved 2 July 2025

- Public-private partnerships and developer co-funding: Another value capture option is through partnership funding arrangements. In some cases, developers or landowners may agree to co-fund infrastructure (or reimburse costs) in exchange for the benefits of a new transport link. This can be formalised via infrastructure charges on properties in a development area, as seen in special projects like Milldale in Auckland (discussed more below).
- Land value capture via public land development: A more direct form of value capture is when the public sector itself owns or acquires land around a new infrastructure project and later sells or leases it at a higher value. By master planning or upzoning areas around a new highway interchange or rail station, a council or government can create valuable development parcels. The uplift in land value (caused by the infrastructure providing access) is then realised by the public when that land is sold or developed.[70] While not common in New Zealand due to a lack of publicly ownership of large tracts of land in areas targeted for development, this "own and develop" approach has been used in Australia to capture value and fund infrastructure.[71] In New Zealand, transport agencies have occasionally purchased extra land around projects and onsold it, and while this is an ad-hoc practice it remains a potential strategy to capture value.[72]

There are some examples of value capture mechanism being applied in New Zealand, as discussed below.

5.4.1 Tauranga Transport System Plan levy

The TSP Levy is one of the earliest examples of an IFF infrastructure levy in New Zealand. In 2024 Tauranga City Council introduced a citywide transport improvement levy to help fund 13 key projects in the Western Bay of Plenty Transport System Plan, including road upgrades, public transport lanes, and safety improvements to handle growth.[73] Through the IFF mechanism, around NZ$175 million of up-front capital was raised by a Crown Infrastructure Partners (CIP) special vehicle. The debt is being repaid over 30 years via an annual levy on most properties across Tauranga, on the rationale that all residents and businesses will benefit from the improved transport network. The levy is a partnership between central and local government, iwi and the community.

For a typical household, the levy is about $72 per year (and $607 per year for a median commercial property) in the first year. The levy appears as a separate line on rates bills and replaces a smaller

[70] Simpson Grierson, *November 2024 Funding the Future Reviewing New Zealand's Infrastructure Funding & Financing Toolkit*
[71] Department of Internal Affairs, *Building Sustainable Urban Communities* (2008).
[72] Simpson Grierson, *November 2024 Funding the Future Reviewing New Zealand's Infrastructure Funding & Financing Toolkit*
[73] https://www.tauranga.govt.nz/property-and-rates/iff-levies/infrastructure-funding-and-financing-levy-transport-system-plan, retrieved 9 July 2025

targeted transport rate the council had previously charged. Local property owners are directly contributing to the infrastructure that enables the city's growth, rather than relying solely on general taxes. This approach also limits Council's debt levels, since the borrowings are serviced by the dedicated levy.

5.4.2 Milldale infrastructure charge

Milldale is a 9,000 home residential development north of Auckland, where new infrastructure has been financed by a private-public partnership and repaid by property owners, so as to make development of the new community possible. In 2018, the Government, Auckland Council and a developer (Fulton Hogan) partnered to fund about NZ$91 million of bulk infrastructure (roads, bridges, water and wastewater pipes, etc.) to enable Milldale's construction. Rather than the council paying for all of this up front (which would strain its finances), a special infrastructure loan was arranged through Crown Infrastructure Partners, and homeowners in Milldale are responsible for paying back this cost over time.

Each property pays an annual infrastructure payment of $1,000 per year, which increases gradually for a 30 year horizon. The charge appears on rates bills and is used to repay the investors (including ACC) who financed the upfront loan. This user-pays approach enabled housing to be built faster by front-loading infrastructure investment without overburdening council budgets, and then recouping costs from the landowners who benefit. The Milldale model is now seen as a template that could be extended to other high-growth areas because it aligns well with the beneficiary pays philosophy, and unlocks development potential.[74]

5.4.3 Auckland City Rail Link

The City Rail Link (**CRL**) is a large infrastructure project designed to improve train travel times and access around and through central Auckland, and is already causing nearby property values, especially around new or upgraded stations, to increase.[75] This creates a private windfall for those landowners, whereas the cost of the rail infrastructure is largely borne by public funding. Auckland Council's Chief Economist suggested applying a targeted rate on properties near the new CRL stations to help fund the extra trains and services needed once the rail link opens.[76] This would be a form of value capture ensuring that those who enjoy higher property values and better transport links contribute to the system's costs, rather than placing the entire burden on general ratepayers. While as of now the CRL

[74] https://www.rnz.co.nz/news/national/375790/owners-of-a-new-development-north-of-auckland-to-pay-higher-rates, retrieved 2 July 2025

[75] https://www.interest.co.nz/property/96415/auckland-council-economists-found-property-500m-train-station-gets-value-boost, retrieved 10 July 2025

[76] D Norman, "Funding a Fair Deal: Beneficiary Pays," *Auckland Economic Quarterly*, August 2017.

is funded by central and local government contributions, the idea illustrates how value capture could be employed for major projects by charging special rates in high benefit catchment areas.

5.4.4 Road tolls

In New Zealand, road tolls are used as a targeted funding mechanism to help pay for the capital costs of new roading infrastructure. Rather than relying solely on general taxation or fuel excise revenue, tolls allow for user-pays funding, where those who benefit directly from a new or improved road contribute to its cost. This approach can support the earlier delivery of critical transport projects that might otherwise be delayed due to funding constraints.

Tolling is used on some roads in New Zealand, particularly for large-scale roading projects that offer significant time savings or improved safety and reliability, such as bypasses, expressways, or new motorway links. Examples include the Northern Gateway Toll Road (north of Auckland) and the Tauranga Eastern Link. In these cases, tolling revenue is used to contribute to repaying the capital investment. The Government expects NZTA Waka Kotahi to consider tolling for all new RoNS projects, not just select corridors,[77] indicating tolling may become more widespread than it currently is. Other user pays roading charges such as time of use charging are also being considered in some places as alternative funding mechanisms.[78]

By providing a direct revenue stream, tolls can make a project more financially viable and may reduce the need for long-term borrowing. In public-private partnership arrangements, tolls can help attract private sector investment by offering a predictable return through user charges over a concession period. Importantly, tolling also creates a direct link between infrastructure use and funding, which can help promote efficient use of the transport network.

Tolling in New Zealand is regulated under the Land Transport Management Act 2003, which sets out criteria that must be met, including the requirement that a suitable free alternative route is available. While public acceptance can be a challenge, tolling remains a useful tool in the funding mix, particularly for strategic, high-cost projects that deliver substantial economic, social, or environmental benefits. Other similar mechanisms like road cordon pricing are also possibilities in New Zealand, however may require legislative change to implement, and are less relevant to the Corridor.

A range of social outcomes can arise from differential charging on some routes with other alternative routes remaining toll-free. Some of the findings of a New Zealand study that focussed on urban areas,

[77] confirmed by Transport Minister Simeon Brown and is embedded in the Government Policy Statement on Land Transport 2024, from: https://www.beehive.govt.nz/release/government-enable-tolling-accelerate-investment-roads, retrieved 31 July 2025

[78] https://at.govt.nz/projects-initiatives/region-wide-auckland-projects-and-initiatives/time-of-use-charging, retrieved 31 July 2025

rather than routes connecting between urban areas and traversing rural New Zealand, made the following conclusions, which are relevant in the H2T Corridor context:[79]

- Some trips that may use the upgraded roading may be deterred from using the route due to the charges and instead opt for using non-priced/free alternatives. This means that the realised benefits (travel time savings, reduced congestion, improved safety etc.) are likely to be less than anticipated if this occurs.
- If traffic continues to use no-cost roading options, then adverse environmental impacts along existing roads may increase.
- If travel patterns do not change then the underlying economic benefits of the investment may not be achieved.

From a social perspective, those who have lower incomes are more likely to choose the 'no-cost' route over the user pays route, and therefore the benefits of roading investment are likely to only accrue to more affluent households and businesses. There may be social implications for rural users that rely on undertaking daily activities on a road when it is upgraded and toll costs apply as result of that change, such as the potential for tolling on the Cambridge to Piarere Expressway. Rural communities surrounding the road may:

- Look for alternative ways to travel to avoid the additional costs associated with using the most direct route, changing their daily patterns and way of life.
- Choose to suppress their trips due to the income effects, which can sometimes result in the use of delivery services (couriers and online shopping).[80]
- Experience issues of community severance or social isolation, caused by separating people from the facilities, services, social networks, satellite and smaller communities they wish to use within their community, especially in locations around Lake Karāpiro for example.[81]

One way of reducing these social costs is to look for opportunities to charge tolls based on the time of day and by location.[82] It is recognised that the blunter the pricing mechanism, the more adverse effects are likely to arise, but use of a willingness to pay scheme may encourage people to choose the time of their use of the transport infrastructure. Another way of improving road pricing outcomes is to

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[79] I Wallis and BA Hamilton, *Implications of Selected Urban Road Tolling Policies for New Zealand*, Land Transport New Zealand Research Report No.270 (2005).

[80] P Nunns et al., *Social and Distributional Impacts of Time and Space-Based Road Pricing*, NZ Transport Agency research report 654 (2019).

[81] "10.4 Impact on Community Cohesion | NZ Transport Agency Waka Kotahi," accessed July 24, 2025, https://nzta.govt.nz/planning-and-investment/learning-and-resources/benefits-management-guidance/the-land-transport-benefits-framework/inclusive-access/10-changes-in-access-to-social-and-economic-opportunities/10-4-impact-on-community-cohesion/.

[82] OECD International Transport Forum, *Corporate Partnership Board CPB The Social Impacts of Road Pricing Summary and Conclusions: 170 Roundtable*, ITF Discussion Papers (2018); M Birchall, *Driving Change: How Road Pricing Can Improve Our Roads* (2024), https://www.nzinitiative.org.nz//reports-and-media/reports/driving-change-how-road-pricing-can-improve-our-roads/?1.

ensure that public transport is available, although this is unlikely to be feasible throughout the H2T Corridor. Even if there is limited demand for public transport between the two centres, it has an important role to play within the urban centres themselves, and by doing so, can ease some of the congestion pressures on the edges of the cities -often the most congested parts of the state highway network.

