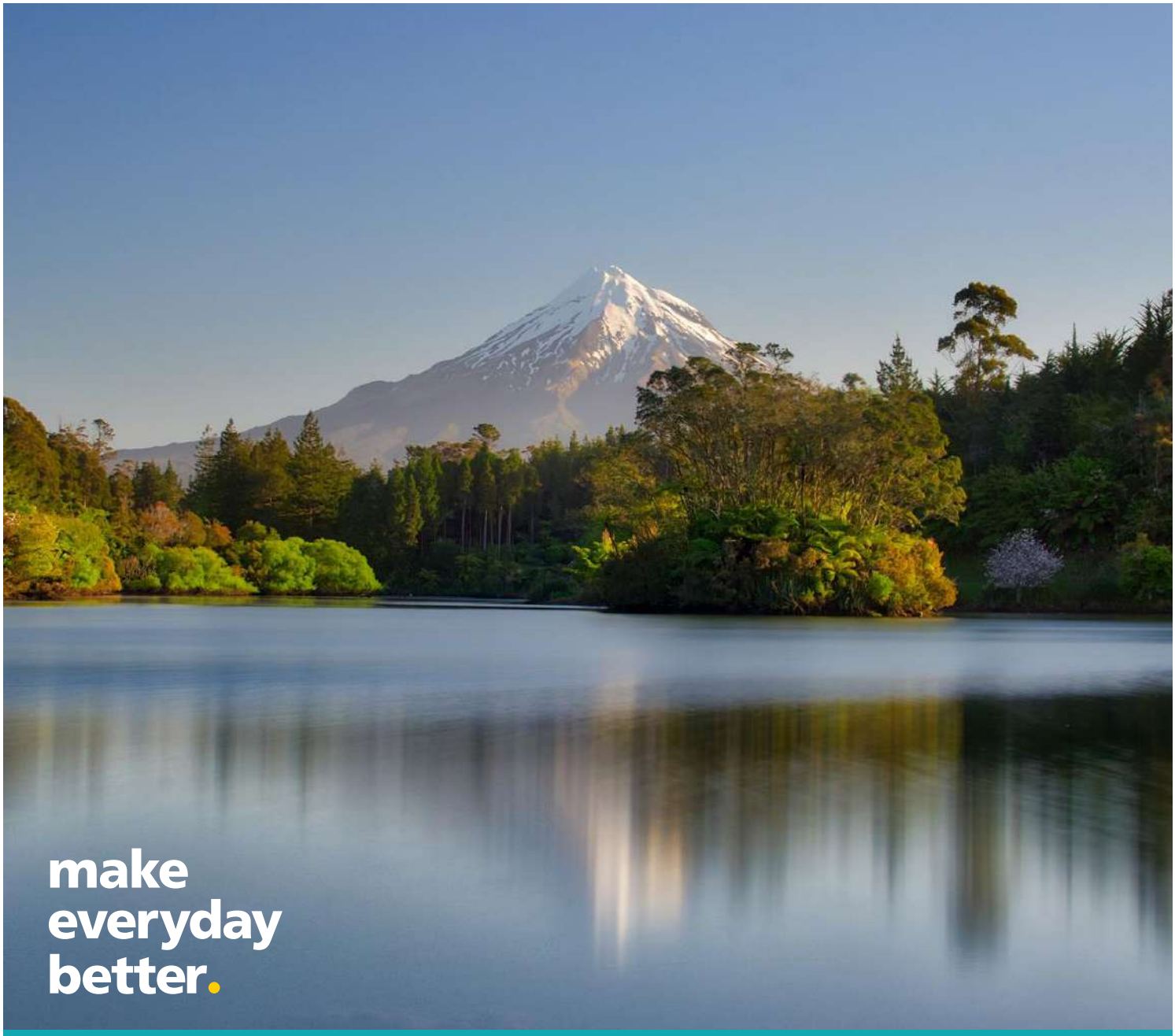
Integrated Transport Framework

Programme Business Case

Prepared for New Plymouth District Council

Prepared by Beca Limited

26 March 2024



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Contents

Appendices

Revision History

Revision Nº	Prepared By	Description	Date
0.1	Anne Jacobsen and Michael Town	Strategic case draft for client review	17/03/2023
0.2	Megan Taylor, Michael Town, and Michael Sewell	Programme business case draft for client review	31/08/2023
0.3	Megan Taylor and Michael Sewell	Programme business case second draft for client review	20/09/2023
0.4	Megan Taylor and Michael Sewell	Programme business case third draft for peer review	27/09/2023
1.0	Michael Town and Michael Sewell	Final programme business case	23/01/2024
1.1	Michael Town	Updated for draft 2024 GPS	26/03/2024

Document Acceptance

Action	Name	Signed	Date
Prepared by	Michael Sewell and Michael Town		15/01/2024
Reviewed by	Megan Taylor		22/01/2024
Approved by	David Silvester		22/01/2024
on behalf of	Beca Limited		

Executive Summary

Draft subject to Council approval

Integrated Transport Framework: Programme Business Case

New Plymouth District Council

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New Plymouth Integrated Transport Framework

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What and Why?

New Plymouth is a growing district and there are significant opportunities to improve the transport network to align with the future needs of the district and its people. The purpose of the New Plymouth Integrated Transport Framework (ITF) Programme Business Case (PBC) is to demonstrate the case for change to establish a comprehensive and integrated transportation system for the New Plymouth District over the next 30 years.

The ITF is a PBC that outlines the problems and benefits, the evidence to support the problems and the decision-making process that has led to the selection of a preferred option.

This document has been substantively prepared under the 2021-24 Government Policy Statement on Land Transport (GPS). With the change in Government in late 2023, a new GPS covering 2024-34 has been prepared. While some of the priorities are similar, such as road safety, resilience, and economic growth, there has been a change in emphasis towards maintenance, value for money and increased productivity.

These changes include shifting from a focus on reducing vehicle-kilometres travelled and emissions to making journey times more efficient, increasing public transport patronage, improving access to markets and employment areas, improving housing supply, and making better use of existing capacity. This, along with other Government policies, are still expected to reduce emissions over time but will while supporting economic growth and productivity.

As a result, the PBC has been updated to reflect the changes in the 2024-34 GPS, and feedback on the affordability of the programme to fit in with the New Plymouth District Council's Long Term Plan and 30 year Infrastructure Strategy.

PBC Process

The ITF has been developed following the PBC process outlined below. The PBC team have worked closely with key stakeholders and the community to understand a broad range of views and priorities in the option development phase. Transport modelling was also used to develop, test and rank different short list options against the key performance indicators (KPIs).

Strategic case What is the compelling case for change?	Economic case Does the preferred option optimise value for money?	Commercial case Is the proposed Option commercially viable?	Financial case Is the investment proposal affordable?	Management case How can the proposal be delivered successfully?
Develop (or refine)	Develop	High-level only – completed in activity-level business case	High-level only – completed in activity-level business case	High-level only – completed in activity-level business case

Source: Programme business case phase (NZTA website)

Strategic Priorities

The strategies and priorities of the project partners on a national and regional level have been summarised into the following four areas.

- **Better Travel Options**: Mode Shift; Equitable Accessibility
- **Climate Change**: Climate Resilience; Emission Reduction; Environmental Sustainabilitiy
- **Economic Prosperity**: Freight Access; Sustainable Development; Enabling Economic Growth
- **Safety and Health**: Safety for All Modes; Healthy People; Community Needs

The New Plymouth District

The New Plymouth Proposed District Plan and Infrastructure Strategy outline a number of over-arching objectives for the future of the New Plymouth District.

A growing District

- There is a need to house 18,200 more people by 2051

A sustainable lifestyle capital

- Community - support community wellbeing by creating a safe, creative, active and connected environment that embraces Te Ao Māori
- Sustainability - nurture and mitigate the impacts on the environment while also adapting to climate change
- Prosperity - grow a resilient, equitable and sustainable economy

Reponding to change

- Transport emissions contribute to climate change and poor personal health outcomes
- Many places in the District are within close proximity to coastal and river environments

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Problem Statements

Following an Investment Logic Mapping workshop with key project partners and stakeholders, four key problems were identified that encompass they key transport issues in the New Plymouth District.

Public transport (PT) is not competitive with private vehicle travel or convenient to access by active modes resulting in low public transport use and poor customer experience **(35%)**

0.5% of New Plymouth catch the bus to work

12.9% of New Plymouth catch the bus to education

The bus is typically 17mins slower to access the CBD compared to driving

Buses typically only depart every 1-2 hours

Locals identified numerous barriers to using PT in a 2023 survey

Key employment hubs like Waiwhakaiho-Bell Block South and Westown have limited PT connections

Most urban areas have low density residential developments that make access by public transport, walking and cycling difficult resulting in high dependency on private vehicles and increasing transport costs for the community that especially impact lower socio-economic groups **(30%)**

The District features mostly low-density housing

Many development areas are on the outskirts of town with limited PT or active mode connections

The cost of owning a car is a major household expense ($215 a week in 2019) and is increasing

People living further away from New Plymouth who likely rely on driving have lower median incomes

80% of people use a car to get to work in the District, higher than the NZ average

The network is configured to prioritise private vehicles and road freight over other modes resulting in issues across the city and towns including severance (particularly for centres on state highways, between communities and the coast, and residential areas with key destinations), and declining amenity (noise, dust, and pollution). **(20%)**

Highways and Arterial roads across the District also serve as key activity and people focussed streets

Places like SH45 and Bell Block where people want to walk or cycle for work or education are restricted by busy roads with no crossing facilities

Traffic volumes on many highways through the District have over 12,000 vehicles a day using them and mean speeds of well over 30km/h where people are expected to cross

1,200 trucks travel through the centre of New Plymouth every day

The current active mode transport networks (walking, cycling, and micro-mobility) are fragmented and have unsafe connections resulting in safety issues, poor perception of the network and low active mode uptake **(15%)**

- The New Plymouth cycle network has significant gaps and unsafe existing facilities that discourage people from riding
- The Network Operating Framework report showed many pedestrian level of service gaps making it difficult to walk around the District urban areas

- There have been 184 crashes involving active mode users in the past five years (2018-2022)
- User counts are high on good quality facilities like the Coastal Walkway, but low everywhere else.

Resident perception surveys show declining satisfaction with the footpath and cycle network

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Project Benefits and Interventions

The preferred programme is expected to deliver on the following four investment benefits, and some of the listed interventions.

Public transport (PT) is accessible, convenient and the preferred mode of transport for many (30%)

- Align PT routes with destinations and improve accessibility
- Improve PT frequency and level-of-service
- Improve PT infrastructure and travel time
- Reduce the need to travel where PT is less viable

Decreased reliance on cars as the primary mode of transport and increased walking, cycling and PT use (35%)

- Compact urban form
- Improve access to lower cost modes
- Resilient network connections at pinch points

Improved access to amenities (coast, schools and services) and employment along engaging and enjoyable transport corridors (15%)

- Reconfigure streets for movement and place by reallocating space
- Support lower-emission transport
- Safe road connections
- Travel demand and behaviour management

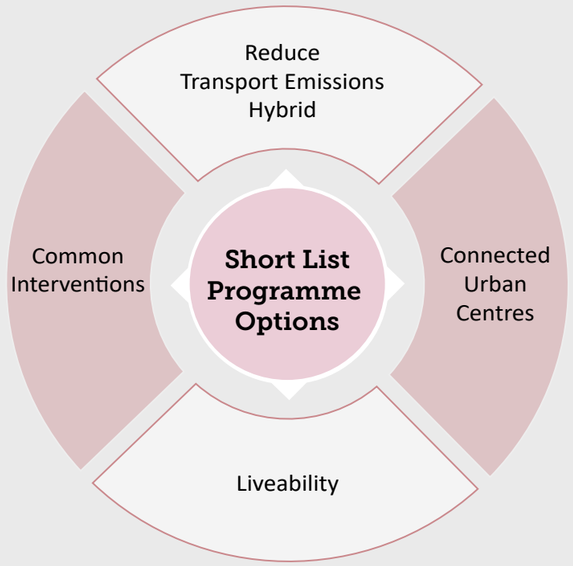
A safe and connected city and towns to walk and cycle with active and healthy communities (20%)

- Complete the urban cycle network
- Improve active mode accessibility and attractiveness
- Improve safety for existing facilities

Short List Options

At the short list stage, four programme options were considered, which were tested with project partners and stakeholders.

These were the three options taken forward from the long list stage, as well as a new 'Common interventions' option that combined all of the common elements from the three unique short list options.



Selecting a Preferred Option

Transport modelling data, economic analysis and subject matter experts informed the Multi Criteria Analysis, which was used to select the preferred option.

The preferred option 'Connected urban centres' had the highest average MCA ranking following the sensitivity testing. The scheduling of this programme was then improved to increase affordability as detailed on the next page.

Programme Option Ranking

		Common Interventions	Liveability	Connected Urban Centres	Reduce Transport Emissions Hybrid
Baseline Weighting		4th	3rd	1st	2nd
Sensitivity Scenario	Access 1	4th	2nd	1st	3rd
	Access 2	4th	2nd	1st	3rd
	Climate 1	4th	3rd	2nd	1st
	Climate 2	4th	3rd	2nd	1st
Average ranking		4	2.6	1.4	2.0
40-year Discounted Cost	P5 cost ($M)	315.2	508.8	689.7	499.4
	P50 cost ($M)	372.1	637.0	871.1	613.9
	P95 cost ($M)	499.3	889.6	1,216.6	842.0

What we Heard

Following stakeholder and community feedback, the most and least prioritised initiatives for each project benefit/challenge are shown below.

Benefit/Challenge	Most prioritised initiative	Least prioritised initiative
Improve public transport	Increasing the frequency of public transport and infrastructure	Increasing parking fees
Adapt to urban development along our coast	Connecting public transport to key destinations and a seperate route for freight	Increasing road capacity
Enable reduced reliance on private vehicles and freight	Increasing accessibility around the district and shifting road freight to other modes	Reducing transport emissions and using alternative fuel
Fix our fragmented active travel network	Improving existing road connections, bridges and raised crossings	Reducing the road speeds

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Preferred Option

The preferred option from the short list stage was refined to improve programme affordability while still delivering similar outcomes. This was achieved by changing the scheduling of the costed interventions to smooth the annual and total programme costs while maintaining the critical path of the costed interventions to deliver the desired outcomes. The refined preferred option has a 30-year non-discounted cost of **$1,123.1M**.

Assessment Stage	Programme Option	40-year Discounted Cost		
		P5 cost ($M)	P50 cost ($M)	P95 cost ($M)
Preferred Option	Connected Urban Centres Hybrid	567.6	717.2	999.4

Preferred Programme 40-year Discounted Benefits	
Traffic travel time and reliability	251.6
Vehicle operating costs	27.1
Public transport travel time and reliability	1078.9
Crash reductions	27.1
Cycling travel time and user health	828.9
External impacts of emissions	17.8

Assessment Stage	Programme Option	BCR	Sensitivity Testing	
			Lowest BCR	Highest BCR
Preferred Option	Connected Urban Centres Hybrid	3.2	1.5	4.8

Next Steps

Aside from minor interventions already underway, next steps for the programme include follow-on studies to explore interventions in greater detail.

Studies in the first three years of this programme align with the Government Policy Statement on land transport 2024, as they focus on improving network productivity and reliability, providing better low-emission transport options, and enabling better housing supply.

Collaboration between NPDC TRC and NZTA will be required to deliver this programme as funding priorities may change over time. An increase in investment will be required from all parties to achieve the expected benefits of this programme.

Follow-on Studies Focuses
Public transport services detailed business case
Strategic upgrade priorities
District-wide One Network Framework classification
Network Operating Framework Update
District-wide active mode upgrade package investigation
Separated cycleway indicative business case and detailed business cases
Parking strategy
Identifying land use changes to support intensification and housing supply
Regional active mode connections
Road pricing strategy
Western Ring Route indicative business case

The Future Benefits

A selection of the Key Performance Indicators (KPIs) have been shown across the different modes to give an indication of the expected programme benefits.

The KPIs indicate benefits for all road users, including cars and freight, as a result of the projected mode shift and transport infrastructure interventions.

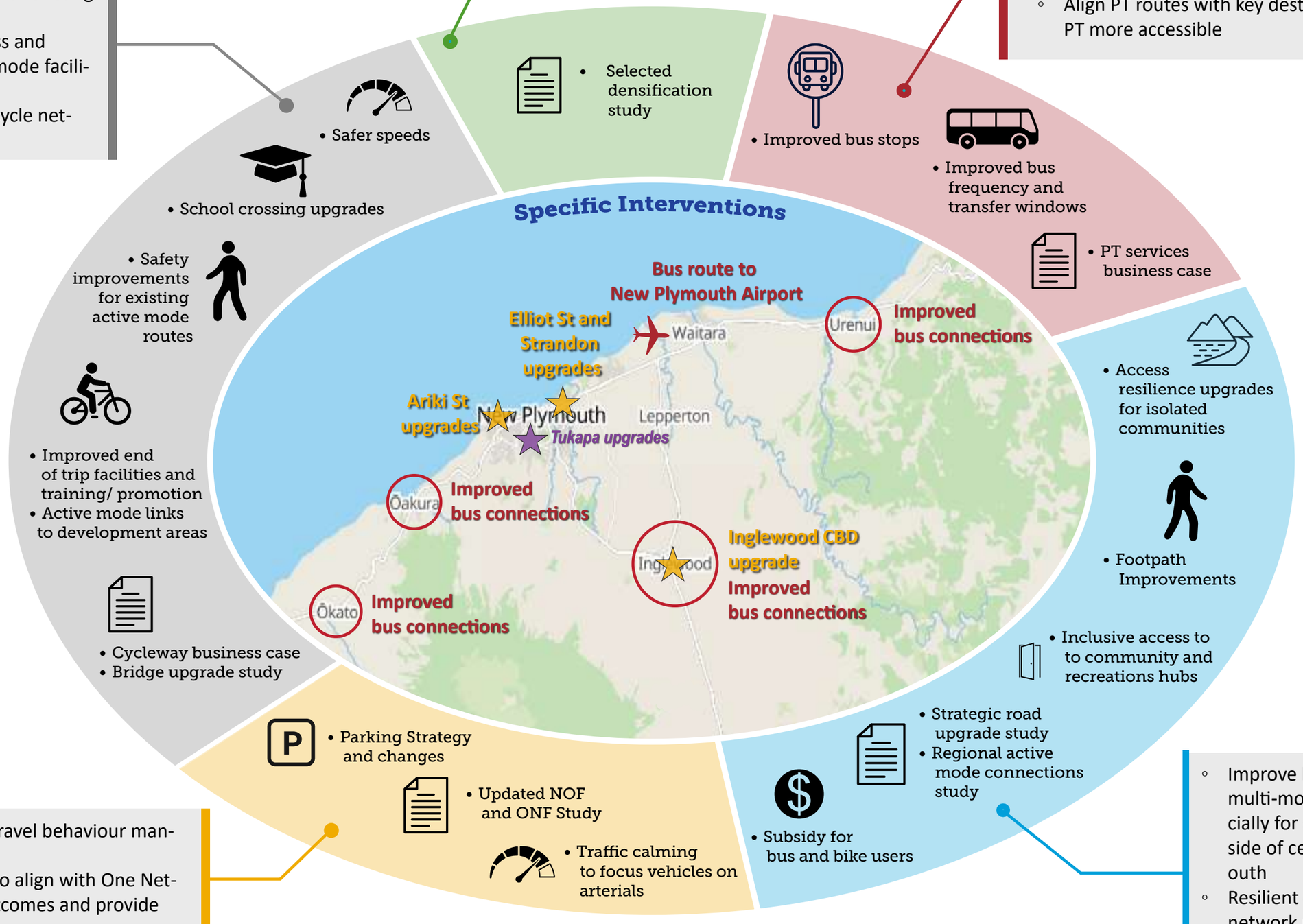
Investment Objective	KPI	2035		2053	
		Do Minimum	Preferred Programme	Do Minimum	Preferred Programme
Improve public transport network access, reliability, and travel times	KPI 3: % of population within 400 metres PT walking catchments.	57.2%	57.2%	55.5%	57.5%
	KPI 4b: PT mode share for AM journey to school trips	13.9%	17.7%	13.5%	28.2%
Reduce private vehicle reliance and transport related emissions and increase mode shift	KPI 5: Tonnes of CO2E (change compared to do-minimum)	-	-6%	-	-15%
	KPI 6b: VKT (change compared to do-minimum)	-	-4%	-	-15%
	KPI 7: PT mode share for journey to work trips	0.7%	6.4%	0.7%	19.6%
Positive impact on local centres, network productivity and utilisation	KPI 10: PT travel time minus car travel time (Average of 4 Origins to CBD in mins)	17	13	16.7	7
	KPI 13a: % of freight on non-arterial corridors	76.5%	76.1%	75.1%	77.3%
	KPI 13b: Freight travel times from east to port (change compared to do-minimum in mins)	-	-0.1	-	-1.6
Improve the safety and attractiveness of active mode networks for all users	KPI 14: Annual deaths and serious injuries for cyclists	2.88	1.4	3.72	0.92
	KPI 15: % of primary cycling network that is safe and separated	13%	23%	13%	29%

Preferred Option - Short Term

- Safety Improvements for existing active mode facilities
- Improve attractiveness and accesibility of active mode facilities
- Complete the urban cycle network

- Increase population density in areas close to key urban centres and destinations
- Reduce the need to travel where car alternatives are less viable

- Improve public transport infrastructure and travel time to make PT more attractive and accessble
- Improve PT frequencies, and LOS to make PT a more attractive option
- Align PT routes with key destinations and make PT more accessible



- Travel demand and travel behaviour management
- Reconfigure streets to align with One Network Framework outcomes and provide facilities for all modes

- Improve lower cost multi-modal access, especially for communities outside of central New Plymouth
- Resilient connections at network pinch points for all modes