There is evidence of these concerns being expressed by rural populations in Tararua District, where the community expressed concern about the lack of consultation and the likely social impacts in relation to proposed tolling of Te Ahu a Turanga: Manawatū Tararua Highway.[83]

5.4.5 International examples of value capture

There are many examples of value capture in place internationally, particularly to fund large infrastructure projects. Approximately 35% of the £19 billion cost of London's Crossrail (the Elizabeth Line) project was funded by value-capture mechanisms, including special levies on businesses in London and charges on development that benefited from the new rail line.[84] Hong Kong's transit system finances itself through land development rights, because the railway is built alongside government-owned land that is leased to developers at higher values.[85] Many cities use Tax Increment Financing (TIF) in redevelopment areas – essentially borrowing against future increased property tax revenues that will come from rising land values after a project.[86]

5.4.6 Considerations for H2T Corridor

There are opportunities to use value capture funding in the H2T Corridor, and doing so will require considerations of:

- Equity and fairness: Contributions should be proportionate to the benefits received, ideally measured through actual increases in land or property value resulting from public investment. This aligns with the principles of value capture, where those who benefit most from infrastructure contribute accordingly. This approach can be more equitable than expecting all taxpayers or ratepayers to subsidise local windfall gains. However, it must ensure charges are not so high that they deter development or make housing unaffordable. Phasing charges or providing relief in cases of hardship (e.g. postponing payment for those without immediate cashflow) can help maintain fairness.[87]

[83] Tararua District Council, "Council Submits against Te Ahu a Tūranga – Manawatū Tararua Highway Toll," October 11, 2024, https://www.tararuadc.govt.nz/news/2024/october/council-submits-against-te-ahu-a-turanga-manawatu-tararua-highway-toll.
[84] https://localgovernmentmag.co.nz/mike-doesburg/, retrieved 2 July 2025
[85] Ibid
[86] https://www.cdfa.net/cdfa/cdfaweb.nsf/pages/Tax-Increment-Finance.html, retrieved 3 July 2025
[87] Simpson Grierson, *November 2024 Funding the Future Reviewing New Zealand's Infrastructure Funding & Financing Toolkit*

- Calculating the uplift: Determining how much extra value the new road Corridor creates is complex. Ideally, a baseline (before the project) land value would be identified and then the increase attributable to the infrastructure is measured. However, in practice many factors affect land value and isolating the project's effect requires careful analysis.
- Legislative Tools: As noted, councils already use some tools like development contributions and targeted rates, but a dedicated value capture mechanism such as a betterment levy may require new legislation.
- Local vs. regional benefits: In the H2T Corridor context, improvements benefit multiple towns and districts. A value capture funding scheme would need to consider which areas benefit from an uplift and ensure funds are channelled to the corresponding infrastructure needs. For example, if certain towns (like Matamata or Cambridge) grow significantly due to the highway improvement, those areas might be suitable for targeted infrastructure charges to expand local services. Coordination between Waikato and Bay of Plenty local authorities may be required to capture value across the region consistently.

Value capture funding presents an opportunity to finance growth infrastructure by tapping into the private gains from public investments, and make growth fiscally sustainable and fair, and can be achieved using various mechanisms in New Zealand. However, there a number of challenges to value capture, including accurately establishing the scale of benefits received, and who the beneficiaries are.

5.5 Staging and sequencing

A strategic approach to staging would aim to ensure that improvements to roads, rail, and other infrastructure are delivered at the right time, in the right place, and in the right order, to avoid ad-hoc or premature development, which can strain funding. It is important for infrastructure delivery to be aligned with land use planning and demand projections. Key benefits of this alignment include:

- Optimal investment timing: Building infrastructure too far ahead of demand can tie up capital in underutilised assets, whereas building too late can constrain growth. The optimal timing is to meet growth "just in time," saving costs and maximizing use of infrastructure that is operational. Careful sequencing prevents councils from being financially overextended by sprawling, uncoordinated growth.
- Integrated land use and infrastructure planning: A staged approach ensures transport upgrades, utilities, and zoning changes are coordinated, so that growth occurs in line with capacity improvements. This integration avoids situations where development outpaces infrastructure, with negative effects for councils and service providers, as recognised in

future development strategies around the country including the Future Proof and SmartGrowth[88] areas.

- Efficient infrastructure delivery: By grouping projects into logical packages by area or Corridor, authorities can achieve economies of scale and ensure different infrastructure types complement each other. For example, upgrading a highway interchange at the same time as installing water mains to a new industrial zone is more efficient than doing these in isolation. Conversely, uncertainty and delays in major transport investment will negatively affect investment by the private sector and other public sector agencies in complementary infrastructure.
- Risk management and adaptability: Phased delivery allows for monitoring and changes to be made if growth is different to expected, or there are economic or technological shifts, reducing the risk of over-building or under-providing.

A strategic staging approach in the H2T Corridor should be guided by several key principles:

- Align with spatial plans and Future Development Strategies: Spatial plans indicate where and when growth is planned and can be used to inform infrastructure staging and funding. Spatial plans require regular revision, and future iterations should account for changed land use demand such as that arising due to major new roading infrastructure. The spatial plans should open up new growth areas in a sustainable way, to avoid providing too much supply from creating multiple large growth areas simultaneously, as that will be likely to stretch infrastructure provision capabilities. It is noted, however, that the Government has announced decisions requiring councils to free up more land for housing under its GfHG programme. GfHG would, among other things, prohibit councils from imposing rural-urban boundary lines in planning documents and be more responsive to private plan changes, allow out of sequence and unplanned areas to be promoted for growth of regional or national benefit, and require improved infrastructure funding and financing to support growth.[89] That means that current methods of providing for growth are likely to change, although implementation of these changes is yet to occur.
- Sequence land release with infrastructure triggers: Development capacity should be unlocked in phases, each contingent on infrastructure milestones, to avoid overloading existing networks. For example, new housing areas might be capped until a new arterial road or interchange is built,[90] and industrial estates might proceed only after a wastewater plant upgrade. In Tauriko West the initial 2,400 homes can proceed with

[88] SmartGrowth, *SmartGrowth Submission on The Productivity Commission's Using Land for Housing – Draft Report* (2015).
[89] https://www.hud.govt.nz/news/freeing-up-land-for-urban-development-and-housing
[90] For example parts of eastern Hamilton in relation to the Eastern Transport Corridor

current works, but the remaining 1,600 homes will only be unlocked after further State Highway upgrades (SH29/29A/36) are completed.[91]

- Coordinated infrastructure planning across all delivery agencies: A development strategy must consider transportation (roads, rail, public transit) alongside essential utilities (waters, power, telecommunications) to support all types of land use. There is little benefit in constructing a new interchange for an industrial area if there is insufficient waters capacity to service that area. Timing investments across agencies will minimise costs and reduce redundant infrastructure.
- Prioritise strategically valuable early investment: Some projects may help to address current critical issues or have immediate economic payoffs, and those can be implemented early. For example, improving road safety is often an early priority and can deliver quick wins (such as safety and travel-time savings, as has been targeted in the H2T Corridor) and lay the groundwork for later capacity expansion. Early works should ideally be ones that will be needed under any growth scenario, such as fixing known bottlenecks or strengthening bridges for heavier freight
- Phasing of projects: Structure the overall Corridor program into sequenced packages (e.g. Phase 1: 2025–2035 improvements), each with a clear goal (e.g. unlocking a certain number of homes or enabling a new industrial hub) and contain all the interdependent projects to achieve it. This approach is already commonly used.
- Financially sustainable funding models: Staging must be underpinned by funding arrangements that match the timing of infrastructure delivery. Councils and NZ Transport Agency should synchronise their budgeting (e.g. through Long Term Plans and the National Land Transport Programme) to ensure money is available when needed for each phase. That approach can be used in conjunction with value capture funding approaches described in section 5.4.
- Monitoring and adapting to growth: Growth and demand rarely occur in accordance with initial expectations, and it will be important to understand how growth pressures change over time, and change infrastructure planning accordingly. Annual monitoring requirements are imposed in the NPSUD (clause 3.9), meaning this monitoring should already be undertaken in the Corridor.

Many of the benefits of staging and sequencing are well recognised, and already in widespread use in New Zealand, including the H2T Corridor. Both SmartGrowth and Future Proof have detailed future development strategies in place that identify development areas, stage their delivery, and seek to coordinate that delivery with infrastructure availability, so as to allow councils to plan financial commitments and ensure there is capacity to accommodate demand for land.

[91] https://www.taurikofortomorrow.co.nz/28514-2/, retrieved 9 July 2025

5.6 Housing and papakāinga

Developing more housing and papakāinga along the Corridor may require upgrades across many infrastructure categories. This subsection summarises the types of infrastructure that will be required to enable the provision of more housing and papakāinga, and the key challenges of providing that infrastructure. This is not a detailed infrastructure assessment, such as will be required to understand how readily additional growth might be serviced by existing infrastructure.

As growth arrives along the Corridor, incremental or more significant infrastructure investments will be needed to support housing and papakāinga projects:

- Transport upgrades: Apart from upgrades underway and planned on the State Highway network through the Corridor, improved local roads and investments in public transport may be required.
- Waters infrastructure: New housing developments will need access to drinking water and sewage disposal, which may require expanding three waters infrastructure. In the short term, this may mean new water mains, pump stations and reservoirs, and increasing treatment capacity in growth areas. Many smaller towns along the Corridor do not have reticulated waters infrastructure, which is a constraint that will limit their growth potential. Upgraded or new stormwater infrastructure may also be required to manage increased runoff from new roofs, paved areas and roads, to prevent flooding and protect waterways.
- Electricity and digital networks: A growing population and new industries will place greater demand on power and telecommunications, driving a need for new or expanded substations and feeder lines, and will also need to account for changing demand trends, such as increased use of electric vehicles. New or expanded high-speed broadband infrastructure may be needed in some locations to ensure all new housing and papakāinga have reliable internet, and this may involve laying fibre-optic cables to more rural settlements and installing mobile network upgrades.
- Community and social facilities: Additional community infrastructure may be required to turn new residential areas into thriving communities. Infrastructure provided may include new or expanded schools, health services (including general practice clinics or healthcare hubs in smaller towns, and expansions to the hospitals in Hamilton and Tauranga), and providing parks, playgrounds, and sports fields in new residential areas so residents have recreation space. Local retail and commercial services will emerge largely via the private sector in response to demand, but may need to zoned or enabled by councils. For papakāinga, marae upgrades and community halls may be required to support the social infrastructure of these developments.

The scale of these new and expanded developments will increase over time as growth continues, and eventually significant upgrades to infrastructure may be required:

- New public transport networks, and park-and-ride facilities may be needed to facilitate intra- and inter-regional travel, especially for commuting, as commuting to a wider range of destinations becomes viable due to decreased travel-time.
- Waters infrastructure: ongoing growth may require more significant infrastructure, such as new water sources, stormwater management and treatment plants, once the capacity of existing infrastructure is reached.
- Electricity and digital networks: the Corridor's energy needs will not only grow but also shift with technology, and future loads may require new high-voltage grid connections or substations between Hamilton and Tauranga, or decentralised energy solutions such as community solar farms or battery storage to increase resilience and sustainability of power supply. For papakāinga and rural communities, off-grid renewable energy systems could supplement traditional infrastructure. While telecommunications infrastructure needs are difficult to predict out to a long horizon, planning for this now could include installing extra ducting and cell tower sites as new areas are built, to avoid retrofitting later.
- Expanded social and community infrastructure: new communities or substantial town expansions along the Corridor may ultimately necessitate significant community infrastructure growth between Hamilton and Tauranga, such as new vocational training centres, hospital or emergency care centres, new sports complexes, libraries, and civic centres. Growth in papakāinga communities may include or require new kura, hauora, and kaumātua housing. General population growth will also require new employment areas, and easy accessibility to them by a range of modes, including retail and office activities.
- Climate resilience: The Corridor will need infrastructure that responds to environmental challenges, including upgraded flood protection and stormwater systems in low-lying or flood-prone areas. New development areas should incorporate green Corridors and reserves, not only for ecology but to give residents outdoor space and active transport routes.

There are a number of challenges to providing the infrastructure needed for additional housing and papakāinga.

- Funding and financing: As identified above, these are a substantial challenge, although there are a number of potential approaches beyond traditional funding models. As is the case in other many parts of the country, without innovative funding mechanisms and stronger central–local government coordination, infrastructure could lag far behind housing demand, constraining housing provision.

- Governance and coordination across regions: Because the Corridor spans multiple territorial authorities, and two regions, achieving coordinated planning and implementation of growth plans and programmes can be difficult. Differing local plans, funding competitions, and administrative boundaries can lead to fragmented infrastructure delivery. Achieving an integrated Corridor will require coordination between local authorities, with mana whenua and major stakeholders (such as NZ Transport Agency, KiwiRail, utility companies, central government, and community leaders). This need is recognised by Future Proof in its planning generally, including in relation to this project.
- Regulatory and planning constraints: Planning and developing for growth can be time-consuming under the RMA, requiring a long planning horizon, although recent fast track processes have sought to expedite some development opportunities.
- Papakāinga-specific barriers: Supporting more papakāinga housing introduces unique challenges. Papakāinga are often developed in rural or semi-rural locations, which means basic infrastructure like roads, water, and power may not be readily available, potentially making projects lengthy and difficult. District plan rules can also make papakāinga prohibitively expensive for small Māori communities, and financing comes with challenges given the special status of Māori land, and potentially fragmented ownership.[92] Overcoming these barriers may require targeted support such as planning advice, infrastructure subsidies, rates relief or communal infrastructure (such as shared septic or rainwater systems) that suit smaller-scale developments. We note the proposed National Environmental Standard for Papakāinga is currently being prepared, although this only addresses regulatory issues not infrastructure and financing.

5.7 Labour force accessibility

Labour force accessibility is a key factor in assessing the potential for economic growth in Corridor, in particular the commuting range around the metropolitan areas is likely to extend as a result of the planned investment in the transport network.

The investment in the Corridor can significantly enhance the accessibility of jobs from commuter towns. By reducing travel times and increasing the reliability and frequency of services, these investments effectively expand the catchment area for employment, enabling residents to access a wider range of job opportunities. Travel times between places will also decrease as urban areas expand outwards, so travel times for people living in say Matamata to travel to the western part of Tauranga (Tauriko West, or Upper Belk Road) will be less than times to travel into industrial areas in Mount Maunganui.

[92]Te Puni Kōkiri, *Analysis of District Plan Papakāinga Rules* (2024).

Commuter towns often offer more affordable housing options compared to larger urban centres, making them an attractive choice for individuals and families seeking better value for money. Lower land and housing costs in these towns can reduce the financial burden of home ownership or renting, although increased transport costs will counter some of the financial benefits of lower housing costs. These increased transport costs are accounted for in the scenario modelling for this project. This affordability advantage can help improve overall housing accessibility and provide pathways for first-home buyers and lower-income households to enter the market. In turn, this can make commuter towns more attractive places to live, support residential growth, and stimulate local economic activity such as retail and services to support a growing population.

Moreover, improved accessibility not only benefits workers but also businesses, which gain access to a larger and more diverse labour pool. For towns with lower population densities or limited employment bases, enhanced connectivity can help attract new residents or retain residents who might otherwise move to larger centres. Strategically planned transport investments, when aligned with land use planning can thus support balanced growth by reinforcing the role of commuter towns as essential components of a broader metropolitan or Corridor economy. Those benefits could also be enhanced by new passenger rail services through the Corridor, although based on feedback received during stakeholder engagement, it appears that the likelihood of Hamilton-Tauranga passenger rail services in the near future is slim.

The labour force accessibility outcomes in the H2T Corridor is a key aspect that has been incorporated into the economic assessment of the scenarios in section 4.

5.8 Protecting the environment

To guide land use decisions to enable economic benefits while protecting environmental outcomes, the study provides an assessment of options for accommodating growth which categorises areas into 'No Go' and 'Go Carefully' zones. 'No Go' areas include public conservation land, wetlands, marae, and the Waikato River, all considered unsuitable for development due to ecological or cultural significance. 'Go Carefully' areas involve a wider set of constraints, such as heritage sites, indigenous vegetation, flood-prone zones, steep terrain, and highly productive soils, where development may be possible but requires careful planning and mitigation. Highly productive land is especially influential on development opportunities along the Corridor, with large areas around many of the towns subject to protection by the policies in place under the NPS-HPL. These constraints were mapped using a range of GIS datasets to provide a comprehensive environmental and planning overview of the Corridor.

Despite many constraints, the assessment identifies potential development areas near several towns, with demand projections tested against environmental and infrastructure limitations. Each township has its own opportunities and limitations depending on existing infrastructure and proximity to constrained areas. The New node separate scenario considers establishing a new business node

centrally within the Corridor, although such development would require significant infrastructure investment, and would be subject to some constraints related to these environmental matters. It will be important for future land use planning in the Corridor to recognise these environmental concerns.

5.9 Infrastructure gaps and costs

Along the H2T Corridor, most councils report that current infrastructure can support projected housing (including papakāinga), commercial, and industrial growth for the next 10 years, especially with upgrades already planned. However, capacity constraints begin to emerge on a 30-year horizon in high-growth areas. In fast-growing cities (Hamilton and Tauranga) and districts (Waipā, Waikato, and Western Bay of Plenty), significant new infrastructure will be needed by 2050 to accommodate population and development growth. Other large, but lower growth urban areas (Matamata-Piako, South Waikato) generally have sufficient capacity even over 30 years, with only targeted improvements required to meet future demand. Smaller urban areas (such as Te Poi and Hinuera) tend not to be serviced. Following is a summary of council infrastructure capacities and constraints, based on information provided in each council's infrastructure strategy and other sources.

5.9.1 Hamilton City

Hamilton is one of New Zealand's fastest-growing cities and has major infrastructure projects underway to enable this growth. New strategic wastewater and water infrastructure in greenfield growth areas will support tens of thousands of new dwellings. For example, planned infrastructure will ultimately enable growth in the next 40-50 years of about 8,500 homes in Rotokauri, 7,400 homes in Peacocke, and 1,600 homes in the Ruakura area, supported by significant central government investment.[93] Hamilton has also secured funding to intensify housing in existing urban areas, including through wastewater upgrades that will enable 4,000 new homes in the central city by 2035.

These investments mean Hamilton's infrastructure capacity will keep pace with projected growth through the next 10 years, and in many cases provide spare capacity beyond that. However, some older parts of the city are already at capacity for the water and wastewater networks, an issue that is currently being managed by carefully sequenced upgrades. Beyond 10 years, and heading toward the 30-year mark, continued growth will require more significant investment in core infrastructure capacity, such as new or expanded water and wastewater treatment capacity (acknowledging potential constraints around water take from the Waikato River), new transport Corridors, and community infrastructure such as libraries and pools) to maintain service levels.[94]

[93] https://hamilton.govt.nz/property-rates-and-building/water-services/three-waters-capacity
[94] Hamilton City Council, *2024-54 Infrastructure Strategy*, 2024-2034 Long Term Plan (2024).