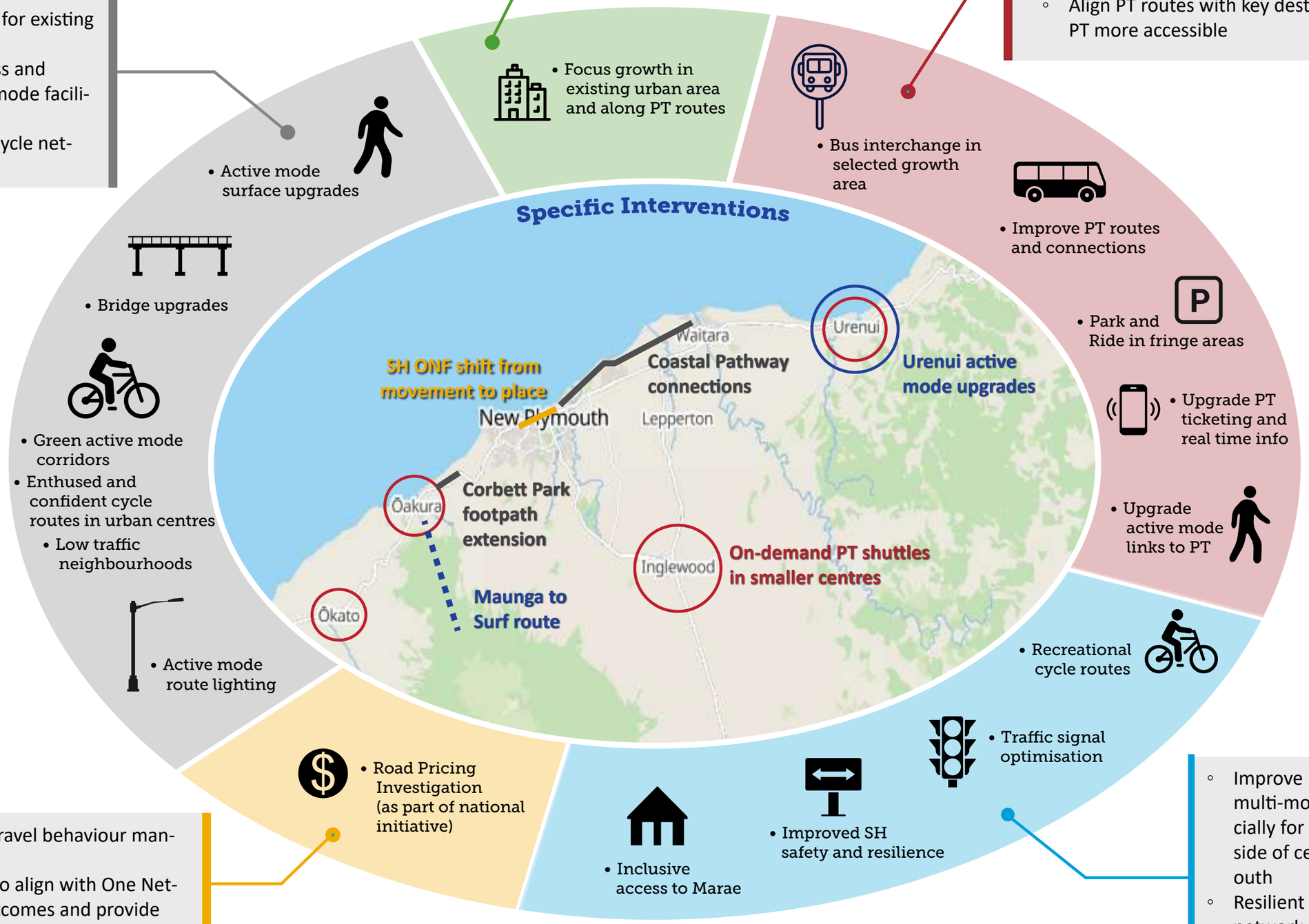
Preferred Option - Medium Term

Note all interventions in the medium term will proceed pending further investigation in the short term

- Safety Improvements for existing active mode facilities
- Improve attractiveness and accesibility of active mode facilities
- Complete the urban cycle network

- Increase population density in areas close to key urban centres and destinations
- Reduce the need to travel where car alternatives are less viable

- Improve public transport infrastructure and travel time to make PT more attractive and accessble
- Improve PT frequencies, and LOS to make PT a more attractive option
- Align PT routes with key destinations and make PT more accessible



- Travel demand and travel behaviour management
- Reconfigure streets to align with One Network Framework outcomes and provide facilities for all modes

- Improve lower cost multi-modal access, especially for communities outside of central New Plymouth
- Resilient connections at network pinch points for all modes

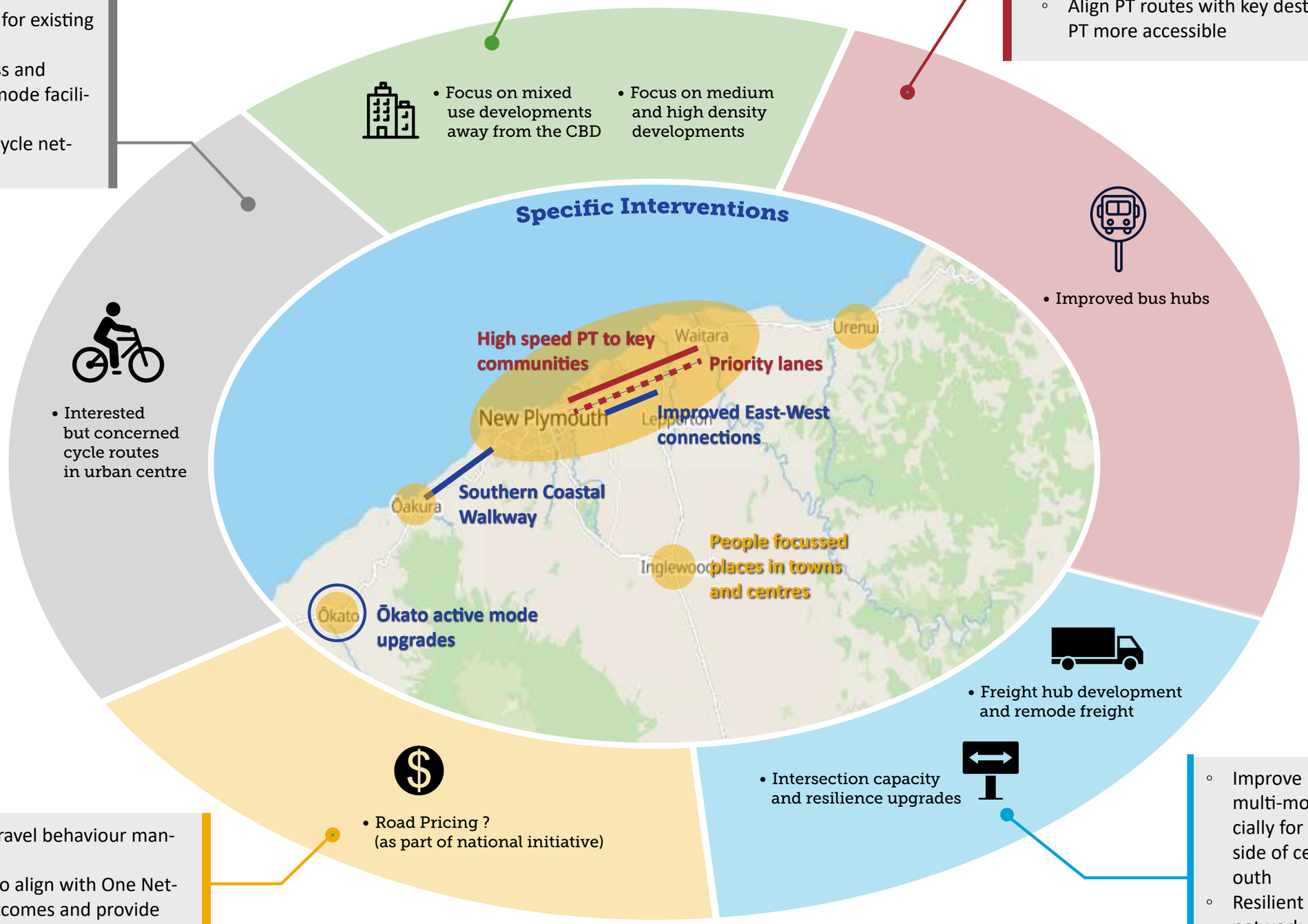
Preferred Option - Long Term

Note all interventions in the long term will proceed pending further investigation in the medium term

- Safety Improvements for existing active mode facilities
- Improve attractiveness and accesibility of active mode facilities
- Complete the urban cycle network

- Increase population density in areas close to key urban centres and destinations
- Reduce the need to travel where car alternatives are less viable

- Improve public transport infrastructure and travel time to make PT more attractive and accessble
- Improve PT frequencies, and LOS to make PT a more attractive option
- Align PT routes with key destinations and make PT more accessible



- Travel demand and travel behaviour management
- Reconfigure streets to align with One Network Framework outcomes and provide facilities for all modes

- Improve lower cost multi-modal access, especially for communities outside of central New Plymouth
- Resilient connections at network pinch points for all modes

PART A – STRATEGIC CASE

1 Introduction

New Plymouth District Council (NPDC) require an Integrated Transport Framework (ITF) to shape and implement transport system improvements in the New Plymouth district that deliver improved social, economic and environmental outcomes over the next 30 years. Beca Ltd (Beca) is supporting NPDC in the development of this framework, which forms a Programme Business Case (PBC). This document begins by setting out the Strategic Case for the PBC and defines the problems, benefits and investment objectives that will inform the next stages of the PBC. The next stages are described in Part B: Developing the programme (economic case) and Part C: Preferred programme (management, financial and commercial cases).

This document has been substantively prepared under the 2021-24 Government Policy Statement on Land Transport (GPS). With the change in Government in late 2023, a new GPS covering 2024-34 has been prepared. While some of the priorities are similar, such as road safety, resilience, and economic growth, there has been a change in emphasis towards maintenance, value for money and increased productivity. The Government's expected outcomes are now:

- Economic growth and increased productivity,
- Increased maintenance and resilience,
- Improved safety; and,
- Value for money.

These changes include shifting from a focus on reducing vehicle-kilometres travelled and emissions to making journey times more efficient, increasing public transport patronage, improving access to markets and employment areas, improving housing supply, and making better use of existing capacity. This, along with other Government policies, are still expected to reduce emissions over time but will while supporting economic growth and productivity.

As a result, the PBC has been updated to reflect the changes in the 2024-34 GPS, and feedback on the affordability of the programme to fit in with the NPDC's Long Term Plan and 30-year Infrastructure Strategy.

1.1 Purpose

The purpose of the Strategic Case is to demonstrate the case for change and establish a comprehensive and integrated transportation system for the New Plymouth district over the next 30 years with an agreed programme of work that delivers on the objectives of the regional partners.

The Strategic Case outlines the problems and benefits to improving New Plymouth's transportation system and investigates the existing evidence that supports the problems. Further, the document establishes investment objectives and key performance indicators to guide programme development and evaluate success of the investment over time.

This document has been prepared in accordance with the principles outlined in the New Zealand Transport Agency Waka Kotahi (NZTA) Business Case guidelines and is supported by transport modelling outputs where appropriate.

1.1.1 Context for the Strategic Case

New Plymouth is a growing district and there is a need to support population growth with the appropriate infrastructure that also delivers sustainable outcomes. The NPDC Infrastructure Strategy 2021-2051[1] has four objectives:

- Taking care of what we have.
- Resilience and responding to climate change.
- Planning for growth.
- Meeting the needs of our community and reducing our impact on the environment.

These objectives are relevant to the investigations which are a part of this Strategic Case as it will confirm the transport investments needed to support the New Plymouth community to achieve their goals. The evidence-based decision making will aim to maximise the value of key assets for customers as this Strategic Case will outline a sound rationale for investments into the district's transport assets. Additionally, New Plymouth's Proposed District Plan has made it a priority to plan for growth as outlined in Urban Form and Development (UFD) as a part of the district's strategic direction. The strategic objectives of the UFD focus on providing feasible development capacity for 10,919 dwellings as well as confirming the district has vibrant and viable centres accommodating leisure, cultural, entertainment and social interaction experiences. This residential growth will result in a corresponding growth in employment in the district and a need to understand where this growth will occur so that there are strong transport connections. There is also a focus on liveable urban environments, connected, accessible, safe, and well-designed spaces for the community to live, work and play.[2]

These planning and corresponding infrastructure actions support a shift towards planning and building low-emission urban areas; characterised by more mixed use, and selected medium and high-density developments, with good access to jobs, amenities and services, that are well connected by a range of transport modes.

The UFD emphasises the importance of responding to climate change. This becomes especially evident as New Plymouth, like many other cities, has challenges with high mode share for fossil fuelled private vehicles among their population which releases emissions contributing to climate change and other impacts such as air quality, poor personal health and safety outcomes. New Plymouth's geographical location, being close to the coast and north of Mount Taranaki, means parts of the district are at-risk to rising sea-levels and high rainfall, which could cause devastation to the city's infrastructure and communities. For this reason, New Plymouth's commitment to meeting the needs of the community and environment is key in achieving a thriving city.

The Long-Term Plan 2021-2031 developed by NPDC sets out a plan to achieve the vision of New Plymouth being a Sustainable Lifestyle Capital as well as addressing the challenges the district is facing. The key goals are Ngāmotu tū ngātahi (*Community*), Oranga taiao, oranga tangata (*Sustainability*) and Te pai me te rawa o Ngāmotu (*Prosperity*). The goal around *Community* outlines the council's commitment to helping the community achieve wellbeing by building a safe, creative, active, and connected community which embraces Te Ao Māori. The plan also includes funding of trails and walkway extensions that will better connect communities. For *Sustainability*, the council seeks to nurture and mitigate the impacts on the environment while also adapting to climate change. This includes a programme of planting in parks as well as moving towards a low emission vehicle fleet. The goal around *Prosperity* talks to the council's desire to grow a

[1] https://www.npdc.govt.nz/media/vkfmpi3z/infrastructure-strategy-2021-2051.pdf

[2] https://districtplan.npdc.govt.nz/eplan/rules/0/180/0/0/0/126

resilient, equitable and sustainable economy. This will promote a district where people want to work, live, learn, play, and invest.[3]

As the Infrastructure Strategy 2021-2051 brings out the importance of partnership with Iwi this provides an opportunity of including Tangata Whenua into the Business Case process to best ensure the role Māori play in relation to decision making is present.

1.2 Project Area

The project area of this Strategic Case is the entire New Plymouth District as outlined in **Figure 1-1**. Note some different areas of the district may have different focuses, challenges and solutions related to the transport system.

[3] https://www.npdc.govt.nz/media/uqvnf5cq/appendix-1-long-term-plan-2021-2031.pdf

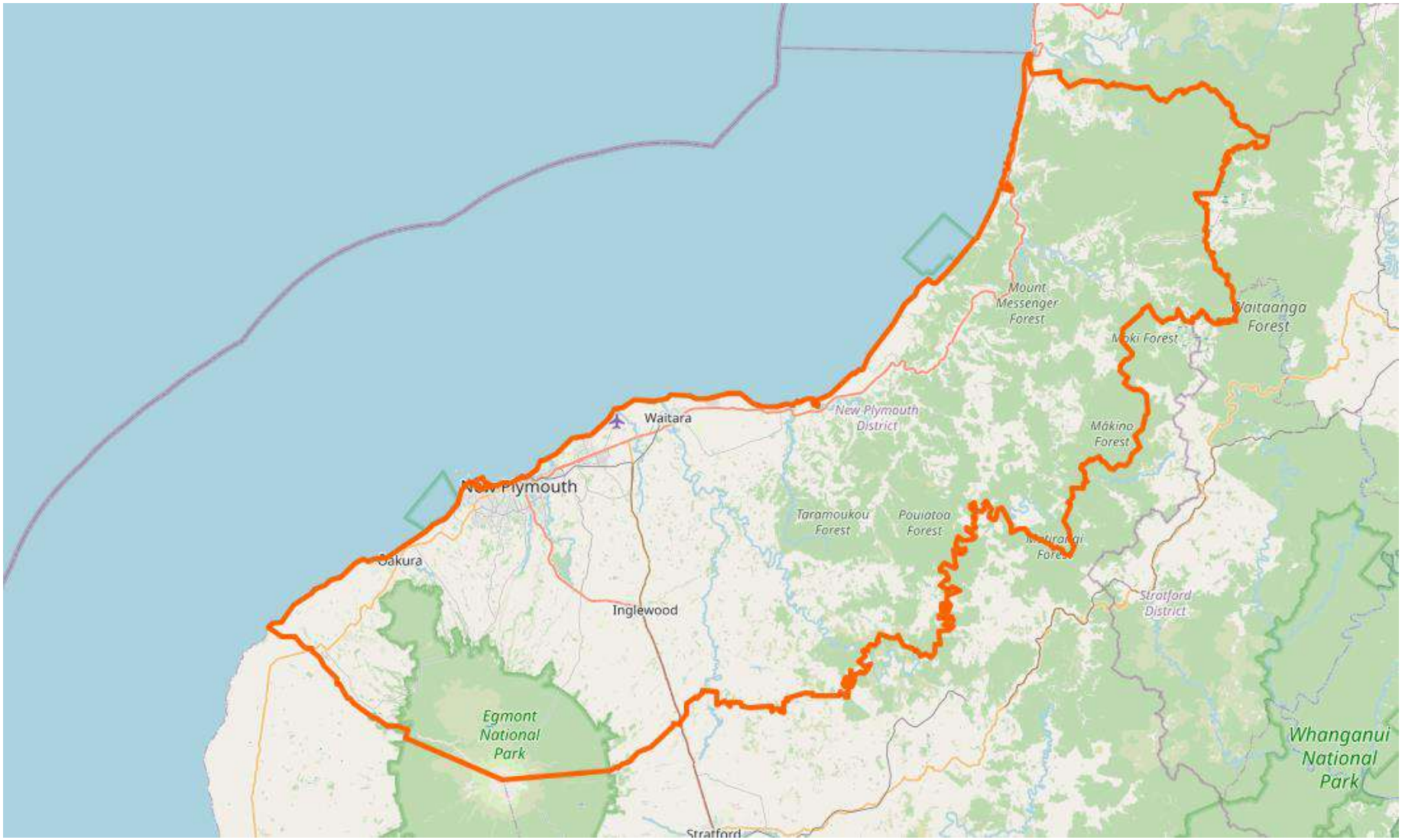


Figure 1-1: New Plymouth District Boundary

1.3 Previous Studies

The transport network in and around New Plymouth has been the subject of several studies in recent years. The most recent and relevant are summarised below.

1.3.1 Point of Entry 2021

The Point of Entry (POE) for NPDC to undertake an Integrated Transport Strategic (ITS) Plan was approved by NZTA in October 2021. The POE identified the scope of the ITS as:

> *The outcome for this project would be an agreed ITS plan to address the needs of growth and future transport network demand within the New Plymouth district. The strategic plan would apply new national tools (such as ONF), develop transport modelling capability, identify key strategic moves and interventions and develop an agreed programme of work.*
>
> *The transport modelling capability is necessary to support decisions on strategic infrastructure and service investment in NPDC's transport network over the next 30 years and assess the impacts of different significant intervention scenarios.*

On approval, funding was confirmed and the PBC was recommended as the next phase of work. The POE is provided in **Appendix A**.

1.3.2 New Plymouth Transport Strategic Case 2016

The 2016 Strategic Case demonstrated a strong case for investment to:

- support future growth,
- improve connectivity and reduce severance of the transport network; and,
- improve active mode links and their safety.

Although the Strategic Case 2016 was well received, a full PBC was not developed because of time constraints and the identified need for an ITF. The strategic direction of the Ministry of Transport Te Manatū Waka (MoT), the Government Policy Statement (GPS) on Land Transport, has since changed. Additionally, there was no involvement of local Iwi in the Strategic Case in 2016. Therefore, the Strategic Case is being updated to better align the New Plymouth District's transport future with the new GPS on Land Transport, integrate local Iwi perspectives, and provide opportunity for all project partners to contribute.

1.3.3 Walking and Cycling Strategy 2007

The 'Regional Walkways and Cycleways Strategy for Taranaki' provides a framework for developing and implementing a range of walking and cycling initiatives across the region[4]. The long-term vision of the strategy was "To provide greater transport choice and opportunities for people to discover and enjoy Taranaki's unique environment through walking and cycling."

The strategy is considered outdated as it was published in 2007. However, the Walking and Cycling Strategy will be updated through the Better Travel Choices Strategy (BTCS) work undertaken by the Taranaki Regional Council (TRC). The BTCS will replace the Regional Walkways and Cycleways Strategy and the Taranaki Regional Public Transport Plan. The primary objective of the BTCS will be to offer direction for the region's public transportation network and development schemes over the next decade.

[4] https://www.trc.govt.nz/assets/Documents/Plans-policies/Transport/walk-cycleways.pdf

1.3.4 Ngāmotu New Plymouth City Centre Strategy 2021

The Ngāmotu New Plymouth City Centre Strategy outlines the direction for the city centre over the next 30 years in response to changes in retail, business, and leisure. This strategy aims for the city centre to become a thriving cultural, leisure, and community hub with a diversity of experiences for residents and visitors to enjoy by 2050. This strategy also aims for walkable neighbourhoods with a greater mix of residential options. The presence of Ngāti Te Whiti and Te Atiawa is intended to be visible, acknowledging the past, present, and future. The vision of the strategy is supported by five goals, principles, and key moves to address challenges and opportunities and set a strong pathway for lasting change.[5]

1.3.5 Accessibility Strategy 2021

In 2021, NPDC completed their Accessibility Strategy[6] with the strategic vision that "NPDC Provides Equitable Services for All of Our Communities". NPDC aim to champion an inclusive society promoting social, economic, environmental, and cultural well-being of their communities. For this reason, their purpose is to reflect the accessibility of the district's built environments, communications, democratic process and provisions of services and events fundamental to all four of the above-mentioned well-being areas. The strategy has three goals:

1. Council services, facilities and assets are accessible to people with a wide range of abilities.
2. Council staff are aware of accessibility in the community and receive appropriate training.
3. Council are active champions of an inclusive society.

1.3.6 Network Operating Framework 2020

The New Plymouth Network Operating Framework (NOF) prepared in 2020 intended to integrate all transport modes with land use and link strategic directions to the planning and operation of the transport network. The framework identified both how the network should be managed, and performance gaps between the existing and future aspirational state of the transport network.

The NOF recommended several interventions to be implemented as part of the ITF. These include the following improvements:

- Elliot Street lane layouts and reconsideration of freight routes past the CBD.
- Changes to Devon Street East to align with the Strandon and Fitzroy Village environments.
- Relocation of the City Centre bus depot.
- Severance improvements in the CBD.
- Resilience of the Waiwhakaiho river crossing.
- Safety issues along Devon Street West.

1.3.7 Speed Management Plan 2022

In 2022 NPDC submitted their Interim Speed Management Plan to NZTA. This plan included speed limit reductions staged over three NLTP periods (9 years), as well as infrastructure improvements to support the proposed speed limits.

[5] https://www.npdc.govt.nz/planning-our-future/ngamotu-new-plymouth-city-centre-strategy/

[6] https://www.npdc.govt.nz/media/opajo5sx/accessibility-strategy.pdf

2 Strategic Context

2.1 Partner Overview

2.1.1 New Plymouth District Council

NPDC are responsible for maintaining, operating and improving the District's local roads and wider transport network to serve the needs of the local community. The Council operates in accordance with the Local Government Act 2002 and collaborates with the community to address the current and future demands for high-quality local infrastructure, public services, and regulatory functions.

2.1.2 Tangata Whenua

There are nine Iwi present in the Taranaki region: Te Atiawa, Taranaki, Ngāti Mutunga, Ngāti Tama, Ngāti Maru, Ngāti Ruanui, Ngāruahine, Ngaa Rauru Kiitahi, and Ngāti Maniapoto.

Of these Iwi, the rohe (tribal area) of Te Atiawa, Taranaki, Ngāti Mara, Ngāti Tama and Ngāti Mutunga overlap all or part of the project area (see **Figure 1-1**). The PBC team will liaise with the TRC Iwi Communications Officer and NPDC Communication and Engagement team to determine the best communications and engagement approach with these Iwi and their respective hapū.