5.9.2 Waipā District

Waipā is also a high-growth district, and its population is projected to grow significantly over the next 30 years. The existing water, wastewater, and road networks can support near-term growth, but significant upgrades will be needed to extend capacity further out. For example, all water supply schemes will require further treatment capacity to service growth over a 30-year horizon, meaning new or expanded water treatment plants (or additional bores and reservoirs) will be needed as towns grow, and water reservoirs and reticulation will require upgrading or replacement.[95] Similar works will be required on the wastewater network, including treatment plan upgrades, for Cambridge and Te Awamutu, as well as ongoing reticulation improvements.

By around 2031, under baseline growth, Waipā's infrastructure is largely sufficient (with planned investments) to handle the projected housing and industrial expansion. Toward 2050, however, capacity would become constrained without further projects including new water sources, expanded storage and treatment plant expansions in years 10–30.

Growth areas are expected to have sufficient capacity to accommodate all expected residential and industrial demand for the next 30 years, with large new residential growth areas in Cambridge, and industrial areas in Cambridge and Te Awamutu planned to accommodate growth in a series of staged developments. There is, however, projected to be a shortage of commercial zoned land even under the Baseline scenario, indicating that while new commercial centres are planned in Cambridge's growth areas, additional commercial land will be required to meet demand.

5.9.3 Waikato District

Significant population and business growth are forecast under the Waikato 2070 strategy, and to support this, the district's Infrastructure Strategy outlines substantial new infrastructure investment.

Waikato District's 2025–55 Infrastructure Strategy, adopted alongside the 2025–34 Long-Term Plan, outlines a clear shift toward future-proofing its water and transport networks, especially in fast-growing areas such as Te Kauwhata, Pōkeno, Tuakau, and Ngāruawāhia. The strategy identifies prioritised investment in water supply, wastewater treatment, and core transport infrastructure to align with forecast population and industrial growth over the next 30 years.

In the 10-year horizon, the District is expected to have sufficient capacity once current and planned upgrades are completed. Newly announced initiatives, such as a joint water and wastewater services CCO with Hamilton City (IAWAI Flowing Waters), are intended to improve affordability, resilience, and expansion capacity across multiple growth nodes, with many of those being in Waikato District but adjacent to the Hamilton urban area, particularly for areas being advanced under Fast Track

[95] Waipā District Council, *Waipā 2021-2051 Infrastructure Strategy* (2021).

applications. Transport infrastructure funding over the next 10 years is similarly funded, and includes road maintenance, renewal, and some growth-enabling improvements.

Looking out to 30 years, the strategy confirms that most growth areas will reach capacity without significant further investment. The Council highlights that significant increased growth-funded expenditure is required for water supply, wastewater, and transportation infrastructure to meet future needs. It also notes that demand in towns adjacent to Hamilton is accelerating, requiring expanded treatment capacity, new reservoirs or sources, upgraded trunk mains, and enhanced roading networks.

Overall, Waikato District is projected to have adequate capacity over the next 10 years for most types of infrastructure, due to planned investments and reforms in management structures. The District will, however, begin to reach capacity for many infrastructure items (such as three waters and transport) toward the 30-year horizon, necessitating ongoing major upgrades and investment to support its projected growth trajectory.

5.9.4 South Waikato District

South Waikato has low population growth, and current strategies anticipate only modest increases in demand, with growth expected to be largely driven by industrial developments or niche housing projects. Existing infrastructure generally has spare capacity in South Waikato's towns; although some upgrades to accommodate growth are planned for, such as pump stations and mains in Putāruru and Tīrau, no significant new infrastructure is expected to be required to accommodate growth.

5.9.5 Matamata-Piako District

Matamata-Piako expects relatively modest growth over the next 30 years, which means that existing infrastructure networks generally have sufficient capacity for this projected increase, although a higher growth scenario such as the New node scenario may change that. Information available does not provide an understanding of the degree to which a higher growth scenario might impose infrastructure challenges. The Long Term Plan notes that network infrastructure required for identified growth areas has been accounted for, ensuring new housing and businesses will be able to connect without reducing service levels for existing communities.

The Council has planned some key projects to address local constraints. In practice, this means Matamata-Piako can accommodate all presently zoned residential, papakāinga, commercial, and industrial development within its towns using current water and wastewater plants, albeit with some upgrades such as to water and wastewater treatment plants.[96] Stormwater infrastructure is one area of constraint: many existing stormwater networks in the towns cannot easily handle large increases in

[96] Matamata Piako District Council, *Infrastructure Strategy*, Long Term Plan 2024-2034 (2024).

runoff. The strategy relies on on-site stormwater management for new developments, with soakage (e.g. rain gardens, swales) a preferred management approach so as not to overload stormwater networks. The district does not face significant long-term capacity shortfalls under baseline scenarios; rather, maintaining and gradually improving aging infrastructure (and meeting higher environmental standards) is the main focus, as opposed to building large new capacity.

5.9.6 Tauranga City

Tauranga is experiencing sustained high growth, and its infrastructure strategy emphasizes heavy investment to keep up with growth that is projected to result in Tauranga having a population of over 200,000 people by 2043.

Transport-related investment is the single largest component of the critical infrastructure required to enable projected housing and business growth, representing approximately 75% of the total infrastructure requirement, with the majority of this relating to the State Highway network. Uncertainty or delays in delivering major transport projects risk undermining confidence and slowing investment by the private sector and other public agencies in complementary infrastructure and development activities.

Over the next 10 years, Tauranga has committed large capital expenditures to expand infrastructure for growth areas.[97] Notably, the Council has advanced the Waiari water supply project (a new water treatment plant planned for years 11-20) and ongoing upgrades to the Te Maunga wastewater treatment plant, alongside opening a new urban growth area at Tauriko West and ongoing work to progress other growth areas such as Te Tumu and Keenan Rd

The Strategy identifies significant ongoing investment in maintenance and renewals, as well as new infrastructure to support new housing and business areas, although Tauranga's projected rapid growth will put pressure on all networks, and servicing some locations may be prohibitively expensive due to parts of existing networks operating near or at capacity. Options for places to accommodate growth (residential and industrial) in Tauranga are constrained, with most capacity existing either through intensification, or in greenfields areas at Te Tumu and Tauriko West. Those limitations may lead to growth being diverted to other locations such as parts of western Bay of Plenty District (such as Rangiuru for industry), or even to Matamata-Piako District.

5.9.7 Western Bay of Plenty District

Western Bay of Plenty is also experiencing strong growth, closely linked with Tauranga's expansion. Western Bay of Plenty District forms part of the Western Corridor (the Kaimai Ward). While there are

[97] Tauranga City Council, *Infrastructure Strategy (2024-2054)*, Long Term Plan 2024-2034 (2024).

large areas of Western Bay outside the study area, some of its growth areas will impact on activities in the Corridor, by virtue of their proximity and economic and social linkages.

There are currently significant capital projects underway to service Ōmokoroa's final development stage, including water and wastewater network extensions, major stormwater improvements, urban road upgrades, and a new SH2 interchange, all scheduled for completion within the first 10 years of the LTP.[98]

A new temporary roundabout on SH2 has been constructed and this will be in place until the Takitimu North Link Stage 2 project is completed, including a grade separated interchange). Spatial plans are being developed for Te Puna–Minden, Katikati, and Waihī Beach–Bowentown–Athenree in response to increasing growth pressures and the need for more up-to-date local planning. They are being progressed alongside the spatial plan already underway in Te Puke.

For the next decade, Western Bay's strategy confirms the district-wide infrastructure (particularly three waters and transport) will accommodate projected residential and business growth, assuming completion of Ōmokoroa infrastructure works and Te Puke Wastewater Treatment Plant. Other towns have more gradual growth and their infrastructure deficits are addressed through planned, stage-aligned upgrades and a programme of renewals.

Since the adoption of the current LTP, Council has been reviewing a Fast-track proposal to develop rural land in the eastern part of the District, known as "Wairakei South" or Bell Road. Although the proposal lies outside the H2T study area, it is significant in scale, estimating a minimum of 3,000 homes and up to 80ha of commercial and industrial development, and has the potential to influence wider sub-regional growth allocations. While the proposal has not yet been lodged with the Environmental Protection Authority (EPA), this is expected in February 2026.

5.9.8 Overall summary

Across the Corridor, slower growth areas (such as South Waikato and Matamata-Piako) are relatively well-positioned to accommodate growth across all infrastructure types out to a 30-year horizon, with some localised infrastructure upgrades and ongoing programmes of maintenance and renewals required. A notable exception to that is that if growth occurs at a scale and location as described in the New Node scenario, then more significant infrastructure upgrades would be required in places most influenced by that scenario. Areas of faster growth (Hamilton, Waipā, parts of Waikato District, Western Bay of Plenty, and Tauranga) have more challenging infrastructure futures, particularly from a funding and financing point of view, although most have strategies and schedules in place to be able to provide required infrastructure. Infrastructure provision in Tauranga is anticipated to be

[98] Western Bay of Plenty District Council, *Infrastructure Strategy*, 2024-2034 Long Term Plan (2024).

challenging, with the infrastructure required to enable the remaining greenfield growth areas identified as high cost and therefore challenging from an affordability perspective for both the public and private sectors.

5.10 Social impacts

5.10.1 The relationship between accessibility, affordability, and social equity

Cities and regions thrive when people and goods can move around safely, easily in terms of mode choice and price, efficiently and reliably. Transport systems and nodes have long term effects on land use and urban form including the siting of residential and business activities.

Accessibility to transport affects the degree to which people and communities can participate in the economy and society. People need good connections to enable access to goods and services, such as retail, medical, education, employment and recreational opportunities, in ways that reduce both time and monetary costs. For this reason, access and connectivity is directly related to a range of social welfare outcomes, including for work, consumption, recreation, health, education, social services, community-based activities, and social connections. A corollary is that poor access can decrease social wellbeing and inclusion by making access to those goods and services more difficult, especially for socially deprived groups or neighbourhoods.[99]

Transport costs are an important consideration for households, and especially for low-income households. Access to goods and services is priced into land and real estate values, where houses located further from a region's central business district and employment areas are generally more affordable. Kane et al describe this as the propensity for new homeowners to "drive until they qualify" for a mortgage[100]. Generally, higher income households are more likely to be able to locate closer to employment and transport opportunities, and while it may be more affordable to buy lower cost housing on the periphery of the urban area or in satellite towns, transport costs can impact household expenditure over the long term if residents are travelling longer distances to access jobs and goods and services. Access is important for individuals and is a key factor for workers in gaining suitable livelihood opportunities. The Ministry of Housing and Urban Development (MHUD) has identified that "the disparity of opportunity in our cities and urban areas hampers economic growth, affecting people's incomes and the buoyancy of our national economy", and this issue also equally applies to regional areas and towns.[101]

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[99] R Foy et al., *Let's Get Wellington Moving Social Impact Assessment Final Report* (2021).
[100] Kevin Kane and Abigail M. York, "Prices, Policies, and Place: What Drives Greenfield Development?," *Land Use Policy* 68 (November 2017): 415–28, https://doi.org/10.1016/j.landusepol.2017.07.044.
[101] Te Tuapapa Kura Kainga Ministry of Housing and Urban Development, *Government Policy Statement on Housing and Urban Development* (2021), 48.

From a social perspective, the best outcomes for access to social services will occur for both the Metro gravity and Central gravity scenarios, with access to existing services being provided to more households living in the larger cities and towns which already have good provision of social services. Although the growth pressures under the Central gravity scenario will see small increases over and above the baseline, a concentration of critical mass of households in central towns will mean that for some towns and some services it will become necessary/viable to provide social services in these locations. The New node scenario is likely to generate the least positive social effects due to populations needing to travel to access work, thereby incurring additional travel costs (financial and time), however those households would still be able to access social services in existing towns, they may just have less money and time to participate in other social activities.

The transport investment in the H2T corridor will improve accessibility, thereby expanding the range of locations and potentially price points available for households to meet their housing needs. While the scenarios used in the economic assessment did not explicitly evaluate housing outcomes or affordability, it is likely that enabling greater development potential along the corridor could support improved affordability. However, the variation in affordability across the scenarios could not be quantified, and it was not possible to determine which scenario would deliver the most favourable affordability outcomes.

Access is also important for businesses because the flows of employees, freight and services are central to business productivity and performance. Travel time is a particular issue for workers and businesses, who need to attract workers to workplaces as well as clients and customers.

Social equity is an important factor when considering the impacts from delivering different transport modes. In this case the main benefits will arise for those households that can afford to own and operate private vehicles. Due to the lack of investment in passenger rail opportunities in the foreseeable future, and known investment in passenger road transport, the H2T Corridor investments generally benefit private car users (so are likely to exclude those on lower incomes and parts of the elderly and disabled communities) and businesses that rely on good freight networks. While public transport services (including the private Intercity bus service) exist between some Corridor towns, most services are low frequency, and offer limited range of destinations. There is unlikely to be any significant benefits in terms of a reduction in pollution being generated by private cars, as the investment is likely to make moving by private vehicle more attractive, and while there will be time savings, some of those will be offset by increased activity on the roads.

5.10.2 Spatial distribution of impacts

There is a high likelihood that any changes in property ownership and value uplift or downward pressures generated by public investment in transport may be unevenly distributed. Negative consequences for properties with residential and business activities can arise from the presence of

new infrastructure that can have impacts on surrounding properties due to increased noise, visual effects, and community severance by disrupting local movements, which can be particularly obvious in rural settings. As travel time reliability and safety improve due to public investment, road users may change their travel patterns, and this can lead to unintended consequences on local roads that are not expecting to see increases in movement flows. One area of unintended consequences may be safety issues arising from increased usage of rural roads which may currently be being used for farming activities, such as stock movements, and riding horses or exercising. There can be conflicts between rural uses and through movements by private vehicles.

5.10.3 Summary of H2T social impacts

The modelling results show that there are relatively amounts of new growth above the expected baseline growth (i.e. in the single figures of hectares in most cases), expected from public investment in the H2T Corridor under most scenarios, although those amounts can be quite locally significant. Consequently, it is unlikely that additional pressure will be placed on access to social infrastructure in each of the smaller towns, as growth is anticipated to occur over similar timeframes to existing projections. It is likely that new opportunities for employment, health care, education, recreation activity, goods and services will grow incrementally, and that for some the ability to access these goods in more distant markets will become easier, but for those who are less able to take advantage of travel in private vehicles, there will be limited changes to daily life.

The Waikato Regional Council's strategic direction in relation to community connection includes two 'goals for success':[102]

- Lead and encourage land-use decisions that shape sustainable, resilient transport networks to ensure communities have affordable access to services, amenities and social life;
- Improve safe, accessible and affordable low emissions passenger transport options for our communities, with a particular focus on frequency and reliability.

This report has provided an assessment of the considerations required to achieve the first goal.

Because the H2T Corridor investment targets roads and not public transport or active modes, the investment programme does not specifically target the second of those goals, although may contribute to it indirectly. It is important to recognise that approximately 45% of respondents in the Waikato Region Quality of Life Survey indicated that it was not easy to get around without a private

[102] Waikato Regional Council, "Takatū Waikato | Making a Stand for the Waikato: Strategic Direction 2023-2025 | Community Connections."

vehicle, and 50% thought that public transport was not a practical alternative to driving, reflecting the rural nature of parts of the Waikato Region which are underserved by public transport options.[103]

[103] "Waikato Quality of Life Survey 2024", Waikato Regional Council Technical Report 2025/13

6 Summary

This Spatial Study has assessed the likely growth implications of improvements to the H2T Corridor, to assess how enhanced connectivity may drive changes in land demand for housing, industrial activity, and business services, and to identify whether existing spatial constraints or infrastructure limitations could limit or shape that growth. The Corridor spans the central and eastern Waikato and Western Bay of Plenty subregions along State Highway 29 and the ECMT, from Hamilton in the west to Tauranga in the east, and including Cambridge, Matamata, Morrinsville, Tīrau and Putāruru, focussing outputs on areas within Waikato Region.

To assess the likely growth implications, the study applied four development scenarios to assess potential land demand under different growth and economic driver assumptions. Across all scenarios, a clear pattern emerges: transport improvements are expected to create noticeable land use uplift potential in the Corridor, although the magnitude and spatial distribution of that demand vary by town and scenario, and in most cases will amount to additional demand in the order of low single figures of hectares. Matamata's demand outcomes are the most strongly influenced by the H2T Corridor investment, influenced by the town's proximity to the centre of the Corridor, and its function in accommodating growth due to its role as service town for surrounding areas.

Overall, transport upgrades alone could change land use demand in the Waikato part of the Corridor over and above baseline growth forecasts in the order of 50 to 240 additional hectares (or 100 to 280 ha if including SmartGrowth Western Corridor and Tauranga), depending on the scale of network change and policy settings. This growth includes a mix of residential, industrial, and commercial land use needs.

The results from the model suggest that economic activity in the Waikato region may increase by an additional $200m of GDP under the Metro and Central scenarios compared to the Baseline. This represents a 0.3% increase in economic activity from the H2T Corridor investment. If the New node scenario occurs the economic activity in the Waikato region may increase by an additional $455m of GDP under compared to the Baseline. This represents a 0.7% increase in economic activity from the H2T Corridor investment.

New Zealand studies of expressway investments generally suggest an economic impact in the range of 0.1% to 0.6% of GDP for most regions, while some studies of transport investments in Auckland show impacts of 1% or more of GDP. While each study reflects different contexts in terms of travel time savings and the scale of the local economy, these findings provide a useful benchmark, which shows that the scenario assessment fall well within this typical range, suggesting they are reasonable.

The towns along the Corridor exhibit varied growth potential, based on expected (unconstrained) demand. Unconstrained in this sense means that demand is theoretical, and not limited by environmental or other constraints. Those constraints do represent a very real potential limit on growth in some places, as identified in the discussion of No Go and Go Carefully areas in section 0. The smallest towns assessed show the most potential for large increases in urban land use demand in percentage terms, although because those towns start from a small existing base of occupied land area, the nominal increase in additional land demand in each is not large, and typically in the order of low to mid-single figures of hectares of additional land required as a result of transport network improvements.

Slightly larger increases in total additional land area are modelled in Cambridge, Hamilton, and Tauranga, although because those are larger urban areas now, those changes translate into small percentage variations from the baseline growth that is projected in the HBAs, and is unlikely to result in notable challenges in accommodating that scale of additional growth. In Tauranga's case, while the Corridor investments only marginally increase demand, they are a critical dependency for delivering the substantial growth already planned in the Western Corridor where development is contingent on timely infrastructure investment.

The same applies to Port of Tauranga operations, which rely on improved access and freight efficiency along SH29/29A and connecting corridors. Without delivery of these transport investments, the ability to support both urban expansion and national freight flows will be significantly compromised.

Because the scenarios modelled will not result in large increases in land demand that are not already planned for, the councils should not enable further ad hoc growth along the Corridor. Instead, growth should be focussed into existing townships where there is, mostly, already sufficient existing or planned capacity to accommodate growth, rather than in new locations or small settlements. The creation of new urban nodes through the Corridor will not be required as a result of growth that is encouraged by Corridor transport improvement, and in fact the creation of new nodes should be discouraged insofar as they are inconsistent with existing council planning policy.

Constraints across the Corridor are present and in some cases widespread, and notable constraints exist due to highly productive land and flood hazards. However, overall constraints are unlikely to prohibit growth in most towns, with options to accommodate growth in areas contiguous to existing urban areas, particularly in identified growth where constraints assessments have already been made. This is particularly true when growth demands are signalled well in advance, and planning instruments such as growth strategies are allowed time to consider holistic views of how particular scales of growth can fit into existing urban fabrics. Overall, sufficient unconstrained land appears to be available within and around most towns to accommodate a significant share of potential growth, especially where planning frameworks are supportive of more flexible, responsive development.