Additionally, NPDC and Iwi/hapū established the Ngā Kaitiaki forum in 2016. Made up of representatives from Iwi and hapū, the initial purpose of the working group was to review the draft District Plan from a Te Ao Māori perspective[7]. The Ngā Kaitiaki forum continue to consider and advise on high level strategic issues in relation to the District Plan and district planning in general, including this ITF.

2.1.3 Taranaki Regional Council (TRC)

TRC are responsible for service planning, provision, and improvement across the region – through the Regional Public Transport Plan (RPTP) and Public Transport Operating Model (PTOM) bus contracts. Additionally, under the Sustainable Public Transport Framework (SPTF), NPDC and TRC will have a legal responsibility to collaborate on production of the RPTP. TRC are also responsible for producing the Taranaki Regional Land Transport Plan (RLTP). The Regional Councils overarching mission is "To work for a thriving and prosperous Taranaki" through:

- promoting the sustainable use, development and protection of our natural and physical resources
- safeguarding Taranaki's people and resources from natural and other hazards
- promoting and providing for significant services, amenities and infrastructure; and,
- representing Taranaki's interests and contributions regionally, nationally and internationally.

2.1.4 New Zealand Transport Agency NZTA (NZTA)

The purpose of NZTA is to enable "Moving, Together." where 'Moving' encompasses the essential nature of transport while also conveying the forward momentum of the future, and 'Together' refers to the effect of collaboration, communities, the greater good, and shared services.[8] Their vision is "a land transport system connecting people, products and places for a thriving Aotearoa". The system outcomes NZTA focus on to realise their vision are as follows:

- **Safe:** ensuring no one is killed or seriously injured when using or working on the transport system.

[7] https://www.npdc.govt.nz/media/wluptatw/working-with-tangata-whenua.pdf

[8] https://www.nzta.govt.nz/assets/resources/statement-of-intent/2021-2026/soi-2021-2026.pdf

- **Environmentally sustainable:** reducing harm to and improving the environment with a focus on reducing greenhouse gas emissions.
- **Effectively and efficiently moving people and freight:** ensuring networks are available and reliable at consistent levels of service with a focus on increasing the uptake of efficient, cost effective, low carbon transport options.
- **Meeting current and future needs:** ensuring we have access to the people, funding and systems we need.

NZTA has also developed Arataki[9], a shared sector view of long-term planning, development, and investment in the land transport system. Arataki outlines a plan to steer collaborative efforts over the next 30 years towards implementing a land transport system that can effectively sustain the movement of Aotearoa New Zealand. For the Taranaki region, the document identifies walking and cycling as being effective in reducing vehicle kilometres travelled (VKT) in the region, while shifting more freight to rail and coastal shipping to help cut emissions. Safety, resilience, and supporting the transition to a low-carbon economy are highlighted as the other crucial transport challenges for Taranaki in the next 30 years.

NZTA also has a focus on maintaining, operating, and improving the state highway network, while working with investment partners to apply an intervention hierarchy to optimise existing and proposed new investments in the land transport system. The intervention hierarchy underpins programme development and evaluation this PBC to deliver value for money in the recommended programme. The intervention hierarchy is shown in **Figure 2-1**.

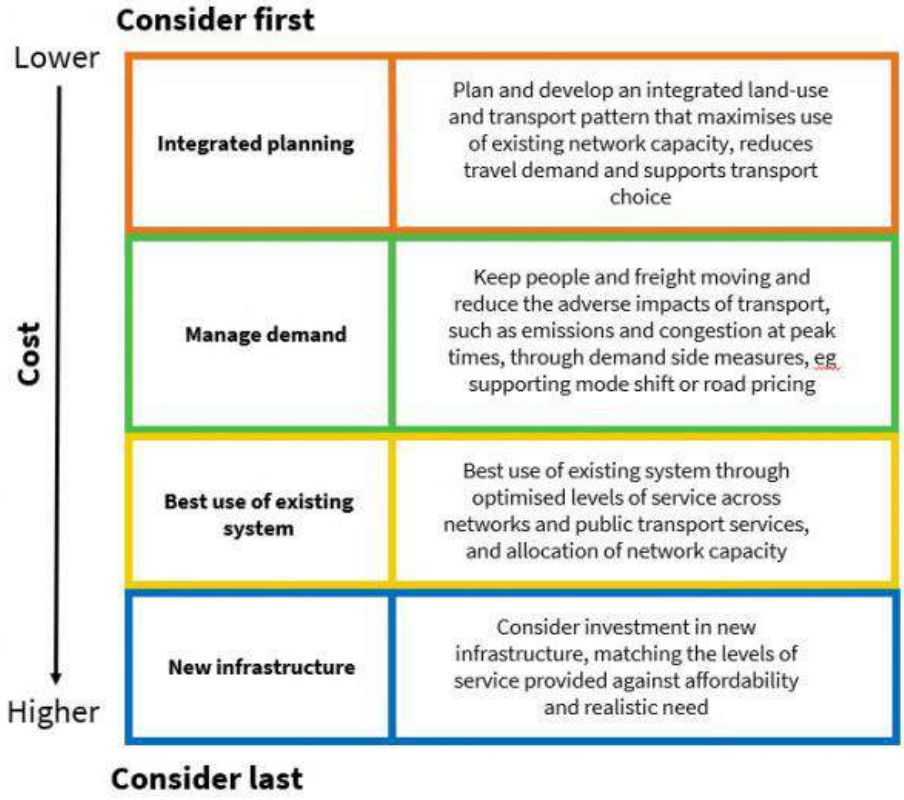


Figure 2-1: NZTA Intervention hierarchy[10]

[9] https://www.nzta.govt.nz/planning-and-investment/planning/arataki

[10] https://www.nzta.govt.nz/planning-and-investment/funding-and-investing/optioneering/resources/intervention-hierarchy/

2.2 Alignment to Existing Partner Strategies and Objectives Summary

Table 2-1 provides an overview of the alignment of the existing strategies and objectives of the partners across several consistent themes. The objectives are discussed on a national and regional level in **Section 2.3** and **2.4**.

The identified strategies and objectives align well with the themes of the GPS 2021. However, there are minor gaps at the regional level.

Table 2-1: Alignment of strategies and objectives across regional and national partners

Strategic Themes	MoT / NZTA	NPDC	TRC	Tangata Whenua
Better Travel Options	2021 GPS – Better Travel Options 2024 GPS – Productivity ERP Target 1 Arataki – Environmental Sustainability and Inclusive Access	Proposed District Plan – Objective TRAN 01 Infrastructure Strategy – Planning for Growth	RLTP – Accessible Better Travel Choices	
Climate Change	ERP – Target 2 2021 GPS – Climate Change Arataki – Resilience and Security	Proposed District Plan – Objective TRAN 01 Infrastructure Strategy – Resilience and Responding to Climate Change (Climate Resilience)	RLTP – Resilient and responsive (Climate Resilience) RLTP – Environmentally sustainable Better Travel Choices	TTAR2.1
Economic prosperity	2021 GPS – Improving Freight Connections 2024 GPS – Economic Growth ERP – Target 3 Arataki – Economic Prosperity	Proposed District Plan – Objective TRAN 01, 02, 03 Infrastructure Strategy – Planning for Growth	RLTP - Enabling	
Safety and Health	2021 GPS – Safety 2024 GPS – Safety Arataki – Healthy and Safe People	Proposed District Plan – Objective TRAN 02 Infrastructure Strategy – Meeting the needs of our community	RLTP – Safe and Health People	TTAR1.1

There is a noted gap in the business case for maintenance activities. Maintenance activities for the region will be covered in the NPDC Transportation Asset Management. This outlines the key priorities for maintenance across the region and how to council will deliver services required for the New Plymouth district's transport network users to go about everyday business and life.

2.3 Alignment to Existing Partner Strategies and Objectives – National

2.3.1 MoT and NZTA

Government Policy Statement on Land Transport (GPS) 2021 and draft 2024

The GPS on Land Transport sets out the Government's priorities for the investment in land transport over the coming 10-year period and is updated every three years. The strategic priorities of the 2021 GPS[11] and Draft 2024 GPS[12] are given in **Table 2-2**.

Table 2-2: Strategic Priorities of 2021 GPS and Draft 2024 GPS

2021 GPS	Draft 2024 GPS
Safety	Safety
Improving Freight Connections	Economic Growth and Productivity
Climate Change	Value for Money
Better Travel Options	Increased maintenance and resilience

The 2021 GPS and Draft 2024 GPS priorities have similar strategic themes related to safety and improved freight networks / economic productivity. However, the draft 2024 GPS includes maintenance and value for money, which are new strategic themes.

National Emissions Reduction Plan (ERP) 2022

The National Emission Reduction Plan (ERP) 2022 outlines the Government's first iteration of strategy for transitioning to net zero emissions by 2050 as part of the Paris Agreement. The ERP provides a framework to develop and implement clear and stable climate change policies that help limit the global average temperature increase to 1.5 degrees Celsius above pre-industrial levels and enable adaptation to the effects of climate change[13]. The Transport chapter of the ERP identifies four focus areas to support the targets of the plan:

- **Target 1:** Reduce total kilometres travelled by the light fleet by 20 per cent by 2035 through improved urban form and better travel options, particularly in our largest cities.
- **Target 2:** Increase zero-emissions vehicles to 30 per cent of the light fleet by 2035.
- **Target 3:** Reduce emissions from freight transport by 35 per cent by 2035.
- **Target 4:** Reduce the emissions intensity of transport fuel by 10 per cent by 2035.

The key transport actions in the ERP are to:

- Reduce reliance on cars and support people to walk, cycle and use public transport,
- Rapidly adopt low-emissions vehicles; and,
- Begin work now to decarbonise heavy transport and freight.

The targets and key actions from the ERP for transport align well with the 2021 GPS focus on climate change. Further details on the ERP have been provided by MoT on the sub-national VKT targets for Tier 1 and 2 urban areas, in New Zealand, for the light vehicle fleet. Collectively these targets, combined with reductions expected from the rest of New Zealand, need to align with the national target to reduce total VKT by 20 percent by 2035. The purpose of the sub-national targets is to help central and local government better

[11] https://www.transport.govt.nz/assets/Uploads/Paper/GPS2021.pdf

[12] https://www.transport.govt.nz//assets/Uploads/GPS-on-land-transport-2024-Consultation-4-March-2023-.pdf

[13] https://environment.govt.nz/assets/publications/Aotearoa-New-Zealands-first-emissions-reduction-plan.pdf

understand and plan for the contribution major urban areas need to make to achieving the national VKT reduction target. The specific targets set by MoT for each urban area are "*realistic, appropriate to the area, and sufficiently ambitious. The proposed targets are informed by how much impact different interventions (such as land use change, public transport, and pricing measures) can have on VKT in different areas, based on the available international evidence. Much less change will be required of rural areas than highly urbanised ones*." The specific target set for the district are shown in **Table 2-3**.

Table 2-3: Estimated sub-national VKT baselines, proposed target % changes and VKT target value for the district

Tier	Territorial Local Authority	2035 Baseline % change against 2019 Benchmark	2035 Target % change against 2019 Benchmark	2035 Target % change against 2035 Baseline
2	New Plymouth District Council	19%	5%	-12%

As shown in **Table 2-3**, the ERP 2022 target for the New Plymouth district was a 12% reduction in VKT by 2035. However, as per the most recent iteration of the Waka Kotahi Arataki 30-year sector plan, the target of 12% reduction has been removed for the New Plymouth District. Arataki now simply targets a decrease in VKT relative to a 2035 baseline. See **Section 1** for more discussion on VKT in relation to the draft 2024 GPS.

Arataki 30 Year Plan September 2023

Arataki has been developed *as a shared sector view of how we need to plan, develop, and invest in the land transport system during the next 30 years. This version of Arataki provides a strong foundation for us to have ongoing conversations with our partners and others to co-create the plan. Arataki provides direction that will guide how we'll work together during the next 30 years to deliver the future land transport system needed to keep Aotearoa New Zealand moving.*

The September 2023 version of Arataki includes direction for the Taranaki region that is relevant for the New Plymouth District. The key challenges over the next 30 years and the key actions in the next 10 years are summarised in **Table 2-4**. These challenges and actions align strongly with the draft 2024 GPS.

Table 2-4: Arataki Regional Summary for Taranaki

Outcome	Challenges and Opportunities	10-year Key Actions
Environmental Sustainability	A significant change in the way people travel is required to meet 2035 emissions reduction targets for both private vehicles and freight. Care is needed so this does not unfairly impact specific groups or communities.	• Land use changes • Determine what interventions (small and large) are needed to reduce emissions. • Reallocate road space for low emissions modes. • Manage parking to support the use of low emission modes. • Improve PT services and explore technological solutions. • Put the right policies in place
Healthy and Safe People	Safety should be improved on high-risk roads to lower the number of deaths and serious injuries.	• Targeted road safety improvements (physical interventions and speed management) • Rapid roll out of cycle infrastructure • Require high quality active mode facilities in new developments.

Outcome	Challenges and Opportunities	10-year Key Actions
	Walking and cycling facilities should be improved to promote healthy travel options.	• Focus on policy and behaviour change programmes that encourage walking, cycling and safe vehicle use. • Improve rural mobile network coverage
Inclusive Access	Communities are heavily reliant on private vehicles, limiting travel choice and placing pressure on household budgets.	• Planning rules that focus on creating development in well-connected locations. • Improve PT and active mode accessibility and affordability. • Consider the needs of all communities and people within the transport system.
Economic Prosperity	A transition to a low carbon economy will mean a significant change to the region's economy and the way people travel. Expanded forestry will increase freight movements, and the geographic constraints around New Plymouth restrict the transport network.	• Improve access to social and economic opportunities. • Support a resilient and reliable freight network
Resilience and Security	There is an increased risk of damage from storms and sea level rise, and Taranaki is close to both the sea and mountains. Changes from national events (e.g. COVID 19) disrupts the transport system.	• Prioritise responses to natural hazards in high-risk areas and avoid new developments in those areas. • Improve the resilience of critical transport connections. • Improve operational responses to disruptive events

2.4 Alignment to Existing Partner Strategies and Objectives – Regional

2.4.1 New Plymouth District Council (NPDC)

The Proposed District Plan for NPDC has identified the following objectives for transport:

- **TRAN-01:** The transport network is a well-connected, integrated, and accessible system that:
  - Meets and is responsive to current and future needs, including projected population growth,
  - Maximises opportunities to link with land uses; and,
  - Promotes the use of public transport, walking and cycling, and reduces dependency on private motor vehicles.
- **TRAN-02:** The transport network is safe, efficient, and effective in moving people and goods within and beyond the district.
- **TRAN-03:** Activities generate a type or level of traffic that is compatible with the local road transport network they obtain access to and from.

- **TRAN-04:** The existing and future transport network is not compromised by incompatible activities which may result in reverse sensitivity effects and/or conflict.
- **TRAN-05:** Adverse effects from the construction, maintenance and development of the transport network are managed.[14]

The objectives for Transport in the Proposed District Plan align well with 2021 GPS on climate change, safety, freight connections and transport mode choice.

The NPDC Infrastructure Strategy has been developed to assist with sound decision on future investments in infrastructure assets. Key drivers have been identified to guide investment, those of which are specific to infrastructure for the transport network are listed below:

- Taking care of what we have.
- Resilience and responding to climate change:
  - Infrastructure resilience (e.g., additional transport connections on key routes).
- Planning for growth:
  - Improve travel times and options to support growth.
- Meeting the needs of our community and reducing our impact on the environment:
  - Safety improvements and speed limit review.

In terms of transportation, the community expectation, according to the Infrastructure Plan[15], is defined as *"a safe, reliable roading network with minimal interruptions and adequate parking with an appropriate quality is provided at an affordable cost that minimises harm to the environment"*.

The key drivers in the Infrastructure Plan align well with the themes of the 2021 GPS, however, the community expectation that focuses on existing transport operations, like private vehicle use and car parking, may conflict with the strategic priorities for the 2024 GPS.

The Long-Term Plan (LTP) outlines NPDC's strategic framework and key challenges for the New Plymouth District. The overarching vision for the New Plymouth District is to be the *"Sustainable Lifestyle Capital"*. The mission supporting the vision is: *"To provide our people with an innovative and resilient district that restores mauri, protects our environment and supports a successful economic transition, while providing quality infrastructure and leadership through operational excellence"*. The transport chapter of the plan defines objectives with a focus on providing a safe transport network for all road users, high quality and maintenance of district roads, and a high quality and safe cycle and footpath network.[16]

NPDC have also prepared a District-wide Emissions Reduction Plan (2023)[17]. This recognises that NPDC should continue to encourage a compact urban form that enables active travel choices, and most respondents to the draft plan supported further emissions reduction action. It supports the need to deliver low emissions options, and outlines that this document (Integrated Transport Framework) is the vision to guide investment to achieve this outcome.

The objectives of the District Plan and LTP align with the themes of safety and better travel options from the 2021 GPS and maintaining and operating the system from the 2024 Indicative GPS.

[14] https://districtplan.npdc.govt.nz/eplan/rules/0/21/0/0/0/126

[15] https://www.npdc.govt.nz/media/02xdbchm/4-infrastructure-strategy.pdf

[16] https://www.npdc.govt.nz/media/uqvnf5cq/appendix-1-long-term-plan-2021-2031.pdf

[17] https://www.npdc.govt.nz/media/2a3fdw35/district-wide-emissions-reduction-plan-2023-adopted-12-september-2023.pdf

2.4.2 Tangata Whenua – Iwi management plans

In 2019, Te Atiawa presented their iwi environmental management plan: *Tai Whenua, Tai Tangata, Tai Ao*. The plan sets out the views and expectations of Te Atiawa for environmental resource management within their rohe (which is included in the project area). It provides a basis for engagement with Te Atiawa and its hapū on a broad range of environmental and resource management issues[18]. The plan identifies issues, objectives, and policies across eight domains. The following domains and their objectives from the plan can be considered as directly relevant to transport:

- **Te Tai Awhi-Rangi (TTAR) – Air and Atmosphere**
  - **TTAR1.1** Ensure that air and atmosphere quality is of a high standard for current and future generations.
  - **TTAR2.1** Promote initiatives to reduce greenhouse gas emissions within our Te Atiawa rohe.
  - **TTAR3.1** Ensure the effects of light, noise, odour, radiation, and visual pollution are managed in a manner that does not impact on Te Atiawa, the environment, species, on our health and wellbeing, or cause a nuisance to our people.
- **Te Tai Hekenui (TTHE) – Heritage**
  - **TTHE1.1** Acknowledge and protect geographical areas with a concentration of interconnected wahi tapu/wahi taonga, urupā and sites of significance to Māori.
  - **TTHE2.1** Ensure that wāhi tapu/wāhi taonga, urupā and sites of significance to Māori within our Te Atiawa rohe are protected from damage, modification, desecration, destruction, and loss of access.
  - **TTHE3.1** Support General Objectives which provide for Te Tai Hekenui.
  - **TTHE3.2** Require access to be provided to Te Atiawa wāhi tapu/wahi taonga, urupā and sites of significance.

The plan does not include explicit policy direction regarding transport choices.

2.4.3 Taranaki Regional Council (TRC)

2021 RLTP

The 2021 RLTP[19] for Taranaki has a vision of *"a vibrant, resilient and connected region, with a safe transport system enhancing liveable places"* and defines the following objectives to achieve this vision:

1. **Integrated:** An integrated and collaborative approach to transport and land use planning that maximizes transport effectiveness.
2. **Enabling:** An effective, efficient, and resilient land transport system that enhances economic wellbeing, growth and productivity in the Taranaki region and beyond.
3. **Safe and healthy people:** Protecting people from transport related deaths and serious injuries and making active travel an attractive option.
4. **Accessible:** A people focused, multimodal land transport system that caters for the different and changing needs of transport users, connects communities and enables participation.
5. **Resilient and responsive:** A land transport system that is robust, responsive to changing needs and resilient to external influences, including climate change.
6. **Environmentally sustainable:** An energy efficient and environmentally sustainable land transport system.

[18] https://teatiawa.iwi.nz/tai-whenua-tai-tangata-tai-ao/

[19] https://www.trc.govt.nz/council/plans-and-reports/strategy-policy-and-plans/transport-planning-documents/

An Investment Logic Mapping (ILM) workshop was completed in late 2022 for the next RLTP to outline the strategic direction. The problems and benefits arising from this ILM are shown in **Figure 2-2.**

The RLTP problems and benefits are consistent with the draft 2024 GPS themes of efficient journey times, safety, and better productivity.

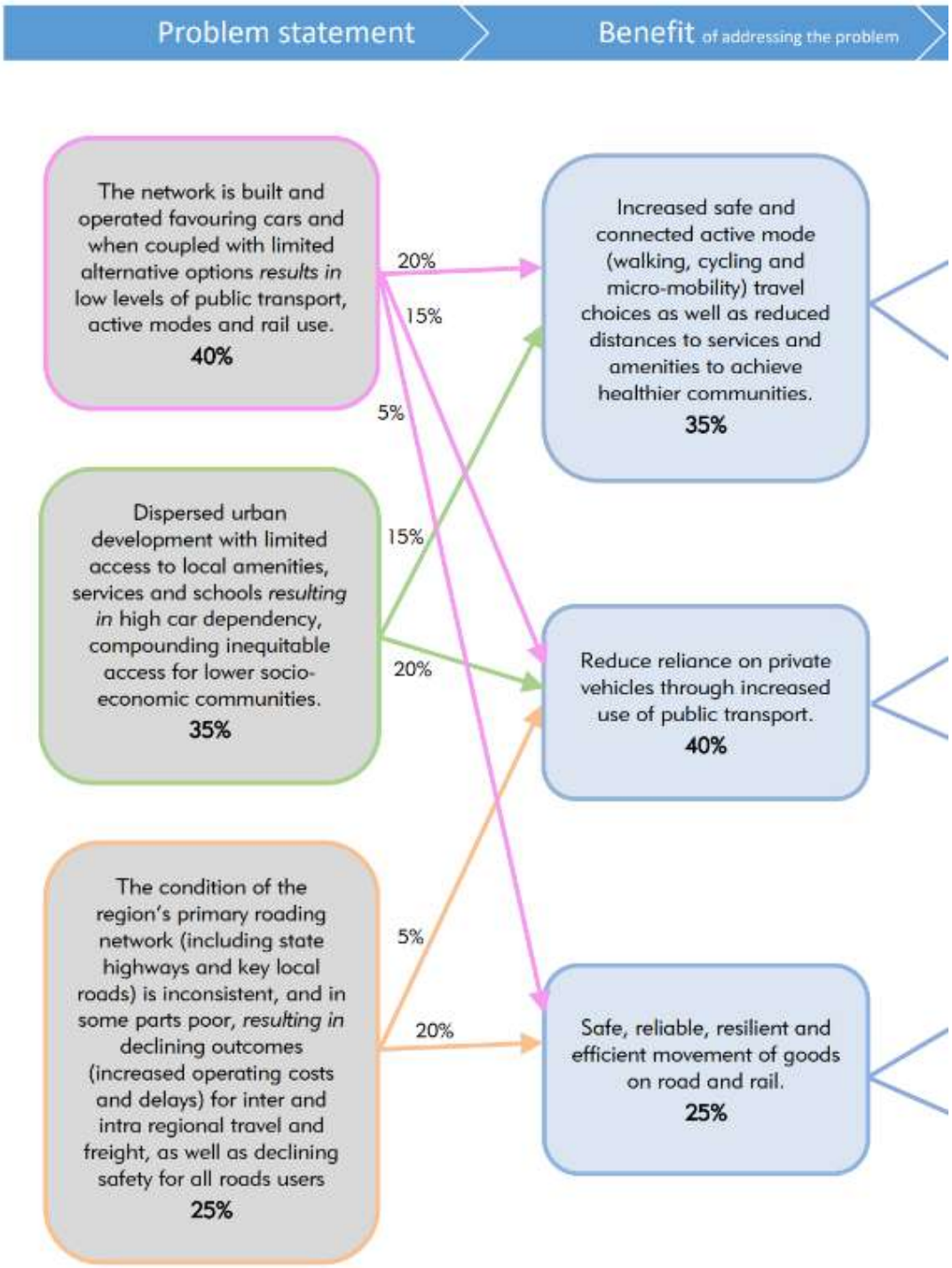


Figure 2-2: Taranaki Regional Council Regional Land Transport Plan Investment Logic Mapping diagram

Better Travel Choices Strategy

TRC undertook the Better Travel Choices Strategy (BTCS) community consultation in March 2023[20]. The aim of this consultation was to gather information for developing BTCS policy, inform the development of Speed Management Plans by NPDC, Stratford District Council and South Taranaki District Council, and seek feedback on bus routes across the region. 1,805 respondents provided feedback on the following four focus areas:

- Road safety and speed management.
- Long-term vision for transport in Taranaki.
- Public transport (including buses and rail).
- Cycling, walking and active travel.