The study finds that improved transport connectivity is likely to have some influence on the growth trajectory of the H2T Corridor, although under most development futures additional growth will be incremental changes rather than fundamental reorientations of growth expectations. The additional land demand generated by these changes will require coordinated spatial planning, infrastructure investment, and regulatory flexibility to be fully realised, and will be subject to ongoing changes in the transport network, with additional benefits possible depending on future investment decisions, particularly with regard to rail services and ongoing improvements in road travel times and predictability. While constraints exist, they do not fundamentally preclude growth, and with appropriate responses, the Corridor has the capacity to accommodate additional economic and residential development of the scale that may be required if land use responses are as modelled.

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Appendix 1: GIS layers used

The following GIS layers were used in compiling the No GO and Go Carefully maps used in this assessment:

- Railways: KiwiRail Track Centreline - Overview, last updated on the 6/7/2025
- Roads: LINZ road centrelines, last updated on 07/05/2025
- Urban Boundaries:
    - TCC Planning Zones, City_Planning_Zones (MapServer), sourced from Tauranga City Council, received on 27/05/2025
    - Urban Boundaries Waikato Regional Council, downloaded from the Waikato Regional Council Open Data Portal on 07/05/2025
    - Western Bay of Plenty District Plan Zones, downloaded from Bay of Plenty Maps open data portal on 07/05/2025
- Waikato River: NIWA: River Environment Classification (REC2) New Zealand, last updated on 2/11/2022. Data displayed is 7th and 8th order rivers
- Major Riparian Areas: NIWA: River Environment Classification (REC2) New Zealand, last updated on 2/11/2022. Data displayed is 5th through 8th order rivers
- Last updated 2/11/2017
- Heritage Sites South Waikato District: Waikato Open Data and OneView, downloaded on 09/07/2025
- Waipā District Plan Cultural Points: Waikato Open Data and OneView, downloaded on 09/07/2025
- Matamata-Piako Waahi Tapu Sites, Waikato Open Data and OneView, downloaded on 09/07/2025
- Marae: Te Puni Kōkiri: Marae of Aotearoa – Overview, last updated on 13/05/2025
- Peat Soil Matamata-Piako District: Waikato Open Data and OneView, downloaded on 02/07/2025
- Peat Soil Bay of Plenty: obtained directly from BOPRC, downloaded on 02/07/2025
- Peat Soil NZLRI: NZLRI Soil, downloaded on 18/07/2025
- Wetlands: Ministry for the Environment, Current Wetland Extent (LCDB v5.0) – Overview, last updated on 12/04/2023
- Waikato District Council Significant Natural Areas Layer: Significant_Natural_Area (ID:0), added on 18/07/2025
- South Waikato District Council Significant Natural Areas: Significant Natural Areas – Overview, added on 18/07/2025

- Waipā District Plan Significant Natural Areas, Waipa District Plan - Significant Natural Areas – Overview, added on 18/07/2025
- Waikato RPS – Indigenous Forest Areas, Outstanding Landscapes, High Amenity Landscapes added on 18/07/2025
- Waipa District Plan Natural Features and Landscapes: added on 18/07/2025
- South Waikato District Plan Outstanding Natural Features and Landscapes, added on 18/07/2025
- DOC Public Conservation Land: Conservation Parks, Reserves, Stewardship Areas, last updated on 04/07/2025
- Indigenous Vegetation: Ministry for the Environment: Indigenous vegetation cover remaining and protection 2001 – 2012, last updated on 03/07/2025
- Bats: received from the Waikato Bat Alliance on 24/04/2025, includes Roosts, Connections: Foraging and Commuting, and Habitat Connectivity – Gaps and Opportunities
- Land Use Capability: Manaaki Whenua Landcare Research LRIS Portal: NZLRI Land Use Capability 2021, showing LUC 1 and LUC2, downloaded on 02/07/2025
- Hazardous Activities and Industries List: Waikato Region HAIL Polygons, obtained directly from Waikato Regional Council on 06/26/2025
- Hazardous Activities and Industries List: Bay of Plenty Region HAIL Polygons, Bay of Plenty open data portal, downloaded on 06/26/2025
- Slope: Manaaki Whenua Landcare Research LRIS Portal: NZLRI Slope, downloaded on 10/07/2025
- Erosion Risk: Manaaki Whenua Landcare Research LRIS Portal: NZLRI Erosion Type and Severity, downloaded on 03/07/2025
- Flood Hazard: Waikato Region Floodable Area, obtained from Waikato Regional Council Open Data Portal: Waikato Region Flood Hazard, last updated on 06/24/2025
- Flood Hazard: Bay of Plenty Region Floodable Area, obtained directly from BOPRC on 06/26/2025.

Appendix 2: Technical economic modelling

This appendix outlines the technical method adopted to develop the three alternative scenarios (Metro, Central and New Node). Those scenarios differ from the baseline because they incorporate additional activity that could occur in the H2T corridor because of agglomeration benefits, changes in self-sufficiency, and net-internal migration. Each of those aspects are discussed below.

The goal of the economic assessment is to establish the range of demand outcomes that could be generated within the Corridor using a set of scenarios. It is acknowledged that certain locations may face constraints like inadequate infrastructure or environmental limitations, which could restrict accommodating demand in those areas. This aspect is crucial in assessment of options (in Section 5) which is intended to provide advice on the locations where constraints may become binding.

Agglomeration benefits

Agglomeration benefits refer to the economic advantages that arise when businesses and people locate in close proximity to one another, particularly in urban areas or around key infrastructure like transport corridors. These benefits include access to a larger pool of skilled labour, shared infrastructure and services, and improved matching between firms and suppliers or workers. By being near each other, businesses can operate more efficiently and respond more quickly to market opportunities, while workers have access to a broader range of employment options.

Broadly, increases in density can positively impact productivity through agglomeration effects. NZTA provides a methodology for assessing agglomeration effects on GDP through the use agglomeration elasticities.[104] This approach and variations thereof have been applied to many transport impact related research around Aotearoa,[105] and we apply an adaption and extension of this methodology relevant to the scope of this project and nature of transport investments and expected economic impacts.

First, changes in effective population densities were calculated based on travel time savings across the Corridor (summarised in Figure 3.3). Effective density refers to how many people are effectively accessible within a given area or travel time, especially when analysing agglomeration and infrastructure improvements. Effective density is not just a measure of people per land unit, it is about how many people can interact, connect, or be reached, depending on:

[104] NZTA, *Monetised Benefits and Costs Manual* (2024).
[105] For example: Ryan Greenaway-McGrevy and James Allan Jones, *Agglomeration, Congestion, and the Effects of Rapid Transit Improvements on Cities*, (2022).; Williamson et al., *The Economic and Land Use Impacts of Transformational Transport Investment*.

- Transport Infrastructure Quality: The capacity and efficiency of roads, transit systems, and other transportation networks directly influence how quickly people can reach different destinations. Higher-quality infrastructure reduces travel times and increases the effective density of surrounding areas.
- Travel Time Connectivity: Unlike physical distance, travel time reflects real-world constraints that people face when making economic decisions about where to live, work, and conduct business. Areas that are physically distant but well-connected through efficient transport can have high effective density relationships.
- Inter-area Connectivity: The degree to which different regions are linked through transportation networks determines the extent to which populations can interact economically. Strong connectivity multiplies the agglomeration benefits by allowing larger labour markets and business networks to form.

Effective density is used in urban economics and agglomeration theory to measure how infrastructure improvements (like faster transit or new highways) increase the functional density—how many people are "close" in terms of travel time, not just distance Effective density is calculated by weighting population according to a distance decay function, where population contributes exponentially less to the total as distance from a centre increases. While the absolute value of effective density is difficult to interpret, changes in effective density can be compared across locations or time periods to understand agglomeration effects. The increases in effective mass relative to the Baseline in the long term (2054) due to the travel improvements (for all scenarios) are shown in Figure A2.1.

Figure A2.1: Effective Density Increases vs Baseline

Corridor Area	Effective Density Increases
Hamilton	1.43%
Cambridge	9.23%
Morrinsville	1.77%
Matamata	12.91%
Tirau	19.55%
Putaruru	19.47%
SmartGrowth Western Corridor	17.61%
Tauranga	1.89%

These effective density improvements have several important economic implications. Communities experiencing larger increases in effective density can expect enhanced agglomeration benefits, including improved labour market matching, increased business productivity through knowledge spillovers, infrastructure and greater market access for local firms. In addition, increases in effective density make infrastructure investments more efficient and cost-effective. The substantial gains projected for smaller communities like Tīrau, Putāruru, and Matamata suggest that the Corridor

investment could help reduce regional economic disparities by improving these areas' access to larger metropolitan markets. However, in absolute terms, smaller percentage gains in the larger cities (Hamilton and Tauranga) can often outstrip larger percentage increases in the smaller centres.

Increases in effective density are applied to weighted average agglomeration elasticities (for New Zealand) by industry[106] (in Figure A2.2) to calculate economic gains from productivity increases using the following equation:

$$GDP\ Increase_{ai} = GDP_{cai}\left(\left(\frac{ED_{ca}}{ED_{ta}}\right)^{\varepsilon} - 1\right)$$

Where:

GDP_{ca} = Current GDP in area *a* and industry *i*

ED_{ca} = Current Effective Density in area *a*

ED_{ta} = Effective Density with transport interventions in area *a*

ε_i = agglomeration elasticity for industry *i*

These elasticities are industry-specific because different sectors benefit from proximity and clustering in distinct ways. For instance, knowledge-intensive industries typically exhibit higher agglomeration elasticities than manufacturing or primary industries, as they derive greater benefits from face-to-face interactions, knowledge spillovers, and specialised labour markets. effective densities are calculated uniformly for each area and transport scenario, independent of industry classification. The industry differentiation occurs through the application of sector-specific agglomeration elasticities (Figure A2.2). This reflects the reality that while infrastructure improvements affect accessibility uniformly across all sectors within a region, the economic benefits scale differently depending on the nature of each industry's production processes and competitive advantages.

The agglomeration elasticities utilised in this analysis are sourced from the New Zealand Transport Agency's Monetised benefits and costs manual (section 3.10, Table 37),[107] ensuring consistency with established national evaluation frameworks. These values reflect empirical research on how New Zealand industries respond to density changes, accounting for the unique characteristics of the domestic economy.

[106] NZTA, *Monetised Benefits and Costs Manual* (2024).
[107] NZTA, *Monetised Benefits and Costs Manual* (2024).

Figure A2.2: Agglomeration elasticities (NZTA)[108]

Industry Sector	EEM
Primary Sector	0.032
Mining	0.035
Manufacturing	0.061
Utilities	0.035
Construction	0.056
Wholesale trade	0.086
Other retailing	0.086
Business services	0.087
Government	0.087
Community Services	0.076

Higher elasticity values indicate industries that are more responsive to density improvements, including business services, community services, and government. Lower elasticity values are generally associated with industries where proximity provides fewer productivity advantages, such as primary sectors and utilities.

The application of this methodology yields the GDP increases presented in Figure A2.3, which quantify the economic gains attributable to agglomeration effects across towns and cities in the Corridor. These results represent the additional economic output and associated potential employment that communities can expect to generate as a result of enhanced connectivity and the resulting increase in effective density.

Figure A2.3: GDP Increases due to agglomeration increases

	Primary Sector	Mining	Manufacturing	Utilities	Construction	Wholesale trade	Other retailing	Business services	Government	Community Services	Total
Hamilton	0.05%	0.05%	0.09%	0.05%	0.08%	0.13%	0.13%	0.13%	0.13%	0.11%	0.11%
Cambridge	0.30%	0.33%	0.57%	0.33%	0.52%	0.80%	0.80%	0.81%	0.81%	0.71%	0.70%
Morrinsville	0.06%	0.06%	0.11%	0.06%	0.10%	0.16%	0.16%	0.16%	0.16%	0.14%	0.14%
Matamata	0.41%	0.45%	0.79%	0.45%	0.73%	1.12%	1.12%	1.13%	1.13%	0.99%	0.94%
Tirau	0.62%	0.68%	1.19%	0.68%	1.09%	1.67%	1.67%	1.69%	1.69%	1.48%	1.38%
Putaruru	0.62%	0.68%	1.18%	0.68%	1.08%	1.66%	1.66%	1.68%	1.68%	1.47%	1.37%
WBOP	0.52%	0.56%	0.98%	0.56%	0.90%	1.39%	1.39%	1.40%	1.40%	1.23%	1.20%
Tauranga	0.07%	0.08%	0.13%	0.08%	0.12%	0.19%	0.19%	0.19%	0.19%	0.17%	0.15%
Total	0.19%	0.28%	0.16%	0.07%	0.17%	0.22%	0.23%	0.22%	0.20%	0.22%	0.20%

A critical assumption underlying this analysis is that productivity increases resulting from agglomeration effects will manifest as increased economic output rather than employment reduction

over the long-term assessment horizon of 30+ years. This assumption is grounded in established economic theory and empirical evidence regarding the relationship between productivity and employment over extended periods. While in some industries, short term 'spikes' of reduced employment can occur due to increasing productivity, in the long run productivity and unemployment are negatively correlated.[109]

This productivity growth represents an economic change that creates effects throughout the local and regional economies. The next step models these economic impacts using the Economic Linkages Model (ELM). The ELM is a multiregional input-output model that estimates the economic impacts of economic changes and tracks economic connections between locations (Territorial Authorities) within New Zealand. A full explanation of the ELM is provided in Appendix 3.

This modelling step produces a comprehensive set of economic impacts resulting from transport improvements and their agglomeration effects. The economic impacts are categorized into indirect and induced effects, measured by gross output (GO), gross domestic product (GDP), and employment across 109 input-output sectors and Territorial Authority boundaries (2023 boundaries). This analysis models productivity-driven output increases from agglomeration effects, meaning existing workers produce more value rather than new jobs being directly created. Any employment effects would be captured through indirect and induced effects as the increased productivity and income ripple through the economy.

Beyond the standard assumptions employed in input-output modelling, this analysis incorporates several important assumptions regarding spatial distribution, employment and household dynamics:

- We assume the Corridor will become increasingly economically self-sufficient over the long term as transport investments mature and baseline economic growth occurs. This assumption recognises that improved connectivity not only facilitates external economic relationships but also strengthens internal economic linkages within the Corridor itself. This aspect is discussed further below. The spatial distribution of economic assumptions differs for the Metro gravity and Central gravity scenarios (Figure A2.4).
- The Metro gravity scenario assumes that economic benefits will concentrate in the established metropolitan centres, reflecting their existing economic mass.
- As an alternative spatial distribution framework, the Central gravity scenario tests the implications of further development concentrated in the Corridor's geographic centre rather than its metropolitan endpoints.

[109] Pierpaolo Benigno et al., *Unemployment and Productivity in the Long Run: The Role of Macroeconomic Volatility*, (2015); Armon Rezai and Willi Semmler, *Productivity and Unemployment in the Short and Long Run*, (2008).

- The analysis adopts a dynamic approach to employment and population change that recognises the Corridor's capacity for growth rather than treating it as a closed system with fixed labour supply constraints. The model assumes that long-run unemployment rates remain constant at their natural levels. This assumption implies that employment increases generated by enhanced economic activity will be filled by new residents migrating to the region rather than simply reducing unemployment among existing residents. As our analysis is limited to the Corridor and the effects within, we do not assume origin regions (including international origin) of the new residents of the Corridor. These new households will have their own economic impact simply by living, working, and playing in the Corridor, which is also modelled.
- Employment figures generated by the ELM are produced at the territorial authority resolution (and subsequently disaggregated into towns). However, commuter data allows for precise estimation of where the residents reside (rather than where they are employed). The baseline commuter trends were sourced from a commuter origin destination matrix from Statistics NZ's Commuter Waka.[110] The model updates baseline commuting patterns based on changes in household utility resulting from travel time savings across the Corridor (as detailed in Figure 3.3). This approach captures how transport improvements can alter residential location decisions by changing the relative attractiveness of different communities for workers employed in various locations.
- It is important to note that this residential redistribution modelling focuses specifically on household responses to commuting cost savings and does not capture other factors that might influence residential choice, such as housing costs, amenities, or lifestyle preferences.

These assumptions work together to create a framework for understanding how transport infrastructure investments can reshape regional economic geography under different scenarios. The model recognizes that infrastructure improvements generate multiple types of spatial change: enhanced productivity through agglomeration effects, population movements in response to new opportunities, and changes in commuting and residential patterns.

Self-sufficiency changes

Under standard economic impact modelling, indirect and induced effects naturally "leak" outside the study region when local businesses purchase goods and services from suppliers located beyond the Corridor boundary, or when increased household spending flows to businesses outside the region.

[110] https://commuter.waka.app/

This reflects the current economic structure where the Corridor relies on external suppliers and services for portions of its supply chain.

The scenario assessment explores a development future where a portion of additional indirect and induced economic impacts that would traditionally flow outside the Corridor are instead redistributed back into the Corridor. Under this framework, a portion of the economic activities that would normally flow to suppliers outside the Corridor are instead captured by businesses within central Corridor communities. The internal economic linkages will strengthen over time due to baseline high growth future aided by transport improvements reducing transaction costs.[111]

The modelling achieves this by taking additional economic activity that corresponds to the Corridor's increased self-sufficiency levels and redistributing it according to different spatial assumptions. In the Metro Gravity scenario, this reassigned activity flows proportionally to Hamilton and Tauranga based on their existing economic shares. However, the Central Gravity scenario tests an alternative future where this additional self-sufficiency-driven activity is instead allocated to central Corridor communities such as Cambridge, Matamata, Morrinsville, and other locations, while constraining additional growth in the metropolitan endpoints to baseline levels.

The magnitude of this redistribution is calibrated based on the effective density improvements calculated for each community, ensuring that areas experiencing the greatest accessibility gains receive proportionally larger shares of redistributed economic activity (Figure A2.4).

Figure A2.4: Spatial distribution of Corridor self-sufficiency

Territorial Authority	Metro Gravity Scenario	Central Gravity Scenario
Waikato District	7%	16%
Matamata-Piako District	7%	15%
Hamilton City	29%	0%
Waipa District	12%	27%
South Waikato District	7%	17%
Western Bay of Plenty District	11%	26%
Tauranga City	27%	0%
Total	**100%**	**100%**

Internal-Net Migration

Another aspect of the scenario assessment is an assessment of how transport improvements might influence household residential location preferences, exploring a future where central Corridor communities become more attractive places to live as accessibility improves. To capture how

[111] Anthony T. Flegg and Timo Tohmo, *Regional Input–Output Tables and the FLQ Formula: A Case Study of Finland* (2013)

households might consider relocating to central Corridor areas that become more accessible through transport improvements, particularly if these areas offer housing cost advantages compared to metropolitan locations, the model applies internal migration elasticities to existing migration patterns within the Corridor.[112] For the Central Gravity scenario only, we apply an internal migration elasticity to the existing internal migration structure within the Corridor (annual average of 5 years between 2018 and 2023 based on 2023 census data) (Figure A2.5).