This feedback has been incorporated within the PBC, particularly in the evidence base of problem statement 1.

From September-October 2023, public consultation was undertaken on the draft TRC Active Travel Strategy and Regional Public Transport Strategy. These strategies aim to achieve the following:

- Support an active (walking, cycling and other active travel) and public transport system that provides safe, healthy and environmentally sustainable options for a range of journeys.
- Deliver a bus network that you can rely on, and which gives additional choice for more people, for a wider range of journeys and
- Provide a public transport system that is well-integrated with other modes of transport.

2.5 Identifying Key Stakeholders

The key partners for the project were identified at the start of the project by NPDC as Tangata Whenua, NZTA, and the Taranaki Regional Council. The communications and engagement team at NPDC identified the key stakeholders and these are provided in **Appendix B**.

The development of the Strategic Case and Programme Business Case has included ongoing consultation with both the project partners and stakeholders. The project partners have attended and provided valuable insight through a series of workshops from identifying interventions all the way through to confirming the preferred programme. In addition to these workshops, fortnightly project updates were held with the stakeholders to discuss programming, background information required from the group and to discuss the next steps.

[20] https://www.trc.govt.nz/buses-transport/transport-planning/the-road-ahead-developing-a-new-road-land-transport-plan/previous-community-feedback/

3 Strategic Assessment – outlining the need for investment

3.1 Defining the Problems

On October 22nd 2022, an ILM workshop confirmed the case for change and key issues in the New Plymouth District. This work was finalised on 19th June 2023. Decision makers and governance leaders from partner organisations and key stakeholders, as well as staff from TRC, NZTA, and NPDC attended the workshop. The initial workshop produced four draft problem statements that encompass the key issues in the New Plymouth District. **Appendix C** contains the available notes from this workshop and the feedback from partners to finalise the problem statements. The final problem statements have since undergone minor refinements in the development of this ITF and are shown in **Table 3-1**.

Table 3-1: Final problems statements for the ITF

	Problem	Weighting
1	Public transport is not competitive with private vehicle travel or convenient to access by active modes resulting in low public transport use and poor customer experience.	35%
2	Most urban areas have low density residential developments that make access by public transport, walking and cycling difficult resulting in high dependency on private vehicles and increasing transport costs for the community that especially impact lower socio-economic groups.	30%
3	The network is configured to prioritise private vehicles and road freight over other modes resulting in issues across the city and towns including severance (particularly for centres on state highways, between communities and the coast, and residential areas with key destinations), and declining amenity (noise, dust, and pollution).	20%
4	The current active mode transport networks (walking, cycling, and micro-mobility) are fragmented and have unsafe connections resulting in safety issues, poor perception of the network and low active mode uptake.	15%

These problem statements have clear alignment to the national and regional partner policies and objectives, as shown below in **Figure 3-1**.

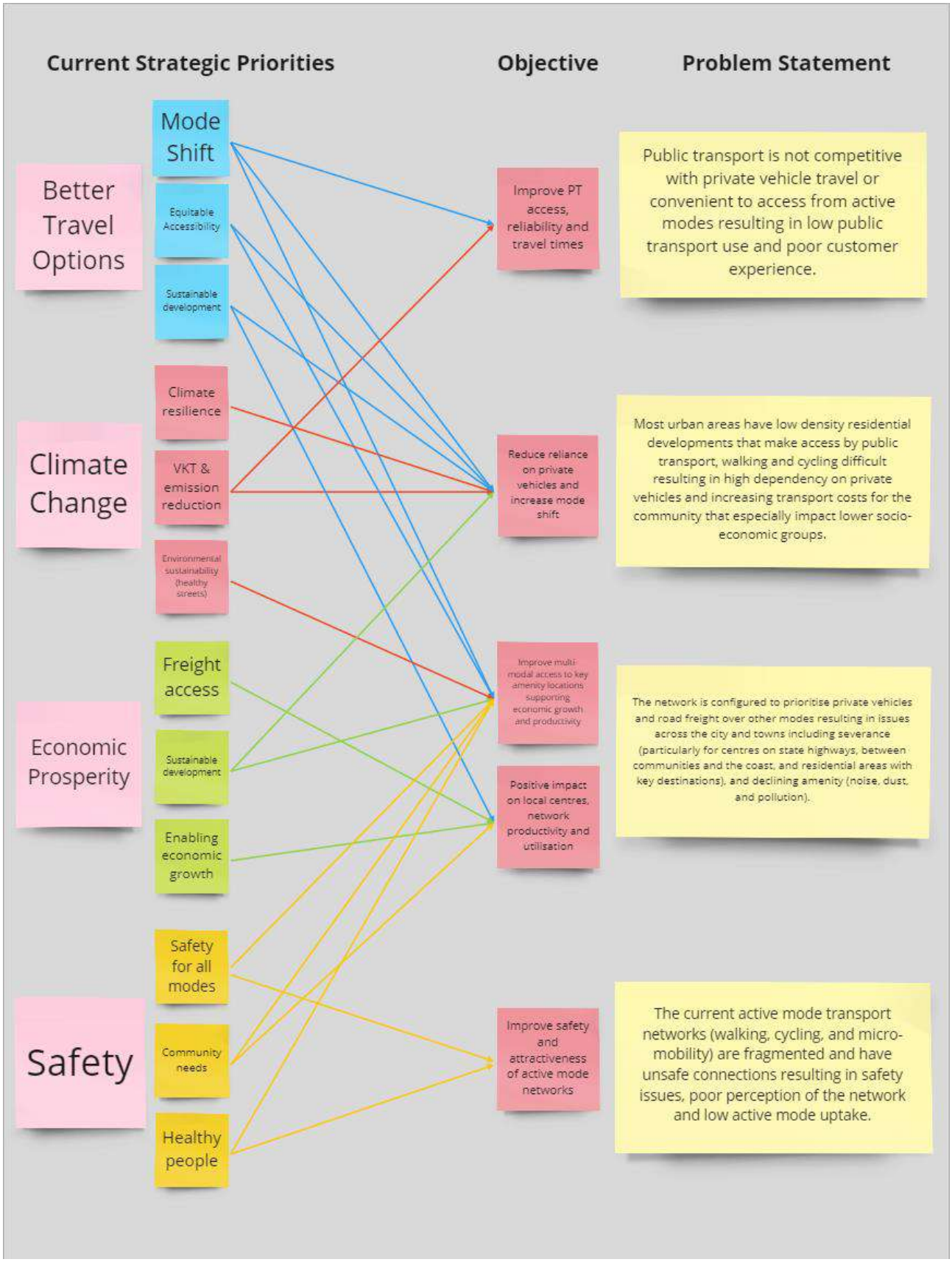


Figure 3-1: Alignment between the Strategic Context and the Problem Statements

3.2 The Benefits of Investment and Key Performance Indicators

The potential benefits of investing to address the problems were also identified during the ILM workshop along with the Key Performance Indicators (KPIs). **Table 3-2** presents the refined KPIs and their alignment with the benefits.

Table 3-2: KPIs related to benefits and investment objectives

Benefit	Investment Objective	Investment KPIs
Public transport is accessible, convenient and the preferred mode of transport for many (30%).	Improve public transport network access, reliability, and travel times	**KPI 1:** Public transport travel times (average, variability). **KPI 2:** Public transport user surveys and annual satisfaction surveys. **KPI 3:** Percentage of population within 400 and 800 metre walking catchments of public transport. **KPI 4a:** Public transport mode share for journey to work and school trips. **KPI 4b:** Public transport mode share for journey to school trips.
Decreased reliance on cars as the primary mode of transport and increased walking, cycling and PT use (35%).	Reduce private vehicle reliance and transport related emissions and increase mode shift	**KPI 5:** CO2 transport related emissions. **KPI 6:** Journey to work by single occupancy vehicle and vehicle kilometres travelled. **KPI 7:** Proportions of public transport, walking and cycling for journey to work trips. **KPI 8:** Proportions of public transport, walking and cycling for journey to school trips.
Improved access to amenities (coast, schools, and services) and employment along engaging and enjoyable transport corridors (15%).	Positive impact on local centres, network productivity and utilisation Improved multi-modal access to key amenity locations and employment	**KPI 9:** Level of Service for pedestrians and cyclists on key routes (to schools, amenities, services, and employment). **KPI 10:** Comparative travel times between transport modes between key locations. **KPI 11:** Percentage of residents living within 400 and 800 metre walking catchments of local centres. **KPI 12:** Foot traffic in the CBD and town centres and average length of visit. **KPI 13:** Percentage of freight on appropriate arterial corridors and average freight travel times.
A safe and connected city and towns to walk and cycle with active and healthy communities (20%).	Improve the safety and attractiveness of active mode networks for all users (eg children, elderly, and people with disabilities)	**KPI 14:** Deaths and serious injuries for active mode users. **KPI 15:** Percentage of primary cycling network which is safe, separated and continuously connected. **KPI 16:** Pedestrian wait times and crossing delay in urban/town centres.

Table 3-3 summarises the potential benefits and the alignment to the Land Transport Benefits Framework.

Table 3-3: Benefits and Investment Objectives

Integrated Transport Framework				Land Transport Benefits Framework		
PBC Benefit	**PBC Investment Objective**	**Measures**	**2018 Baseline**	**Transport outcome**	**Benefit**	**Monetised benefits**
Public transport is accessible, convenient and the preferred mode of transport for many (30%).	Improve public transport network access, reliability, and travel times.	**KPI 1:** Public transport travel times (average, variability).	The travel times to New Plymouth from Bell Block is 43 min, Highlands Park is 28min, Hurdon is 27min and Spotswood is 26 min.	Inclusive access	Punctuality - public transport	Punctuality - public transport
		KPI 2: Public transport user surveys and annual satisfaction surveys.	- The current scheduling of bus services does not properly accommodate the needs of many potential users. - Infrequent services and routes that do not align with residents' desired destinations. - The convenience of travelling by private vehicle or active modes far surpasses that of public transport.	Inclusive access	Access - perception	
		KPI 3: Percentage of population within 400 and 800 metre walking catchments of public transport.	58.3% within 400m 74.6% within 800m	Inclusive access	Spatial coverage - public transport	
		KPI 4a: Public transport mode share for journey to work trips.	0.7% of journeys to work are made by public transport	Inclusive access	Spatial coverage - public transport, mode shift from single occupancy vehicles	
		KPI 4b: Public transport mode share	14% of journeys to school are made by public transport	Inclusive access	Spatial coverage - public transport,	

Integrated Transport Framework				Land Transport Benefits Framework		
PBC Benefit	**PBC Investment Objective**	**Measures**	**2018 Baseline**	**Transport outcome**	**Benefit**	**Monetised benefits**
		for journey to school trips.			mode shift from single occupancy vehicles	
Decreased reliance on cars as the primary mode of transport and increased walking, cycling and PT use (35%).	Reduce private vehicle reliance and transport related emissions and increase mode shift.	**KPI 5:** CO2 transport related emissions.	295 CO2-eq tonnes per day	Environmental sustainability	Greenhouse gas emissions (all vehicles)	Greenhouse gas emissions (all vehicles)
		KPI 6: Journey to work by single occupancy vehicle and vehicle kilometres travelled.	99.3% journey to work vehicle mode share (when considering PT and Vehicle modes only) 20.3 VKT per day	Environmental sustainability	Mode shift from single occupancy vehicles	
		KPI 7: Proportions of public transport, walking and cycling for journey to work trips.	0.7% journey to work PT mode share and 99.3% work vehicle mode share	Inclusive access	Mode shift from single occupancy vehicles	
		KPI 8: Proportions of public transport, walking and cycling for journey to school trips.	14% journey to school PT mode share	Inclusive access	Mode shift from single occupancy vehicles	
Improved access to amenities (coast, schools, and services) and	Positive impact on local centres, network productivity and utilisation. Improved multi-modal access to	**KPI 9:** Level of Service for pedestrians and cyclists on key routes (to schools, amenities, services, and employment).	Not yet available	Inclusive access	Network condition	Network condition

Integrated Transport Framework				Land Transport Benefits Framework		
PBC Benefit	**PBC Investment Objective**	**Measures**	**2018 Baseline**	**Transport outcome**	**Benefit**	**Monetised benefits**
employment along engaging and enjoyable transport corridors (15%).	key amenity locations and employment supporting economic growth and productivity.	**KPI 10:** Comparative travel times between transport modes between key locations.	The travel times difference between PT and vehicles from New Plymouth to: Bell Block is +27min, Highlands Park is +15min, Hurdon is +13min Spotswood is +14min.	Inclusive access	Travel time	Travel time
		KPI 11: Percentage of residents living within 400 and 800 metre walking catchments of local centres.	10.3% within 400m 34.4% within 800m	Inclusive access	Access to key social destinations (all modes)	
		KPI 12: Foot traffic in the CBD and town centres and average length of visit.	Not yet available	Inclusive access	Throughput of pedestrians, cyclists, and public transport boardings	
		KPI 13: Percentage of freight on appropriate arterial corridors and average freight travel times.	93.2% of freight is on appropriate arterial corridors Average freight travel time between Port Taranaki &: Bell Block 22 min Highlands Park 14 min Hurdon 5 min	Inclusive access	Spatial coverage - freight, travel time delay	
A safe and connected city and towns to	Improve the safety and attractiveness of active mode	**KPI 14:** Deaths and serious injuries for active mode users.	2.19 annual DSI for cyclists	Healthy and safe people	Deaths and serious injuries	Deaths and serious injuries

Integrated Transport Framework				Land Transport Benefits Framework		
PBC Benefit	**PBC Investment Objective**	**Measures**	**2018 Baseline**	**Transport outcome**	**Benefit**	**Monetised benefits**
walk and cycle with active and healthy communities (20%).	networks for all users (e.g. children, elderly, and people with disabilities).	**KPI 15:** Percentage of primary cycling network which is safe, separated and continuously connected.	6%	Healthy and safe people	Spatial coverage - cycle lanes and paths	
		KPI 16: Pedestrian wait times and crossing delay in urban/town centres	Not yet available	Inclusive access	Pedestrian delay	

4 Evidence base

4.1 Problem 1

Public transport is not competitive with private vehicle travel or convenient to access by active modes resulting in low public transport use and poor customer experience.

This issue relates to the low usage of public transport within the New Plymouth District and how it is not a viable or desirable transport option when considering travel time and accessibility. This problem is prevalent across the entirety of the New Plymouth District. Census data, travel times from outer suburbs of New Plymouth, and the TRC Future of Transport report have been used to investigate this problem statement.

4.1.1 Mode Split

Table 4-1 shows that private vehicles were the most common mode choice for travelling to work in the New Plymouth District over the last three Census periods. Furthermore, the proportion of people travelling to work by private vehicle has increased over this time. This indicates that private vehicles are viewed as the most convenient way to travel to work in New Plymouth.

Table 4-1: New Plymouth travel to work mode split from New Zealand Census

Travel Mode	2006	2013	2018
Private/Company Vehicle	70.5%	70.4%	76.7%
Public Transport	0.4%	0.5%	0.5%
Active Transport	7.8%	7.9%	6.1%
Other	21.3%	21.2%	16.7%

Table 4-2 shows significantly higher proportions of public transport and active mode users for travelling to education compared to work in the New Plymouth District. However, travelling by private vehicle remains the most prevalent mode of transport to education. It is noted that travel to education data has been collected through the Census only from 2018 onward.

Table 4-2: New Plymouth travel to education mode split from New Zealand Census

Travel Mode	2018
Private/Company Vehicle	55.0%
Public Transport	12.9%
Active Transport	22.7%
Other	9.4%

4.1.2 Public transport connectivity, scheduling, and travel times

The current New Plymouth urban bus network follows a hub and spoke model, with a single centralised bus hub in the CBD (see **Figure 4-1**). Although this makes employment and education opportunities towards the CBD relatively accessible, the network lacks direct connections east to west and between valley communities around the central city. Therefore, any movements across the city or between suburbs by bus require at least two separate bus services with a changeover in the CBD or at stops with intercepting routes. Orbiter bus services also make journey times long as they are indirect. Additionally, key destinations such as Port Taranaki and the hospital are not well serviced and require at least two bus services for most movements to key locations.

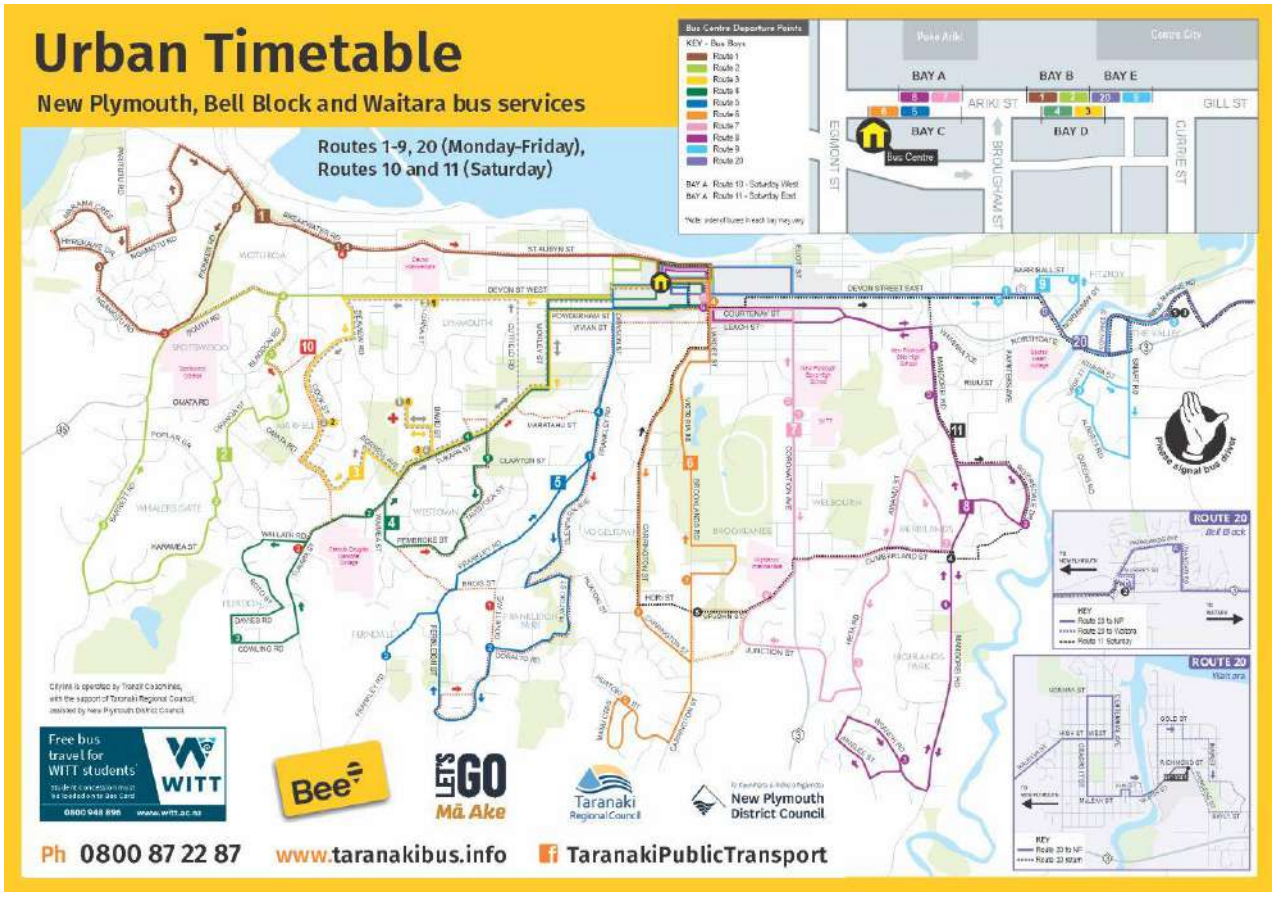


Figure 4-1: New Plymouth urban bus network timetable

Furthermore, bus frequencies on all New Plymouth urban routes are low, with most bus routes having departures only every 1-2 hours and limited services during off-peak times. This can result in long travel times and significant delays for movements across the city when transfer windows at the central bus hub and stops with intercepting routes are not well aligned. A typical bus timetable for Route 8 is shown in **Figure 4-2**.

Depart Ariki St (A)	NPGHS (1)	Riversdale Dr (2)	Branch Rd (3)	Mangorei Rd Opposite Smith (4)	NPGHS (5)	Arrive Ariki St (A)
*Starts 7.04am corner Mangorei Rd/Karaka St						
		7.05 AM	7.10 AM	7.14 AM	7.17 AM	7.30 AM
7.30 AM	7.36 AM	7.39	7.45	7.48	7.51	8.00
8.10	8.16	8.19	8.25	8.28	8.31	8.48
9.00	9.06	9.09	9.15	9.18	9.21	9.30
10.05	10.11	10.14	10.20	10.22	10.25	10.38
11.15	11.21	11.24	11.30	11.33	11.36	11.43
12.25 PM	12.31 PM	12.34 PM	12.40 PM	12.43 PM	12.45 PM	12.53 PM
1.35	1.41	1.44	1.50	1.53	1.55	2.03
2.55	2.58	3.00	3.07	3.10	3.25	3.35
3.40	3.46	3.49	3.55	3.58	4.00	4.08
4.20	4.26	4.29	4.35	4.38	4.40	4.48
5.10	5.16	5.19	5.24	5.27	5.29	5.38
5.50	5.56	5.59	6.04	6.07	6.09	6.19
6.20	service runs from Ariki St until last passenger disembarks (drop off service only)					

Times in **BOLD** are scheduled, all other times are approximate

Figure 4-2: Typical bus timetable, example from Route 8: Merrilands / Highlands Park

Despite direct bus routes to the CBD, travel time to the CBD is generally longer by bus than by private vehicle. **Table 4-3** shows the approximate travel time to New Plymouth Central by public transport compared to private vehicle is double for Inglewood and Waitara, and trip for Bell Block.

Table 4-3: Travel times to and approximate trips to New Plymouth Central SA2 by public transport and private vehicle[21]

Origin	Public Transport		Private Vehicle	
	Travel time	Daily person trips	Travel time	Daily person trips
Bell Block	30 minutes	< 12	10 minutes	585
Inglewood	40 minutes	< 15	20 minutes	228
Waitara	40 minutes	< 21	17 minutes	300

4.1.3 Public perception of Public Transport

Community consultation on the New Plymouth public transport network was undertaken by TRC to inform the development of future transport policy and speed management plans through the Future of Transport consultation[22]. Respondents identified several barriers that are inhibiting the utilisation and effectiveness of the public transport network:

- The current scheduling of bus services does not properly accommodate the needs of many potential users.
- Infrequent services and routes that do not align with residents' desired destinations.
- The convenience of travelling by private vehicle or active modes far surpasses that of public transport.
- Bus timetable and route information is inaccessible and poorly presented at both stops and online

It is worth noting from this consultation, that there is a lack of evidence indicating that bus fare prices are perceived as prohibitive.

Respondents also identified desired infrastructure improvements to enhance their experience of the public transport system. The most suggested improvements included:

- Digital time boards at stops that provide real-time information to passengers.
- Safer and more secure shelters at various stops along the network.
- Park and ride facilities.

It was suggested by some respondents that bus usage is unsafe. However, this statement lacks substantiating evidence.

4.1.4 Mode shift potential and network alignment

Significant mode shift from private vehicles to public transport for work and employment trips could be achieved across the district by:

- Decreasing public transport travel times on existing routes relative to those of private vehicles.

[21] The Citylink bus schedule and Google Maps were used to approximate travel times for public transport and private vehicles respectively. Private vehicle travel times were measured from the suburb centre, so actual travel times may differ slightly. Approximate daily weekday trips were calculated from 2018 Census Data.

[22] https://www.trc.govt.nz/assets/Transport/The-Road-Ahead-Public-Consultation-Summary-March-to-April-2023.pdf

- Improving scheduling and increasing frequency of bus services.
- Realigning and/or introducing bus services to cater for typical trips.
- Improving facilities and infrastructure on the public transport network.

For example, improving public transport travel times to New Plymouth Central from Bell Block and Waitara could encourage mode shift away from private vehicles in these areas (see **Table 4-3**).

However, it is important to consider the specific needs of communities around the district. Due to their population sizes, remoteness, and limited accessibility to New Plymouth City, it may not be effective to provide a high level of public transport in less urban areas to improve network efficiency. Places like Inglewood have a significantly lower number of commuters coming into New Plymouth Central, so mode shift options are limited. Options other than improved public transport should be investigated to improve network efficiency in these areas in a more cost-effective way.

One area in New Plymouth with significant potential for mode shift away from private vehicles is Waiwhakaiho-Bell Block South. This is a large employment area, with 4,653 people arriving daily for work from 41 different areas across the district according to the 2018 Census (see **Figure 4-3)**. According to this data, almost 95% of the trips to work arriving in Waiwhakaiho-Bell Block South are by private vehicle and none are by public transport. The top five areas that people travel from for work and education in Waiwhakaiho-Bell Block South are Bell Block West, Waitara West, Bell Block East, Fitzroy-Glen Avon, and Inglewood. Most trips to the area take longer by bus and require at least two separate bus services with a changeover in the CBD or at stops with intercepting routes and a potentially long last-mile journey from a route 20 stop in Bell Block. For example, travelling to Waiwhakaiho-Bell Block South from Spotswood takes approximately 40 minutes by bus using routes 2 and 20, and only 14 minutes by car.

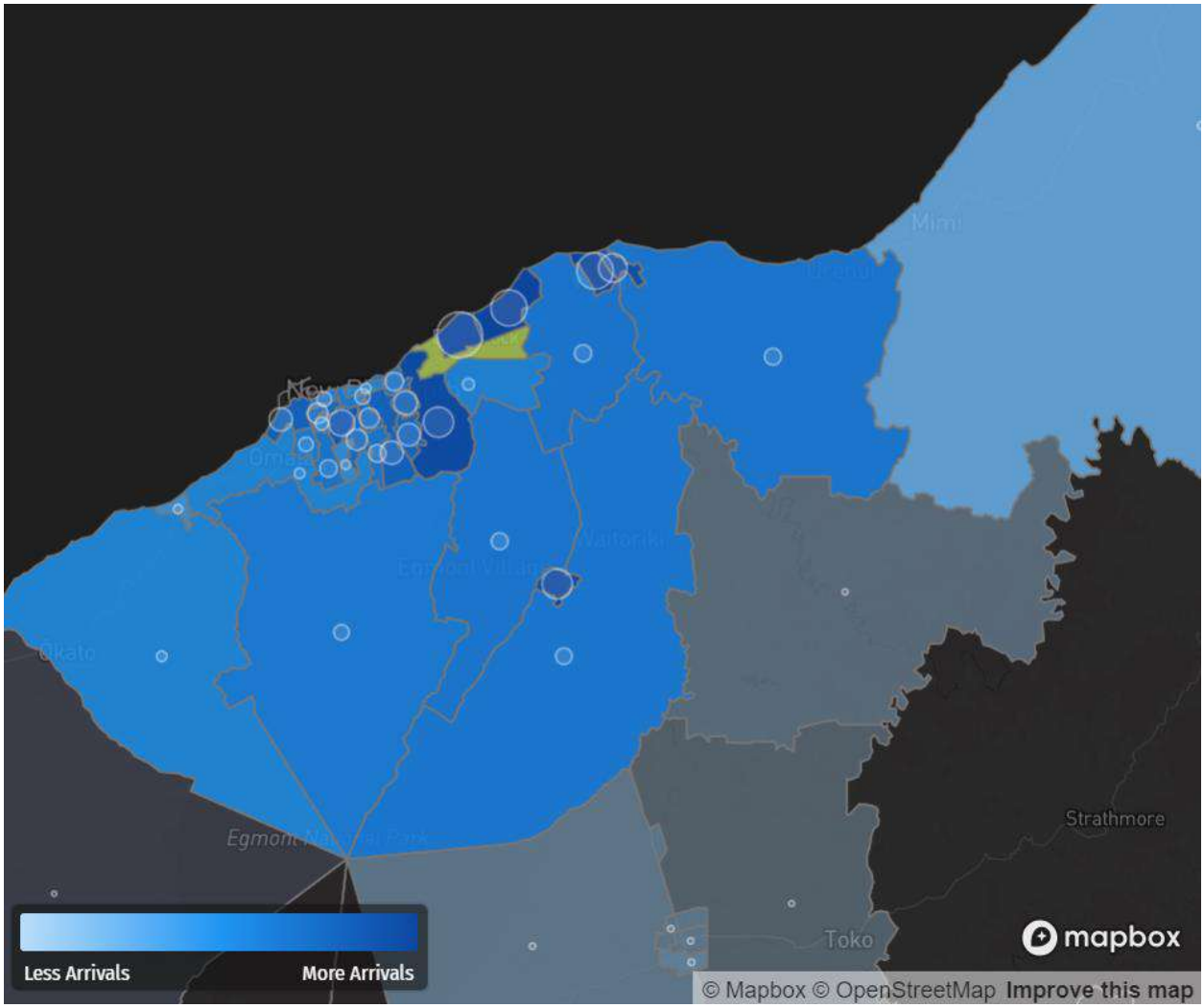


Figure 4-3: Daily work and education trip arrivals to Waiwhakaiho-Bell Block South (green) from the rest of the New Plymouth District. Areas in dark blue indicate a higher number of arrivals to Waiwhakaiho-Bell Block South originate from those areas.

Another area in New Plymouth with potential for mode shift away from private vehicles is Westown. The 2018 Census identified 1,740 people arriving daily for work from 32 different areas across the district. According to this data, almost 90% of the trips to work arriving in Westown are by private vehicle and around 1% are by public transport. Again, most trips to the area are longer by bus and require at least two separate bus services with a changeover in the CBD or at stops with intercepting routes. For example, travelling to Westown from Highlands Park takes approximately 60 minutes by bus using routes 8 and 4, and only 8 minutes by car.

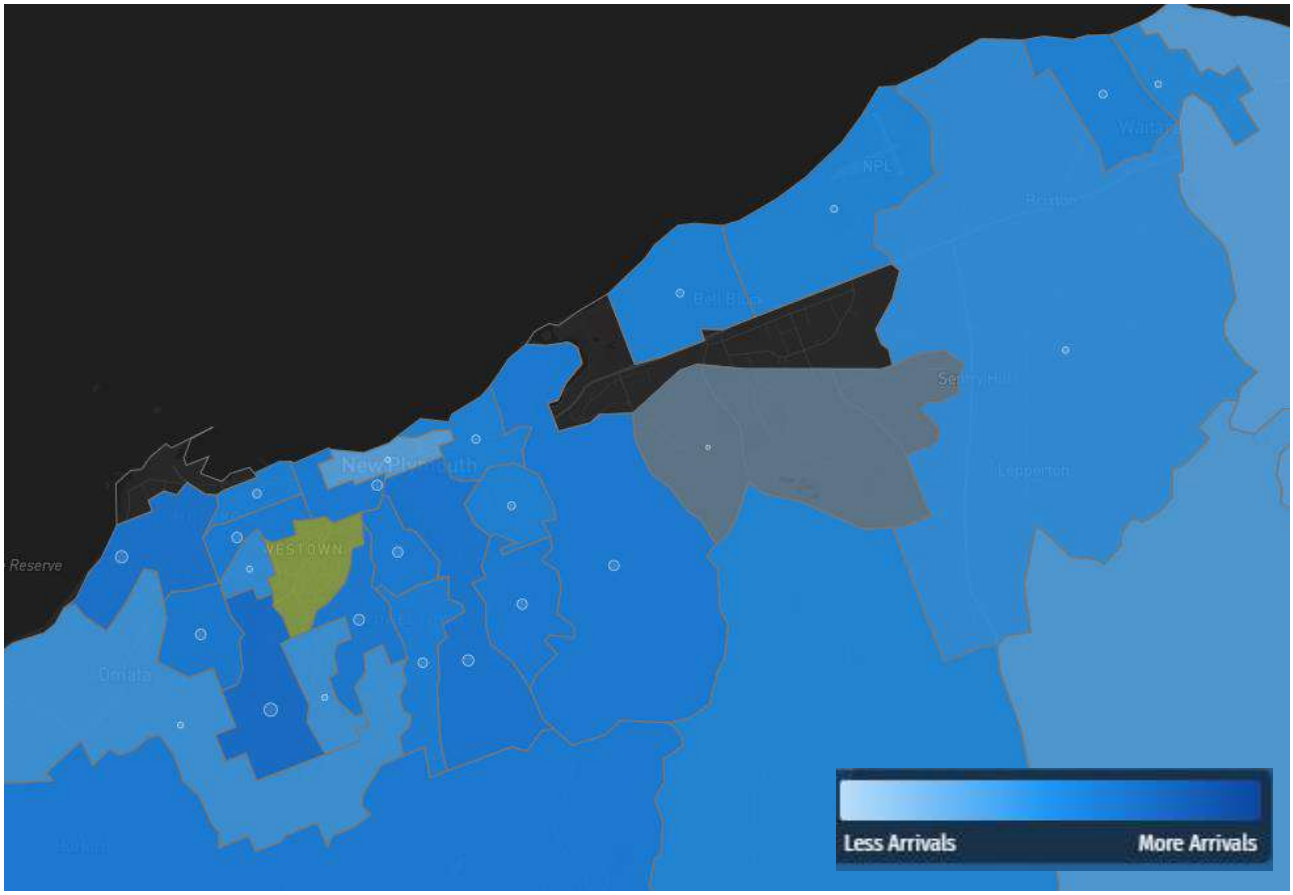


Figure 4-4: Daily work and education trip arrivals to Westown (green) from the rest of the New Plymouth District. Areas in dark blue indicate a higher number of arrivals to Westown originate from those areas.

Through better network alignment and timetabling, such as direct east to west connector routes, public transport could become a more viable option compared to private vehicles for a significant proportion of commutes and other trips for areas like Waiwhakaiho-Bell Block South and Westown.

4.1.5 Current bus patronage

The TRC have provided total bus patronage counts from July 2021 to June 2022, representing the most relevant and accessible data on TRC bus patronage over a full year. Due to the disruptive influence of the COVID-19 pandemic, previous years' data is not considered to be an accurate representation of bus patronage. Generally, higher patronage is observed on the south-western urban routes and those aligned with key destinations. This data is represented in **Figure 4-5** and **Figure 4-6**.

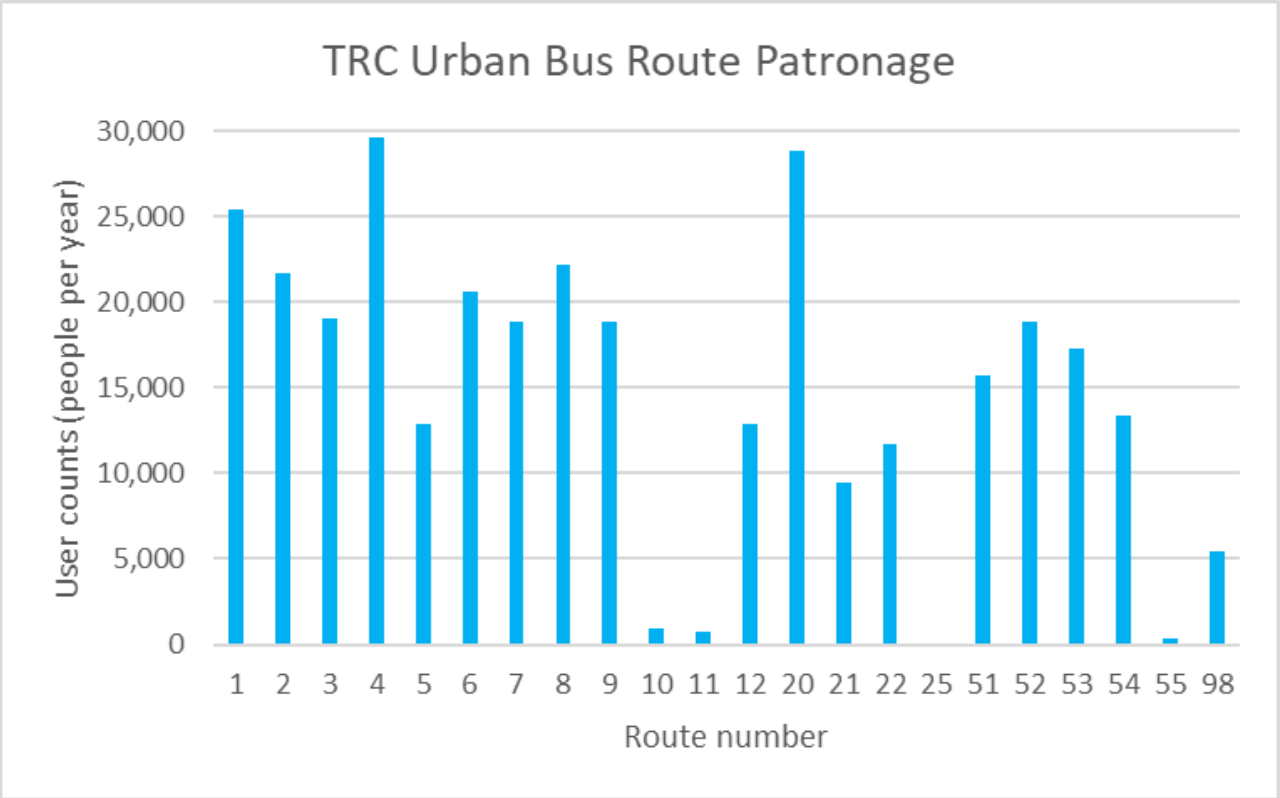


Figure 4-5: TRC urban bus route patronage from July 2021 to June 2022

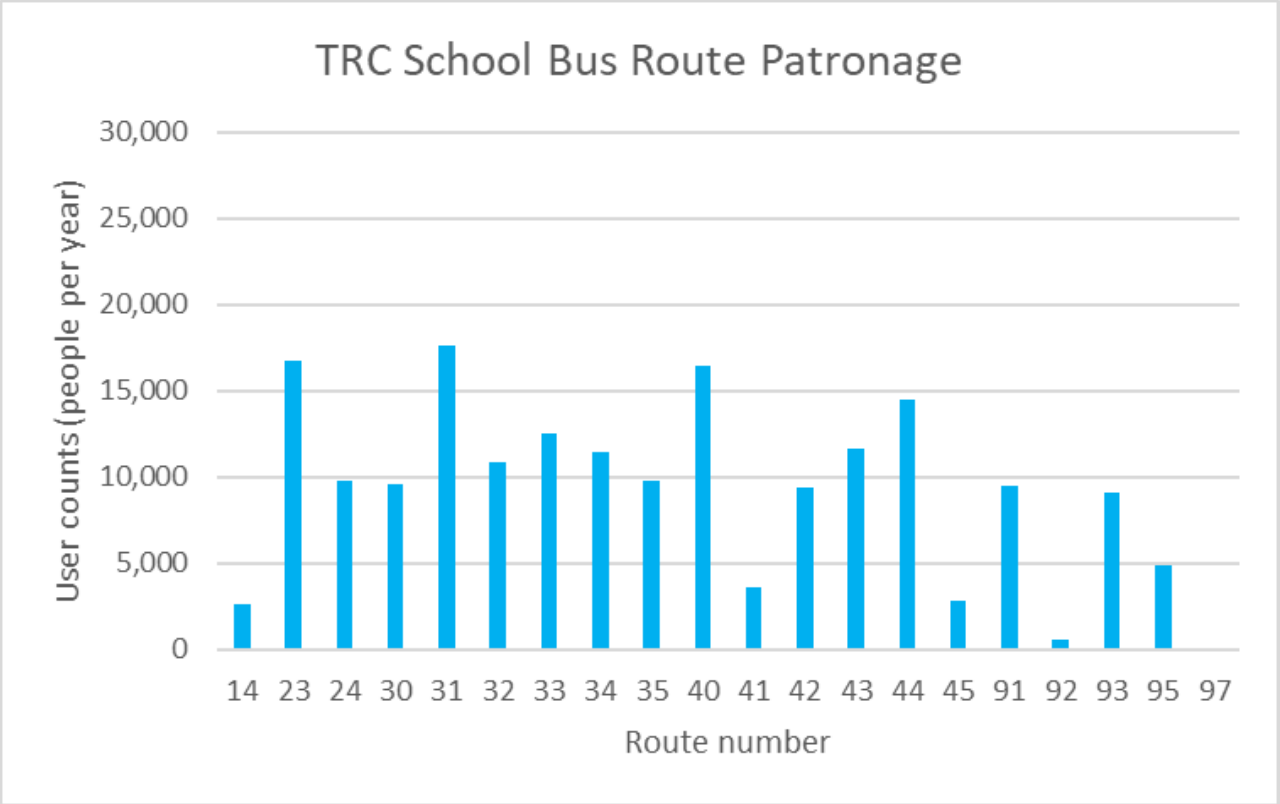


Figure 4-6: TRC school bus route patronage from July 2021 to June 2022

Route 4 Westown/Hurdon has the highest patronage of the TRC urban routes. This route is aligned with New Plymouth hospital, the largest employer in New Plymouth, and Francis Douglas Memorial College. Although this route has the highest patronage, daily trips arriving to work in Westown by public transport are dwarfed by private vehicles (see **Section 4.1.4.**).

Route 20 Waitara/Bell Block/New Plymouth is the second highest patronage route. This route is aligned with The Valley shopping centre and partially aligned with employment opportunities in Waiwhakaiho-Bell Block South. This route also supports a relatively large number of passengers carrying bicycles onboard. This indicates potential to better attract active mode users across the wider suburbs of New Plymouth to utilise public transport.

Among the TRC school routes, Route 31 Leperton/Bell Block to Highlands/Woodleigh has the highest patronage. Most of the school routes that provide access from outside the central New Plymouth area generally have higher patronage. Passengers carrying bicycles are less common on these bus routes, with a total of only 18 bicycles registered across all school routes for the year.

However, as **Table 4-4** shows below, Taranaki has a much lower bus boardings per capita figure than larger centers like Christchurch or Wellington. Note it is comparable with Manawatū / Whanganui.

Table 4-4: Bus boardings for selected New Zealand regions

Region	Total 12-month bus boardings (18/19)[23]	Population (2018 census)	Boardings per capita
Taranaki	650,000	117,561	5.5
Manawatū/Whanganui	1,340,000	238,797	5.6
Wellington	24,750,000	506,814	48.8
Canterbury	13,720,000	599,694	22.9

4.1.6 Problem 1 summary points and evidence gaps

Key points on mode split of travel to work and travel to education Census Data:

- The use of public transport and active transport is more prevalent amongst people traveling to education.
- The use of private vehicles for work related travel has increased in the past decade.

Key points on current public transport network alignment, scheduling, and travel times:

- Direct connectivity east to west and between outer suburbs is limited with the current bus network.
- Bus frequency is very low, which can lead to long travel times and delays for movements across the city.
- Public transport is significantly slower that private vehicles for journeys directly to the CBD and across the city and currently there are fewer people taking public transport than driving private vehicles to the city centre.

Key points on the Future of Transport consultation findings:

- The barriers to utilising the public transport system in New Plymouth include inadequate scheduling, limited routes, infrequent services, and inconvenience of use relative to private vehicles and active modes.

[23] https://www.transport.govt.nz/statistics-and-insights/public-transport/sheet/boardings-all-modes

- Improvements in infrastructure such as real-time information displays, safer shelters, and park and ride facilities were identified as the most desired improvements by respondents.
- There is no evidence that suggests public transport is prohibitively priced or unsafe.

Key points on mode shift potential:

- Low patronage because of long travel times and a low current level of service on public transport suggest that private vehicles are the preferred option for transport to key destinations in New Plymouth City.
- Bell Block and Westown have high numbers of commuters to and from, and there is significant potential in these areas to affect mode shift away from private vehicles onto public transport through better-connected public transport services to these areas.
- Alternative transport options should be investigated to help support communities away from central New Plymouth with smaller volumes of commuters, as the social impact of this can be significant.

Key points on current bus patronage:

- Routes that have higher patronage tend to be aligned with key destinations around the city.
- Some of these key destinations and employment areas still have very low proportions of daily trips arriving for work by public transport compared to private vehicles.
- There is potential to better attract active mode users to utilise public transport as part of their trips.
- Bus routes need to be better aligned with commuter movements.