Figure A2.5: Annual Corridor internal migration flows – Central gravity scenario

	Residents Leaving	Residents Arriving	Annual Net Migration
Waikato District*	0	0	0
Matamata-Piako District	37	44	7
Hamilton City	237	168	-69
Waipa District	104	138	34
South Waikato District	15	14	-1
Western Bay of Plenty District	94	120	26
Tauranga City	206	209	3

** No travel time savings to Waikato District results in no flow changes*

The resulting net additional internal migration flows (presented in Figure A2.5) represent migration above and beyond baseline levels that would occur without the transport investments. The net migration totals reflect existing internal migration flows – for instance, Tauranga has a positive net migration flow with the majority of the Corridor, and this is reflected in a small positive net migration after elasticities are taken into account. This approach captures how enhanced connectivity within the Corridor might encourage residents to relocate to communities that become more accessible. It is worth noting that internal migration is often difficult to forecast and is dependent on a range of factors, therefore this assumption is only adopted for the Central gravity scenario which specifically is built to model a future where Corridor towns experience high growth futures. The modelling updates baseline commuting patterns to reflect these changing residential preferences, simulating the population redistribution that could occur as accessibility barriers are reduced.

[112] Florin Cucu, Roads, *Internal Migration and the Spatial Sorting of U.S. High-Skill Workers* (2025); Or Levkovich et al., *The Impact of Highways on Population Redistribution: The Role of Land Development Restrictions* (2017); "Waikato Expressway Shines a Spotlight on the South," *Lugtons*, (2022); "Transmission Gully's Big Winners and Lifelong Losers, Revealed | The Spinoff," accessed July 24, 2025

Appendix 3: Economic Linkages Model

The ELM is a proprietary model that has been developed to quantify and measure the economic activity and relationships within the New Zealand economy. In summary, the ELM measures the flows of money and goods through the economy, at a sector and subnational level.

The ELM records the interactions and relationships between actors in the economy, including businesses, households, government, exporters, and importers. The interactions in the ELM describe how each industry responds to changes in the economy, which ripple out to influence a range of other outcomes (e.g. household decisions).

The ELM measures the economy using a range of standard economic metrics, which includes gross output[113], GDP[114], value added, employment[115], incomes[116], consumption[117], tax[118], and trade. The model uses a subnational Input-Output Table that has been regionalised by Formative. This subsection outlines the nature of the Input-Output table, the underlying assumptions within the ELM and the key modelling steps.

The Subnational Input-Output Table (SIOT) has been developed by Formative to provide detail on the economic linkages between sectors and geographies within New Zealand. The table has been defined to include 109 economic sectors and 40 geographies.

The 109 'sectors' have been defined using New Zealand's standard industry classification (ANZSIC06), with each sector being defined by a grouping of industries based on cluster analysis of their supply chains and economic rationale. The 40 'geographies' have been defined according to either territorial or regional authority boundaries, with more disaggregation provided where there is more economic activity (e.g. upper North Island) and aggregation where there is less economic activity (e.g. West Coast of the South Island). The ELM used in the HEIAM has previously been provided to HCC, as part of a separate workstream. That version of the ELM is specified as follows:

- The SIOT has a base year of 2023.
- All transactions in the table are in 2023 dollars, and all economic impacts (for instance GDP, gross output, consumption, taxes) are also in 2023 dollars.

[113] Similar to company revenue.

[114] There is a key difference between GDP and value added. The value added of a sector is measured net of taxes (for instance GST) and subsidies on products. In the GDP in the national accounts for New Zealand product taxes (minus subsidies) are recorded for the economy as a whole and includes as part of the value added.

[115] Formative uses BED measure of Total Employment Count (TEC) which includes both employment count and working proprietors.

[116] Includes salaries, wages and profits.

[117] Including household and government.

[118] Including income taxes, GST, government transfers and subsidies.

- The SIOT is based on a national level 2020 Input-Output table released by Statistics New Zealand which has been converted to 2023 based on Statistics New Zealand national account data for 2023.[119]

The national level table has been regionalised using a hybrid approach. The hybrid approach of combining survey and non-survey (i.e. modelled) methods to regionalise an IO table which is considered the gold standard when an official SIOT is not available. The survey data sources used in generation of the SIOT include a range of customised datasets that Formative have purchased and developed:

- **Total employment**: Formative maintains a detailed database of employment, by geographies and industry (Business Employment Database, BED), which records the total employment in each of 506 ANZISC06 industry classes and for Statistics New Zealand's Statistical Areas, including both employees and working proprietors.[120]
- **Electronic Card Transactions**: Formative has purchased detailed electronic card transaction data from Marketview, which records the origin and destination of four retail and services spend types by the 40 geographies. [121]
- **Subnational Economic Data**: a range of information that provides valuable insight into the scale of economic activity that is located within each geography. This includes regional GDP, Gross Output and household income.

The above datasets have been combined along with non-survey regionalisation techniques to allocate the national economic activity into each of the geographies. The key method used to accomplish this is the Industry-Specific Flegg's Location Quotient (SFLQ)[122]. This method employs location quotients (LQ) to understand the specialisations and structure of regional economies compared to the national economy. The use of LQs has been known to understate the amount of regional trade, however the SFLQ approach combats this by allowing for industry specific rates of cross hauling (where regions both import and export a product or service).

This approach has been shown to create accurate estimations of regional multipliers and outperform other non-survey approaches.[123] The SFLQ method was supplemented by a gravity model to help inform regional flows. The SIOT has been calibrated to better match the relationships in the national

[119] This includes gross output by sector, and national subsidies, exports, imports, change in inventories, gross fixed capital formation, consumption spending (includes households, local and central government and non-profit expenditure), compensation of employees, taxes, consumption of fixed capital and operating surplus.

[120] Formative (2021) Business and Employment Database – Employment Count, Working Proprietors, Total Employment.

[121] Marketview (2021) Card transaction data – four spend types and 39 geographies for the 2019 calendar year.

[122] Julia Kowalewksi (2015) Regionalization of National Input–Output Tables: Empirical Evidence on the Use of the FLQ Formula, Regional Studies, 49:2, 240-250.

[123] Anthony T. Flegg, Leonardo J. Mastronardi & Carlos A. Romero (2016) Evaluating the FLQ and AFLQ formulae for estimating regional input coefficients: empirical evidence for the province of Córdoba, Argentina, Economic Systems Research, 28:1, 21-37.; Zhao, X., Choi, SG. On the regionalization of input–output tables with an industry-specific location quotient. Ann Reg Sci 54, 901–926 (2015).

Input-Output table and has been balanced using an iterative proportional fitting procedure to ensure that the table reflects regional gross output and input. The resulting SIOT table provides a modelled estimate of the relationships within the economy. This means that the economic linkages between sector-geography combinations as of 2023 are captured in the SIOT.

The ELM uses the SIOT to estimate the potential economic activity that can be expected from changes in the economy. All economic models apply assumptions because economies and communities are too complex to replicate exactly in a mathematical system. The structure of the ELM utilises the following assumptions:

- Leontief production function, which assume linear relationships between the production and inputs. This means change in the output for an industry will translate into a proportional change in demands for inputs.
- No supply constraints, which assumes that businesses can source sufficient resources (labour, capital, land, etc) to meet new demands.
- Constant returns to scale, which means that there are no economics of scale or diminishing returns in the model.
- Static prices, which assumes that prices remain at 2023 values. The model does not account for substitution effect or dynamic feedback from changes in demand and prices.

Appendix 4: Transport Projects Summary – H2T Corridor

Investment	Mode	Status	Stage	Delivery Timeline	Stated Benefits	Source of Benefits
Hamilton Southern Links	Road	Investment case development	Planning (investment case to NZTA Board Sep 2025)	Unclear – funding for planning and property only	Strategic freight corridor; safety and connectivity	GPS 2024; Fast-Track Schedule 2
Ruakura Eastern Transport Corridor	Road	Funded for design and consenting	Design	2027–2030	Improved freight connectivity to Ruakura Superhub	NLTP 2024–27
Cambridge to Piarere (C2P)	Road	Consenting underway via EPA	Design / Approvals	2030–2035 (possibly earlier under Fast-Track)	2.2 min travel time saving; 90% fewer disruptions	2021 Business Case
SH29 Piarere to Tauriko Improvements	Road	Partially underway (some elements)	Planning / Construction (partial)	Some upgrades by 2026; others post-2030	3.6 min travel time saving; fewer road closures	2016 Business Case; 2018 Re-evaluation
SH29/29A Tauriko West Western Corridor	Road	Staged approvals pending	Planning / Design	Uncertain – staged investment decision	Enables growth; improves travel time and safety	SmartGrowth; RLTP; NZTA info
Tauranga Central Corridor – Port Connections	Road	Stage 1 complete; Stage 2 revised scope	Stage 1 (complete), Stage 2 (re-scoped); other port links planning	To 2031 (Mount Maunganui); Cameron Road revised	Enables housing, freight separation, port access	Council reports; NLTP 2021; IAF/IFA options

Investment	Mode	Status	Stage	Delivery Timeline	Stated Benefits	Source of Benefits
Takitimu North Link	Road	Stage 1 underway; Stage 2 fast-track listed	Stage 1 (Construction); Stage 2 (Planning)	Stage 1: by 2028; Stage 2: TBD	Freight efficiency, safety, congestion relief	UFTI; Fast-Track Schedule 2
ECMT Rail Corridor Upgrades	Rail	Incremental improvements only	Track renewal & resilience works	2024–2027 (no major upgrades funded)	Future freight growth; potential electrification	FutureProof; 2016 Capacity Study
Hamilton–Tauranga Passenger Rail	Rail	Exploratory only; no funding	Conceptual / Exploratory	No committed timeline	Not assessed; potential PT connectivity	FPP / SmartGrowth 2020 report
Port of Tauranga – Stella Passage	Port	Fast-Track referral lodged (2025)	Consenting	TBD (indicative 2028–30)	Enables larger vessels; increases port capacity without land footprint expansion	Fast-Track application (2025); Port strategy docs
Port of Tauranga – Inland freight access & separation	Road/Rail	Conceptual / staged	Planning	Phased to 2031	Frees up city traffic; improves port-freight flow (Hewletts/Hull/Totara upgrades)	SmartGrowth Strategy; NLTP; Council reports