The following aspects should be explored further to develop a better understanding of the causes and impacts of problem 1:

- Travel patterns and choices outside of travelling to work and education.
- Public transport reliability.
- Quality and quantity of active mode links to bus stops and shelters across the district.

4.2 Problem 2

Most urban areas have low density residential developments that make access by public transport, walking and cycling difficult resulting in high dependency on private vehicles and increasing transport costs for the community that especially impact lower socio-economic groups.

This problem relates to the high reliance on private vehicles within the New Plymouth District and how this is reinforced by lower density developments in urban areas. Public and active transport is put at a disadvantage by lower density developments, as they create sparse public transport catchments and increase journey distances. Transport costs in this context relate to vehicle operating costs, and costs of wider societal impacts from accidents, lack of choice, and travel delays.

4.2.1 Population Density and Land Use

The population density of the entire New Plymouth District according to 2018 Census data is less than 50 people/km^2. However, population density varies significantly between Statistical Area 2 (SA2) areas within the district, with the population density of New Plymouth City being approximately 800 people/km^2 (see **Table 4-5**). Residential and urban areas across the district are comprised mostly of lower density developments. Lower density developments are difficult to service effectively through public transport, walking, and cycling. This can lead to increased reliance on private vehicles and travelling longer distances for necessary trips to locations of work, education, services, and retail. Providing higher density development, especially along key transport routes, will inhibit urban sprawl, enable more people to be

effectively serviced by the TRC bus network, and make public transport, walking, and cycling more viable transport options compared to private vehicles.

Table 4-5: Example population densities in the New Plymouth District (derived from 2018 Census)

Area	Approximate Population Density
New Plymouth District	<50 people/km^2
New Plymouth urban area[24]	800 people/km^2
New Plymouth Central (New Plymouth Central, Kawaroa and Strandon)	1,400 people/km^2
Bell Block (residential)	1,500 people/km^2
Waitara	1,200 people/km^2

The need to increase density in New Plymouth is signalled in the NPDC Proposed District Plan, which implements Medium Density Residential Zones. This zoning enables medium density residential development up to three stories, including detached, semi-detached, terraced housing, and low-rise apartments. It applies to specific areas in New Plymouth City, Bell Block, Waitara, Inglewood, and Ōākura centres (see **Figure 4-7**). This zoning aims to discourage urban sprawl, increase housing supply and options within the district, and is supported by the National Policy Statement on Urban Development[25] (NPSUD) which the district plan must 'give effect to'. Increasing density in these key areas presents an opportunity to better service populations across the district with public transport, walking, and cycling.[25]

[24] Approximate urban area of New Plymouth city based on the adjacent SA2 area (excluding Bell Block)

[25] https://environment.govt.nz/assets/publications/National-Policy-Statement-Urban-Development-2020-11May2022-v2.pdf

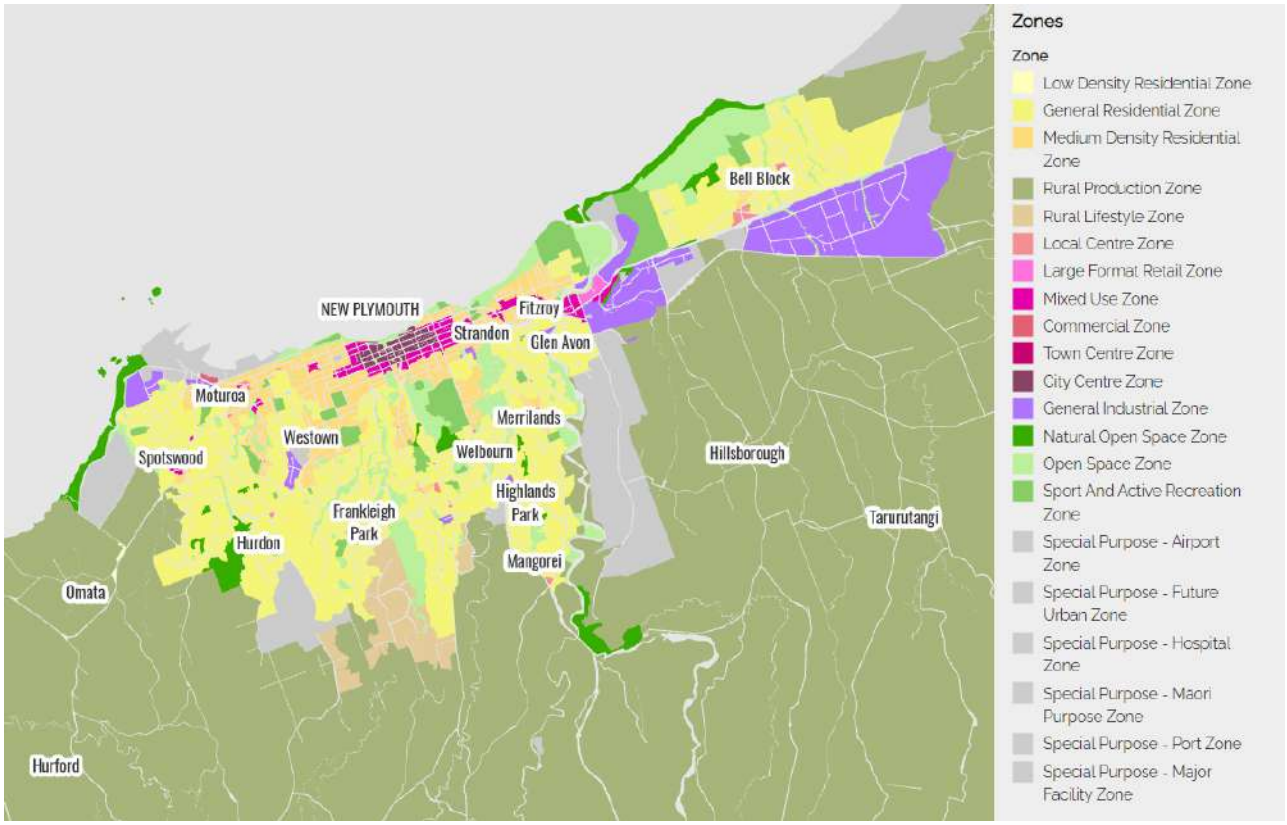


Figure 4-7: NPDC Proposed District Plan zoning

4.2.2 Current Mode Split

As discussed in **Section 4.1**, the mode split in the New Plymouth District has increased for private vehicles and stayed low for public and active transport usage over the last three census periods. **Figure 4-8** shows that the New Plymouth District has a high proportion of private vehicle use for commuting, with almost 80% of people in the New Plymouth District using a private or company vehicle to travel to work. This is higher than the New Zealand average of approximately 70%. Furthermore, percentages of people travelling to work by public transport (public bus) and active modes (cycling and walking) all sit below 5% and are all lower than the respective New Zealand averages.

Within the New Plymouth area, SH3 from Bell Block (north) is the most congested corridor and has the highest forecast delay into the future, suggesting that this corridor has the most potential for model shift.

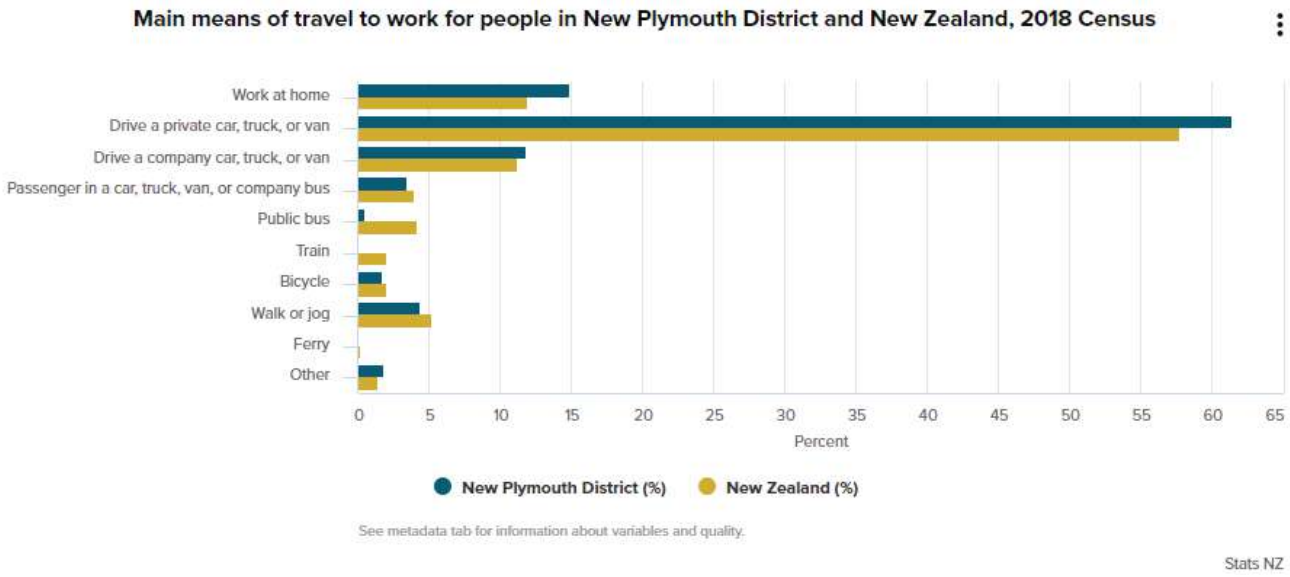


Figure 4-8: Travel to work data from 2018 Census

Figure 4-9 shows that the use of school buses and cycling for travel to education is slightly higher than the respective New Zealand averages. However, travelling to education as a passenger in a private vehicle is significantly higher than the New Zealand average, and walking or jogging is lower.

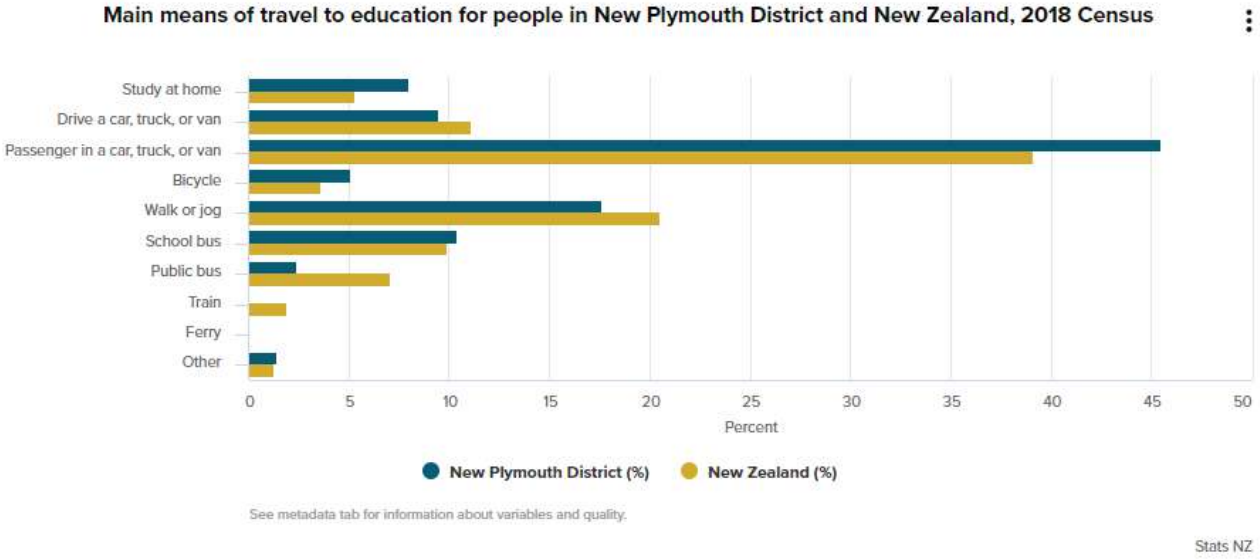


Figure 4-9 Travel to education data from 2018 Census

Also of note is the percentage of work at home and study at home across the New Plymouth District, which is higher than the respective New Zealand averages. This suggests that the nature of some existing employment and education opportunities in the district may lead itself to remote working and education schemes.

4.2.3 Development Areas

The Proposed District Plan has identified five development areas (0-10 year growth forecast) across the New Plymouth District (see **Figure 4-10)**, which are located in the outskirts of New Plymouth city. The development areas currently have limited transport connectivity to the rest of the city beyond private vehicles. However, the TRC have stated that existing bus routes will be extended to service the development

areas. Routes 4, 9, and 20, currently service areas close to the proposed development areas, and so could be extended to cover these areas (see **Figure 4-10**). Although these extensions may increase bus route travel times, their primary objective is to establish seamless connectivity throughout all areas. This strategic approach results in residents and commuters within the development areas enjoying the benefits of an interconnected and accessible transport network.

The development areas in the Proposed District Plan are located away from central New Plymouth City, where the highest concentration of employment and education opportunities are located. According to the 2018 Census:

- New Plymouth Central, Kawaroa, Strandon, Westown, and Welbourn combined have over 11,000 daily arrivals for work from across the city and the wider district.
- New Plymouth Central, Moturoa, Spotswood, Strandon, Westown, and Welbourn combined have over 6,000 daily arrivals for education from across the city and the wider district.
- The spread of origins of the daily arrivals for work and education in these areas indicates lower density and lower mixed-use zoning across New Plymouth.
- Given the proposed zoning from the Proposed District Plan, these central areas are likely to provide significant work and education opportunities for the development areas in the future.
- This could therefore lead to high reliance on private vehicles to access work and education from the development areas if improvements to the public transport, walking, and cycling network are not made.

However, the more western development areas in the Proposed District Plan are located close to the Waiwhakaiho-Bell Block South, which is an industrial area with significant employment that sees over 4,500 daily arrivals for work, according to the 2018 Census. The TRC public transport network does not currently service the industrial area in Waiwhakaiho-Bell Block South, resulting in a high reliance on private vehicles for commuting to work in this area (96% of arrivals). The western development areas could therefore enable proximity to place of work and a reduced reliance on private vehicles for those employed in the Waiwhakaiho-Bell Block South area, if improvements to the public transport, walking, cycling network and vehicle occupancy are made.

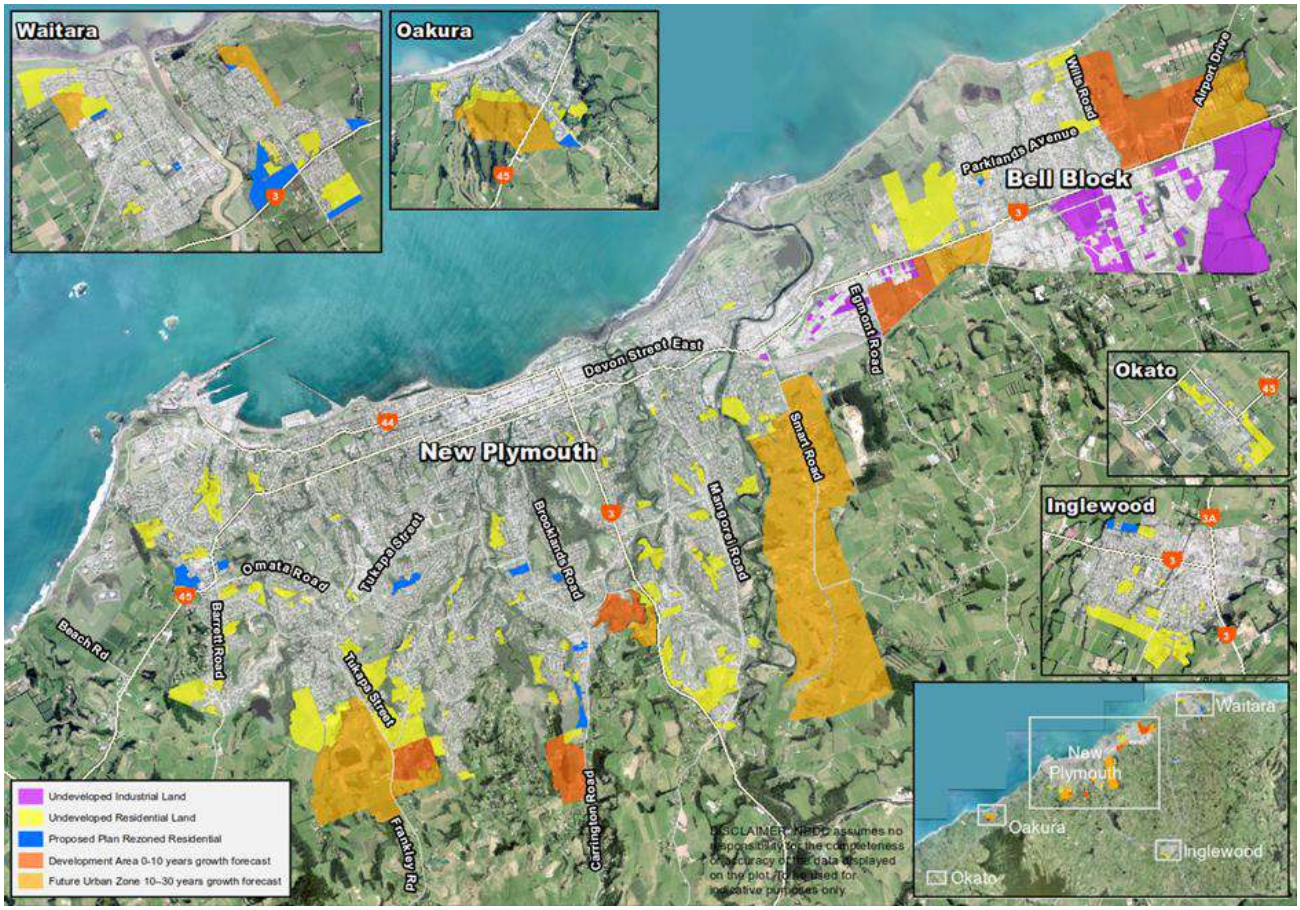


Figure 4-10: Development areas in NPDC Proposed District Plan (highlighted in dark orange)

4.2.4 Transport Costs

Transport costs were the third highest weekly household expense in New Zealand in recent years ($215 per week in 2019) (see **Figure 4-11**) and the mode share of private vehicles is high across New Zealand (see **Figure 4-8** and **Figure 4-9**), which indicates that operating a private vehicle is a significant household expense in New Zealand. The rising costs of fuel (see **Figure 4-12**) and driving private vehicles (see **Figure 4-13**) over the last 12 years, particularly after the onset of COVID-19 in 2020, indicates that operating private vehicles, especially for regular trips over longer distances, will continue to become more expensive into the future. Therefore, continued reliance on private vehicles could become an even more significant financial burden for households across the New Plymouth District where car alternatives are not viable due to limited public transport connections and poor active mode facilities over long distances. This will have a greater impact on those who will likely need to travel further for work, employment, and services, such as those in the proposed development areas (see **Figure 4-10**) and rural District towns. Ultimately, this suggests that more affordable transport options are needed across the district.

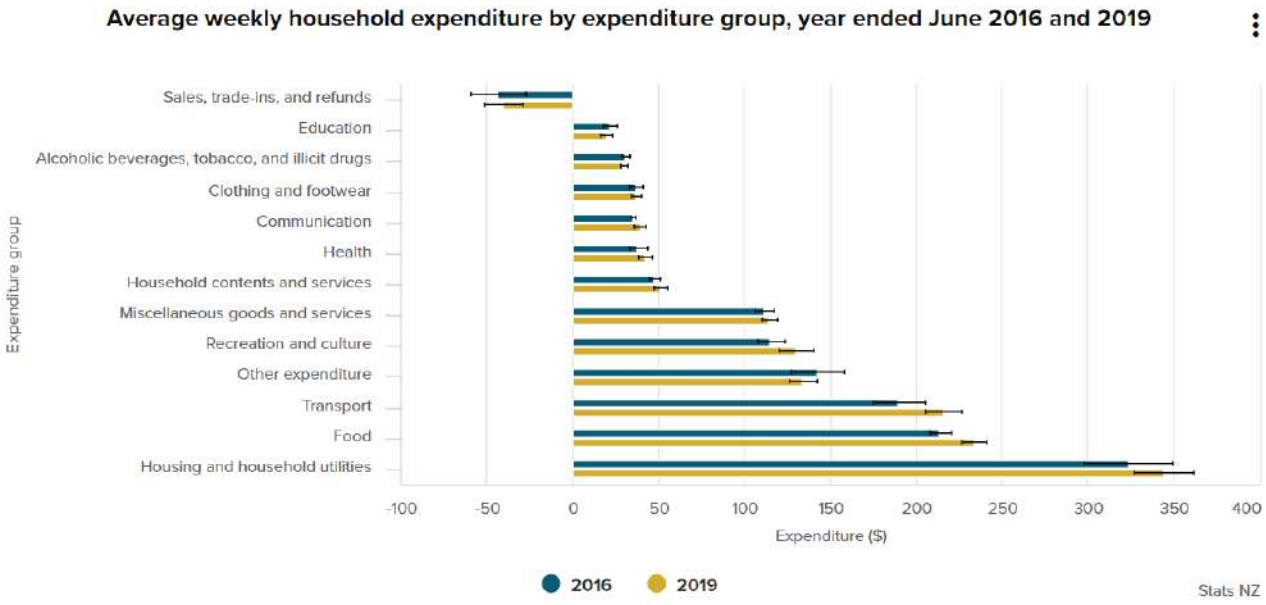


Figure 4-11 Average weekly household expenditure 2016 - 2019

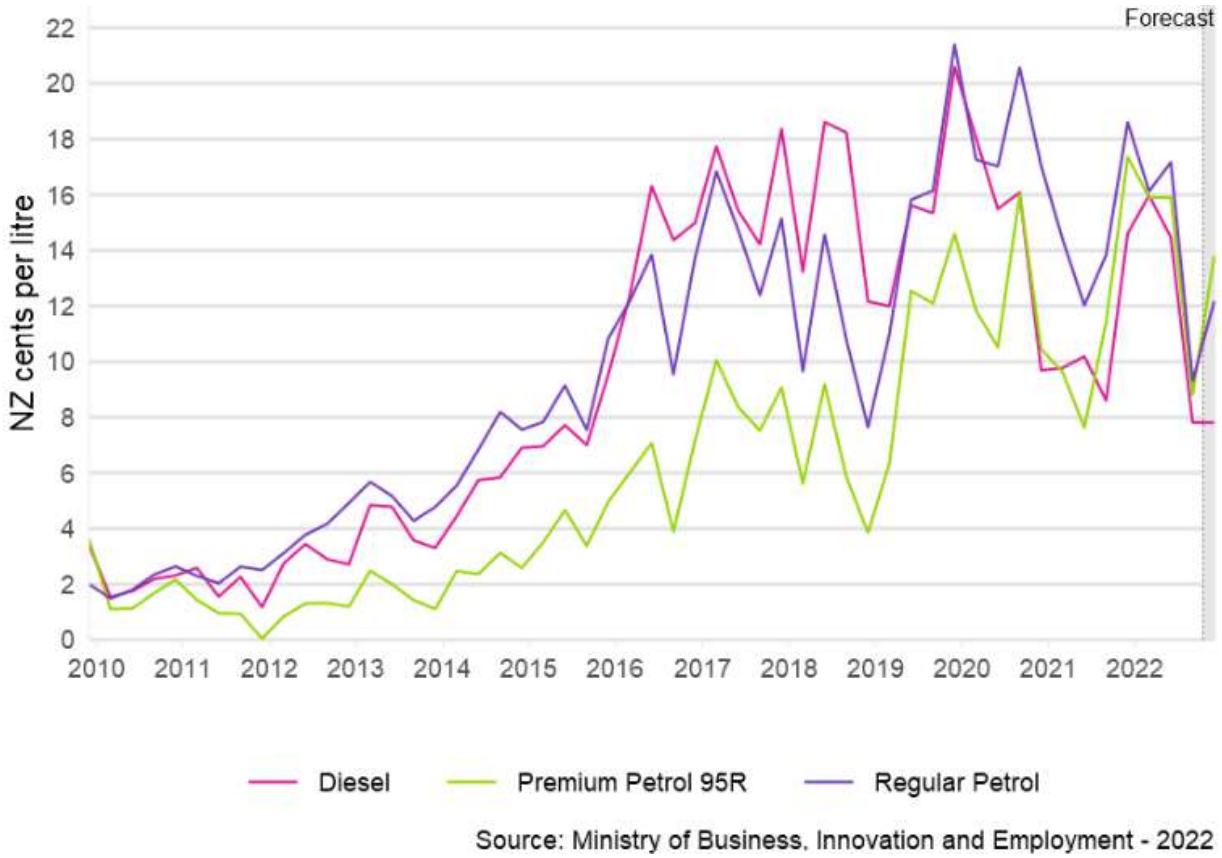


Figure 4-12: Cost of fuel from 2010 to 2022 in New Zealand

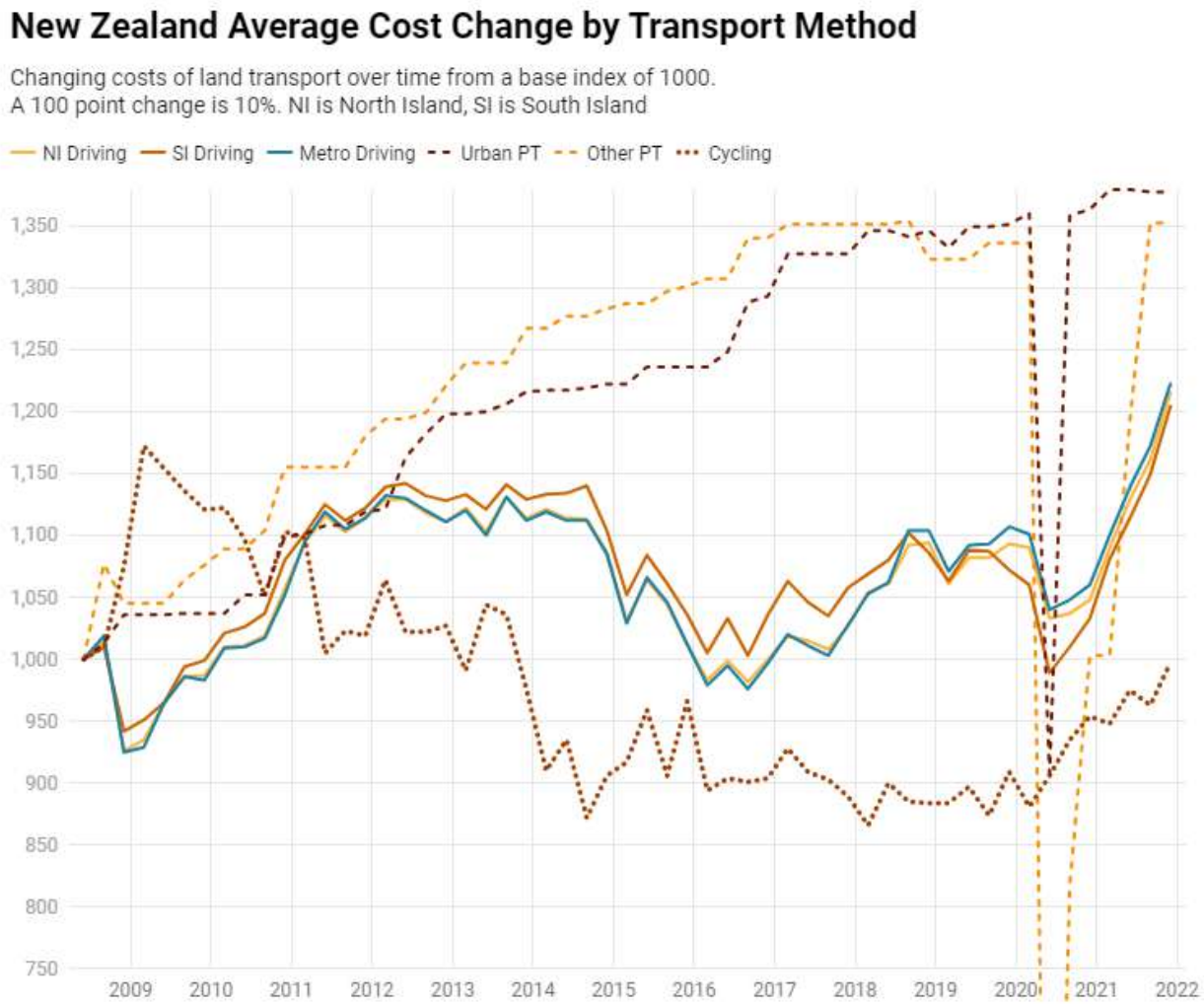


Figure 4-13: Land Transport Costs (AA and Stats NZ)

Although public transport costs across New Zealand have seen larger increases compared to driving costs over the last 12 years (see **Figure 4-13)**, public transport, where available, is generally the cheaper option compared to driving.

An example of the relative costs and convenience of driving and public transport for New Plymouth is given below:

- The AA estimated that owning a small vehicle in 2021 costed approximately $22 per day, including both fixed and flexible expenses[26].
- In New Plymouth Central, parking costs are set at $3 per hour on weekdays, while free parking is available on Sundays and in Urenui, Waitara, Inglewood, Fitzroy, Westown, Strandon, Moturoa, Ōākura and Okato shopping areas in time-restricted parking bays. There are also various free all day parking areas throughout the residential areas surrounding Central New Plymouth.
- Using public buses provided by TRC in New Plymouth City currently costs $3 in cash for a one-way trip (reduced to $2 with a bee card). Assuming a resident needs at least one return trip, a round trip in New Plymouth City would cost a maximum of $6 per day.

[26] https://www.aa.co.nz/cars/motoring-blog/vehicle-ownership-costs-more-than-just-the-purchase-price/

- Bus fares differ based on the number of zones travelled. For example, a one-way trip from Inglewood to New Plymouth Central costs $4 in cash.
- Plenty of cheap and readily available parking attracts high level of private car usage.
- However, private vehicle usage remains the primary method of transport in New Plymouth. This is likely due to the relative convenience and available facilities compared to public transport, walking, and cycling. For example, free and time unrestricted parking just outside of the CBD area.

This suggests that the current cost differences between using public transport and private vehicles are not enough to effectively encourage more people to use public transport over private vehicles. As private vehicle operating costs increase, lowering bus fares in the New Plymouth District might encourage some mode shift. However, improvements to public transport accessibility, routes, and frequency will likely have a greater impact.

It should be noted that currently choosing between the car or bus is not an either/or in New Plymouth. It is likely using the car AND bus for most people, depending on the trip. The car ownership expense would only be eliminated if residents chose not to own a car at all. Therefore, car users are choosing between using their car and the fuel costs + parking costs or leaving their car at home and paying a bus fare instead. This may be different to metro areas where residents could live conveniently with no car at all.

4.2.5 Impacts on lower income communities

Figure 4-14 shows the median personal incomes across different areas of the New Plymouth District from the 2018 Census. New Plymouth Central has the highest median income, whereas Waitara has the lowest median income.[27] Waitara also has a higher reliance on private vehicle to commute to work and a lower percentage of people who work from home as compared to the whole New Plymouth District (see **Figure 4-15**). This suggests that reliance on private vehicles creates a disproportionate financial burden for people across the district that live in areas away from New Plymouth City with lower incomes such as Waitara.

[27] https://www.stats.govt.nz/tools/2018-census-place-summaries/waitara-east#income

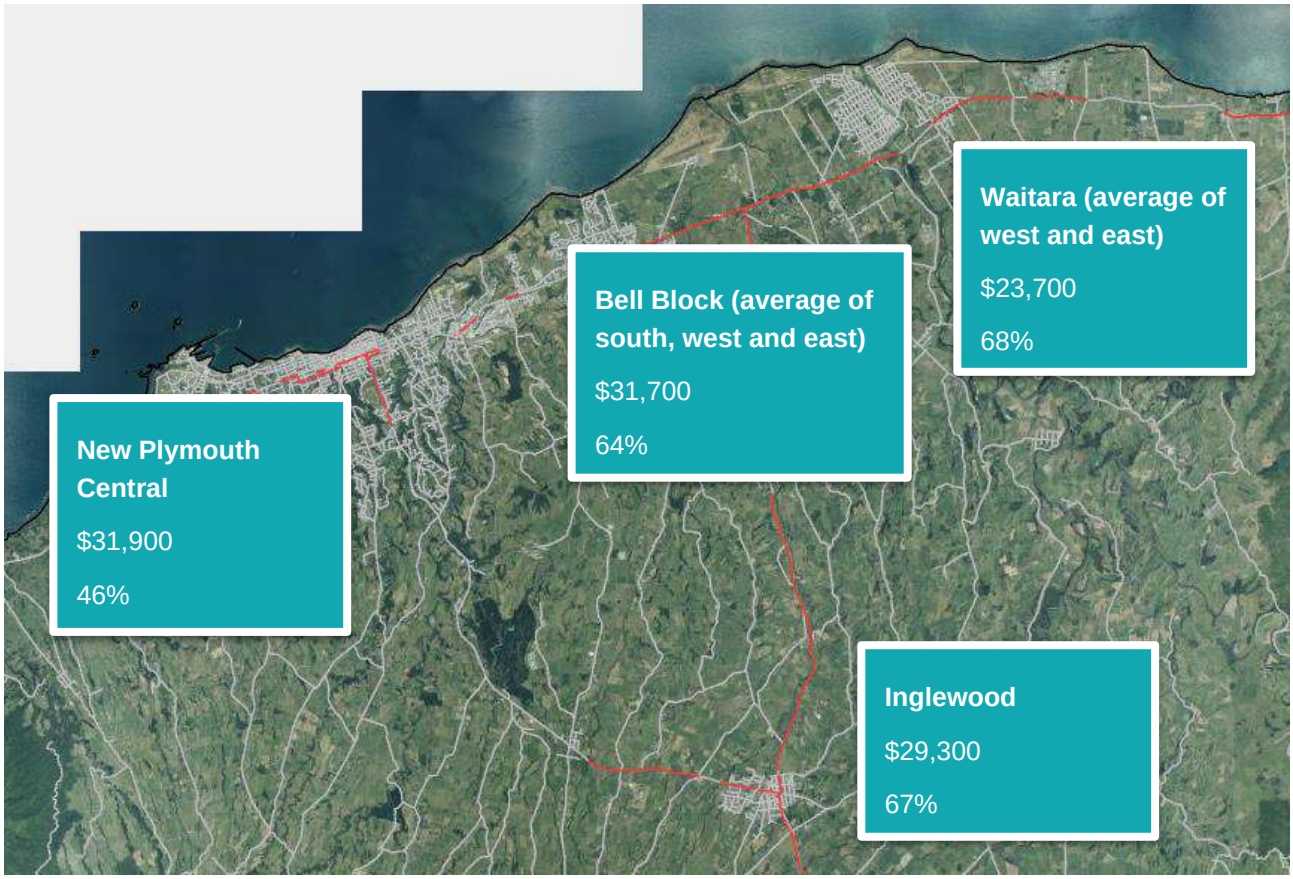


Figure 4-14: Map showing distribution of median incomes and % that drive a private vehicle to work from 2018 Census

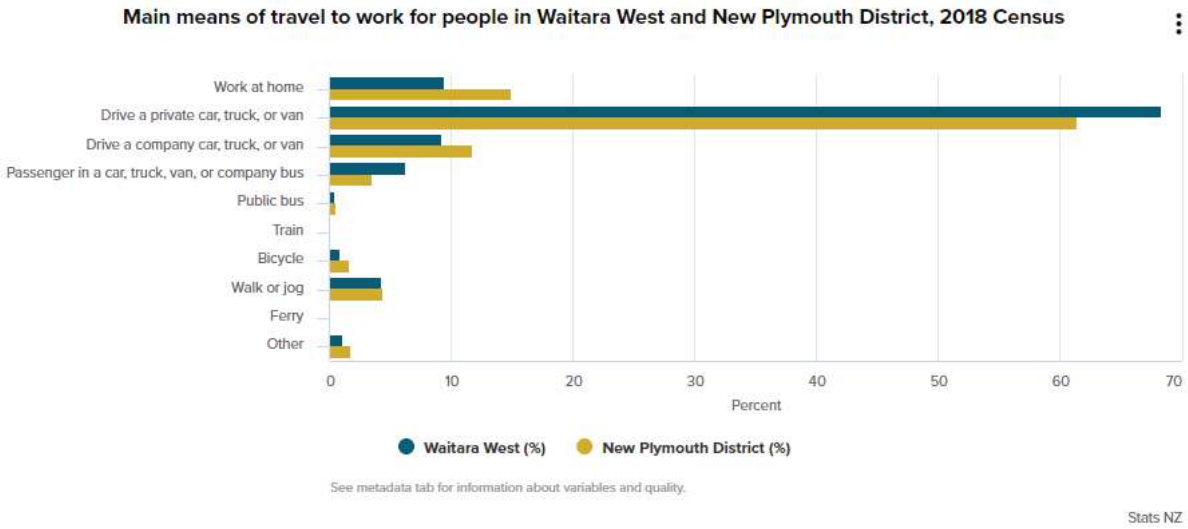


Figure 4-15: Mode split of travel to work for Waitara and the New Plymouth District from the 2018 Census[28]

From the perspective of safety, reliance on private vehicles has a disproportionately larger impact on people with lower incomes, especially those who are Māori. People with a lower income are more likely to purchase a vehicle with a lower safety rating as they are generally cheaper. **Figure 4-16** shows that, in the New

[28] https://www.stats.govt.nz/tools/2018-census-place-summaries/waitara-east#income

Plymouth District, Māori have a proportionately lower income compared to all people.[29] The research report *He Pūrongo Whakahaumaru Huarahi Mō Ngā Iwi Māori - Māori road safety outcomes* by NZTA reveals that Māori are over-represented in less safe vehicles. The mean number of people travelling in a vehicle with a one-star safety rating that is involved in a DSI crash is 1.7 for those driven by Māori and 1.3 for those driven by non-Māori. This shows an inequitable outcome for the Māori population in the New Plymouth District, who are exposed to a higher risk of injuries in the event of a crash.[30]

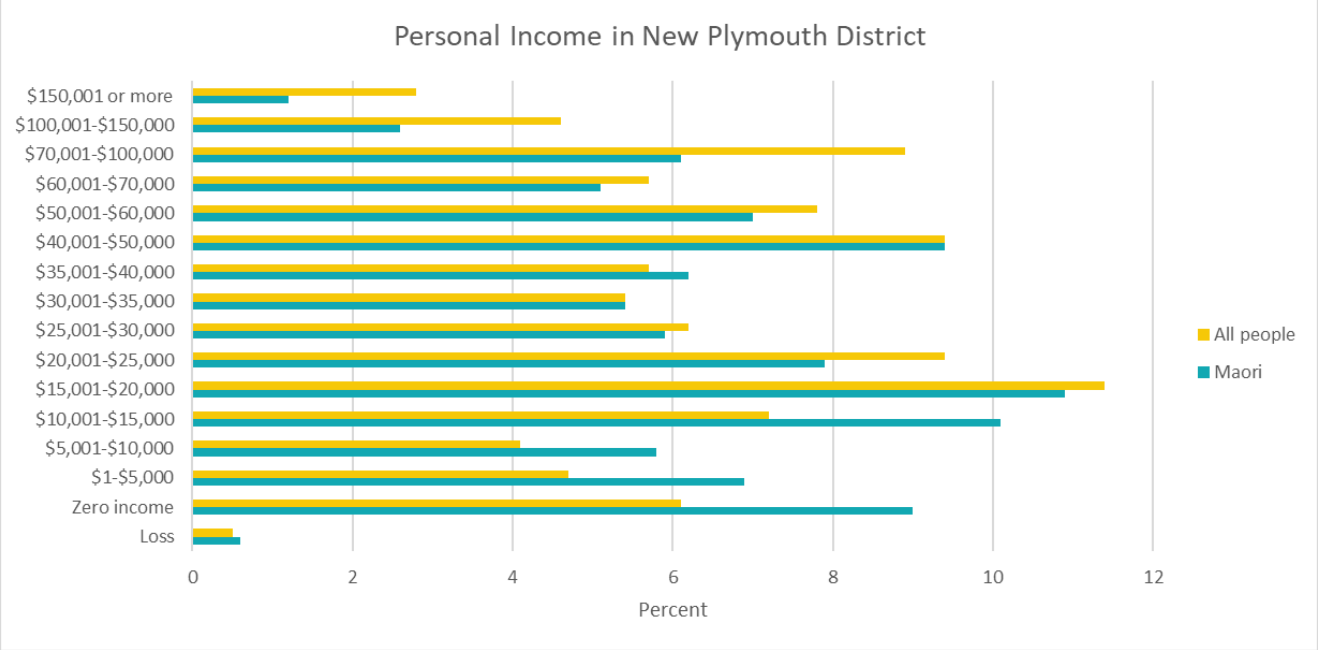


Figure 4-16: Income distribution in percentage for all people and Māori in the New Plymouth District

4.2.6 Problem 2 summary points and evidence gaps

Key points on population density and zoning from the proposed district plan:

- The medium density residential zones in the proposed district plan are a strong signal for the need to increase density in New Plymouth. These zones should deliver mode shift away from private vehicles if they are well integrated with public transport and active mode transport facilities.
- In general, providing higher density development along key transport routes will inhibit urban sprawl and improve transport choices for more populations across the district.

Key points on current travel to work and education mode split:

- Existing public bus routes and frequencies does not position buses as an effective means of transport for people who travel to work in the district.
- Existing walking and cycling facilities and the required travel distances will not support the growth of active modes as an effective means of transport for people who travel to work or education in the district.
- Low parking fees in New Plymouth CBD and the ease of parking in local streets both contribute to cars being the preferred option.

[29] https://www.stats.govt.nz/tools/2018-census-place-summaries/new-plymouth-district#income

[30] https://www.nzta.govt.nz/assets/resources/maori-road-safety-outcomes-report/maori-road-safety-outcomes-full-report.pdf

Key points on development areas from the proposed district plan:

- Extending existing bus routes to the development areas will extend the catchments of public transport to outlying areas but will increase public transport travel times.
- The general lack of mixed land use zoning near the development areas in the proposed district plan will likely increase the reliance on private vehicle travel to travel further to reach amenities and opportunities.
- Without improvements to public transport and active mode facilities, private vehicles will be the main mode of choice for trips to and from the development areas, thereby creating capacity issues on key routes such as SH3 north of New Plymouth.

Key points on transport costs and impacts on lower-income communities:

- Transport costs, especially those for operating a private vehicle, are a significant and increasing household cost for New Plymouth households.
- The associated transport costs for using private vehicles are significantly higher than those for using public transport. However, private vehicles are still used by most across the district over public transport.
- Across the district, lower-income communities are generally less connected to education and employment opportunities by public transport and active modes. This creates a disproportionate financial burden on these communities from higher reliance on private vehicles located further away form education and employment.
- Lower-income communities and Māori are at a disproportionately higher risk of crash fatalities and injuries from higher reliance on private vehicles.

The following aspects should be explored further to develop a better understanding of the causes and impacts of problem 2:

- Limiting factors of New Plymouth City's linear and low-density form on access to key services.
- Enabling factors of New Plymouth City's linear form for high-movement public transport corridors.
- Constraining factors of New Plymouth City's linear form and topography on active mode uptake and congestion.
- Accessibility of schools across the district.

4.3 Problem 3

The network is configured to prioritise private vehicles and road freight over other modes resulting in issues across the city and towns including severance (particularly for centres on state highways, between communities and the coast, and residential areas with key destinations), and declining amenity (noise, dust, and pollution).

In this context, severance is defined as the separation of people from facilities, services, and social networks they wish to use within their community; changes in comfort and attractiveness of areas; and/or people changing travel patterns due to the physical, traffic flow and/or psychological barriers created by transport corridors and their use.

This problem explores the evidence behind how New Plymouth's transport network has favoured the use of private vehicles which has led to severance and declining amenities for the district's communities. The information collected to inform the evidence base for this problem spans from the One Network Road Classification (ONRC), the current One Network Framework (ONF) classification of the road network through New Plymouth, and operating speeds in the central city. The purpose of the ONF is to align the strategic transport planning at all levels including long term plans, Regional Land Transport Plans (RLTPs) and the NLTP. This is done by combining them all into a common language which is consistent throughout the transportation profession. Therefore, there will be more consistency in conveying and discussing transport projects and plans with the public. Finally, the ONF recognises that streets are not just for keeping people

and goods moving, but they're also places for people to work, live, and enjoy. The ONF process provides an integrated approach to a better balance between the demands of place, such as centres and movement needs of different transport modes.

Providing an integrated transport network that aligns with the proposed land uses in the surrounding area is a desired outcome from this problem, this will allow residents of New Plymouth better access to the public transport system whilst providing a more effective and efficient service.

Problem 3 particularly impacts the Ōakura, Inglewood and New Plymouth City areas between the CBD and surrounding commercial and residential area and access to the coast.

4.3.1 Road network favouring high movement through city and town centres

Poor Alignment with Future Network Movement and Place Priorities

State Highways 44 and 45 create a significant issue of severance through New Plymouth Central. This severance impacts the accessibility and integration between the CBD and surrounding area. To address this problem and provide a safe and convenient system for all transport users, the roading network within New Plymouth Central has undergone a hierarchical change through the implementation of the ONF. The previous classification system One Network Road Classification (ONRC) focussed on vehicle movements and volumes. The aim with the ONF is to provide a network that caters to the needs of all users and minimises the adverse effects of the existing severance through reprioritising the movement function and increasing amenity. Most roads in the New Plymouth Central area have now been reclassified as activity streets under the ONF (see **Figure 4-17)**. This classification signifies that these streets not only facilitate movement but also provide access to retail and services should accommodate all users. These streets do include state highways.

Figure 4-18 and **Figure 4-19** show a similar situation through Inglewood and Ōakura. Both district towns have a state highway through the centre of the town with a strong movement function that constrains active mode accessibility.

The demand for both efficient transportation and vibrant public spaces is recognised, and efforts are made to manage the competing demands within the available road space. However, it is important to acknowledge that the current road infrastructure within New Plymouth Central is insufficient in addressing the issue of severance. The present issues are as follows:

- Most of the roads in the area only have pedestrian crossing facilities at intersections, failing to reflect desired crossing lines and impeding pedestrian mobility.
- The lack of mid-block pedestrian crossings means that vulnerable road users face inconvenience and limited access to and within the area.
- The existing situation prioritises private vehicles for transportation, disadvantaging pedestrians and other vulnerable road users.

To mitigate the effects of severance and promote inclusivity, it is crucial to enhance the pedestrian infrastructure. This includes the implementation of mid-block pedestrian crossing facilities that align with desired crossing lines, ensuring safe and convenient access for pedestrians throughout New Plymouth Central. By equally prioritising the needs of all road users and creating a cohesive transportation system, the adverse impact of severance can be mitigated, fostering a more connected and accessible urban environment.

Figure 4-17: ONRC (top) and ONF (bottom) through New Plymouth City

Figure 4-18: ONRC (top) and ONF (bottom) through Inglewood

Figure 4-19: ONRC (top) and ONF (bottom) through Ōakura

Highways causing severance leading to limited active mode opportunities

Running at the core of New Plymouth Central's transportation network are two State Highways, namely SH45 and SH44. These highways span from east to west, and their presence creates challenges for active mode users seeking to reach key destinations in and around the CBD. The highways act as barriers, hindering convenient access to key locations, with this severance is leading to low alternative mode uptake, increasing the number of people driving and creating additional delays for residents.

A primary route for active mode users is along Gover Street from Pukekura Park to the New Plymouth city centre. To reach Devon Street West (a Main Street under the ONF) active mode users are required to cross two lanes of SH45 (Leach Street) traffic with no support from crossing facilities as shown in **Figure 4-20**.

Figure 4-20: SH45 (Leach Street) with no crossing facilities

Another key active mode route along Liardet Street directs people from Pukekura Park, through the city centre to the Coastal Walkway. This 800m long route crosses three state highways (Leach Street, Courtenay Street and St Aubyn Street), and of the nine intersections on this route, four intersections are controlled by traffic signals. The signal phasing on this corridor is prioritised for vehicles on the state highways resulting in long wait times at the traffic signals for pedestrians that encourages some pedestrians to cross outside of the green pedestrian phase in breaks in the traffic flow.

A similar example is on SH45 in Blagdon to access the Countdown supermarket, where pedestrians are required to cross the road with poor crossing facilities. This crossing is facilitated with kerb build-out islands on both sides of SH45, however the crossing distance is still greater than 10m, making it unsafe for vulnerable users two lanes of a state highway to manoeuvre across, as shown below in **Figure 4-21**.

Figure 4-21: Blagdon crossing facilities

Bell Block also experiences severance between the residential area on the northern side of SH3 and the industrial area on the southern side of SH3. Connectivity for active modes is limited to the Mangati shared pathway underpass, sharing SH3 with vehicles or using their own motor vehicle to access this area. This can be seen in **Figure 4-22**. There is a disconnected local road network in Bell Block with a high number of cul-de-sacs, which limits accessibility by other transport modes.

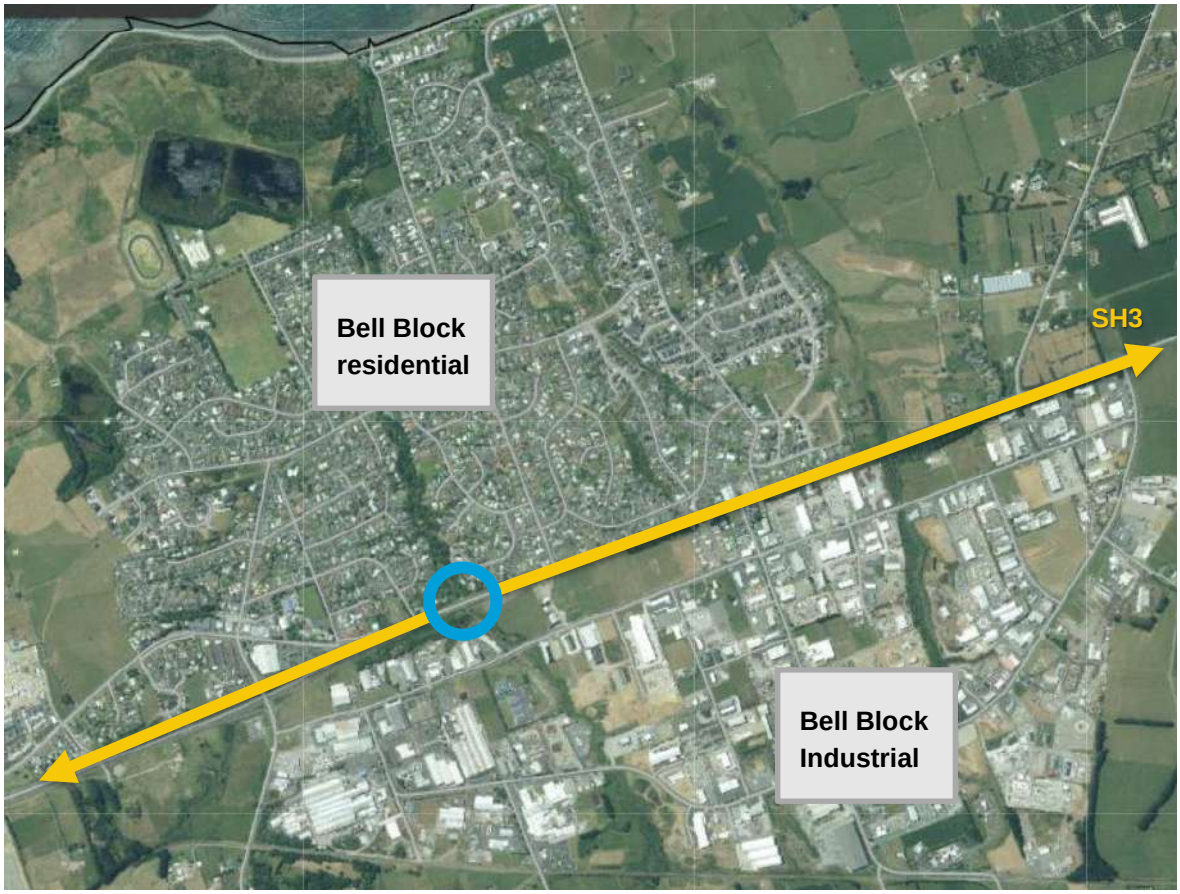


Figure 4-22: Bell Block Severance. Mangati shared pathway SH3 underpass circled in blue.

Moturoa is another area where the state highway system in New Plymouth causes severance. Approximately, 50% of Moturoa is cut off from the Coastal Walkway requiring the people to cross SH44 when using active modes of transportation. The Coastal Walkway experiences high volumes of walking and cycling and is a key connection to the CBD for residents looking to mode shift from private vehicles. A primary desire route which leads down to Ngāmotu Beach (on Bayly Road) in Moturoa is shown below in **Figure 4-23**.

This severance is also present in Inglewood within the New Plymouth District, where SH3 separates the schools in the south of the town from the residential area north of the highway, with limited safe crossing facilities available.

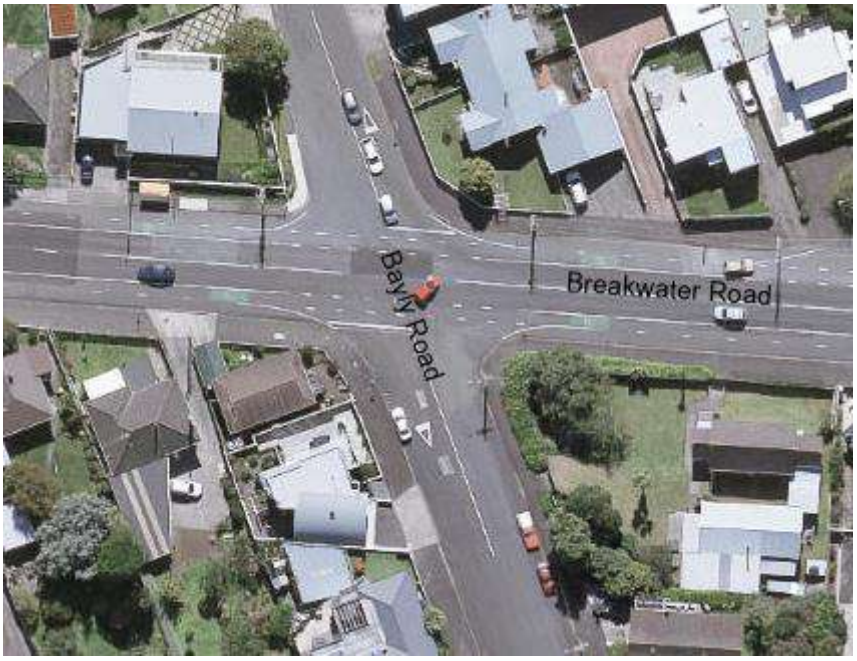


Figure 4-23: Moturoa Suburb Severance

These areas have been highlighted in the Network Operating Framework where active mode users are not serviced very well and contributes to severance in the active mode network:

- The level of service for pedestrians at desire lines is poor when they align with the State Highways that travel through new Plymouth.
- Pedestrians are left without crossing facilities creating a large gap in the network.
- The cycling network level of service in these key spots throughout New Plymouth is also poor. Although three of the four routes have cycle lanes these are not separated and are conflict with parked vehicles.
- Such low level of separation in the cycle network creates barriers for active mode users with a network which is incomplete.

Due to the severance caused by the State Highways throughout New Plymouth district's transport network there is a significant percentage of people who prefer to use their own private vehicle rather than active modes. This is deemed to be more efficient and a safer mode of transportation. The gaps in the network caused by the State Highways increase the personal risk to the active mode users and the duration of their commute. The lack of provision for pedestrians and cyclists creates gaps in the useable network and increases safety risks for these users.

Mean operating speeds through the city

Figure 4-24 shows the mean operating speeds throughout New Plymouth, highlighting that some key routes through the city centre have operating speeds above 30km/h. As shown in **Figure 4-25,** the severity of a collision between a vehicle and an active mode user increases exponentially as vehicle speeds exceed 30 km/h. Therefore, when combined with the limited crossing facilities, several routes through the central city of New Plymouth put active mode users at increased risk of fatality and serious injury.

Figure 4-24: Mean operating speeds through New Plymouth

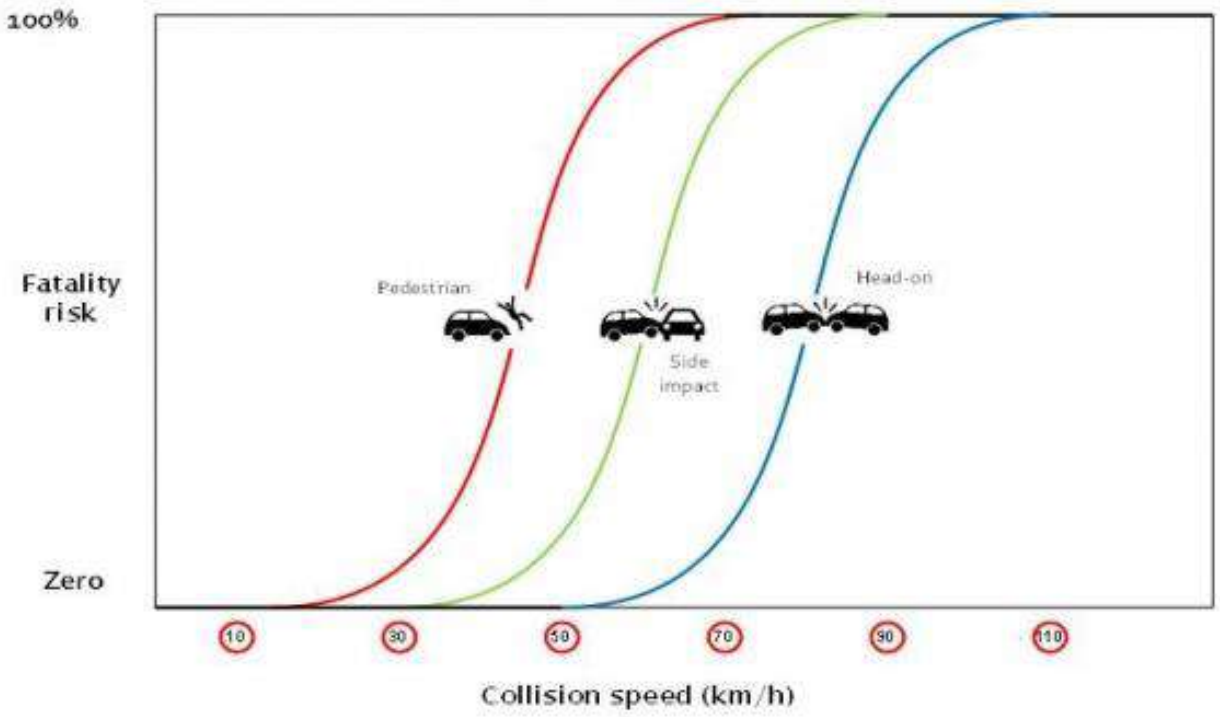


Figure 4-25: Survivable speeds graph[31]

[31] https://archive.gw.govt.nz/survivable-speeds/

4.3.2 Increased vehicle movements increase severance

Increasing AADT

Table 4-6 and **Figure 4-26** shows the Annual Average Daily Traffic (AADT) at key locations along three State Highways in and around New Plymouth between 2017 and 2021. This data was obtained from the NZTA data base. Vehicle volumes are shown to steadily increase except for the 2020, which was likely due to the impact of COVID-19 lockdowns. This indicates that there are increasing vehicle volumes on key routes in and around New Plymouth, leading to increased congestion and a lower level of services for pedestrians and cyclists.

Table 4-6: AADT across SH network in New Plymouth Area[32]

Geographical location	Location	2017	2018	2019	2020	2021
New Plymouth	Molesworth Street/SH44	13,151	13,794	13,794	12,883	14,321
New Plymouth	Seaview Road/SH45	14,620	14,891	15,390	14,414	15,872
New Plymouth	SH3 at Paynters Avenue	13,051	13,936	14,815	13,315	14,865
Ōakura	Hurford Road/SH45	7,653	7,914	8,317	7,788	8,503
Inglewood	Rata Street/SH45	11,738	12,182	12,619	11,337	13,673
Waitara	Devon Road/East of SH3A	15,504	16,229	16,583	15,087	16,918

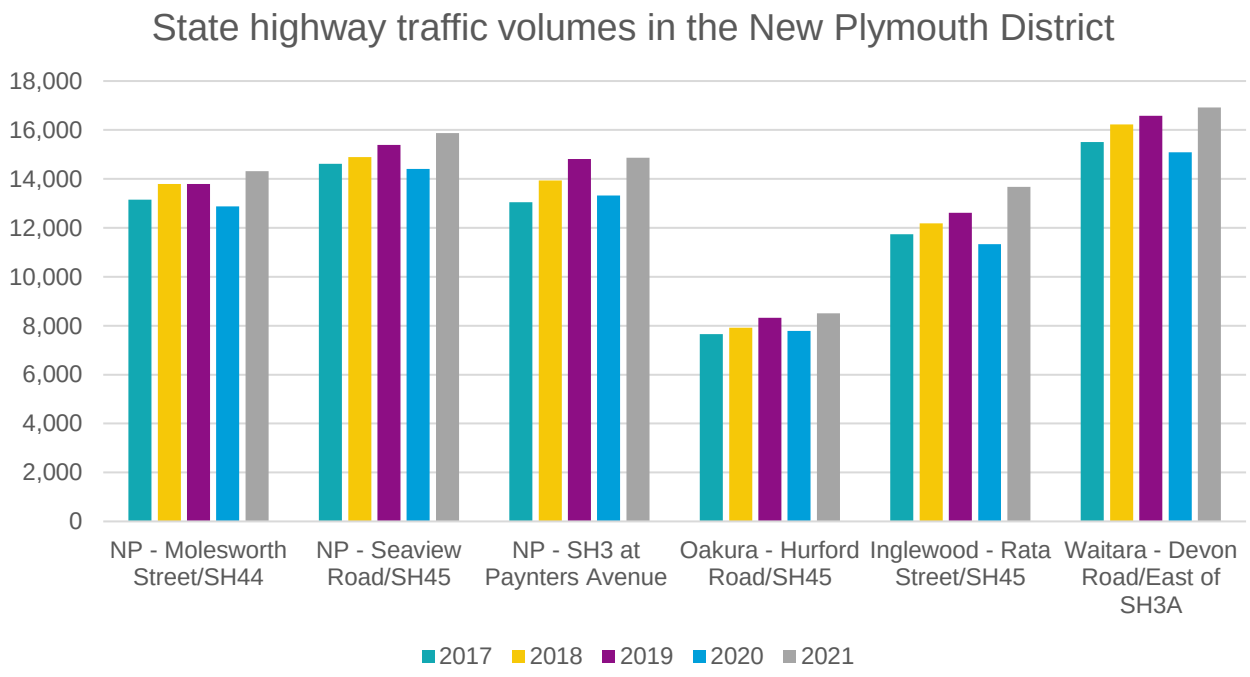
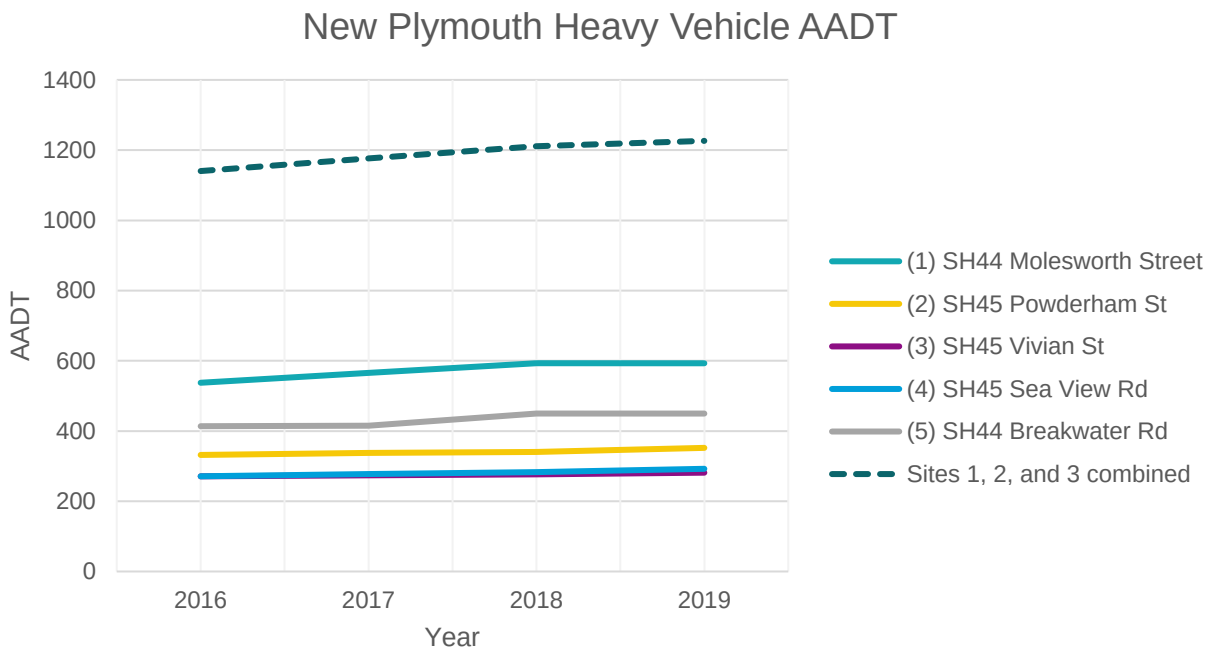


Figure 4-26: State highway traffic volumes in the New Plymouth District

[32] https://maphub.nzta.govt.nz/public/?appid=31305d4c1c794c1188a87da0d3e85d04

Heavy Vehicle movements

Figure 4-27 shows there are approximately 1,200 heavy vehicles movements daily through the centre of New Plymouth. These are gradually increasing and high heavy vehicle volumes on state highways through New Plymouth contribute to increasing severance between the coast and surrounding areas of New Plymouth. Additionally, these heavy vehicles are likely to be causing vibration disturbance for nearby buildings.



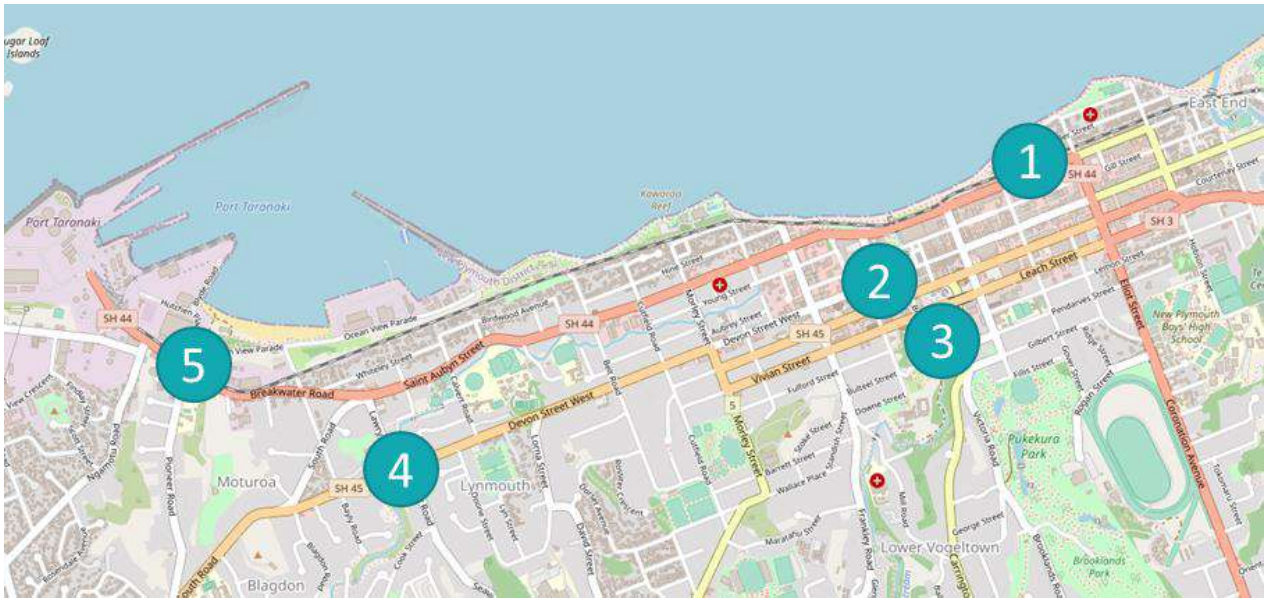


Figure 4-27: Daily heavy vehicle volumes in New Plymouth[33]

[33] https://www.nzta.govt.nz/resources/state-highway-traffic-volumes/

Port growth

The projected logging truck movement on the transport network in New Plymouth is expected to grow in the short term, then decrease over the long-term as can be seen from **Figure 4-28**. Increased heavy vehicles will cause severance and declining amenity on the main streets of Inglewood and Egmont Village and New Plymouth's waterfront.

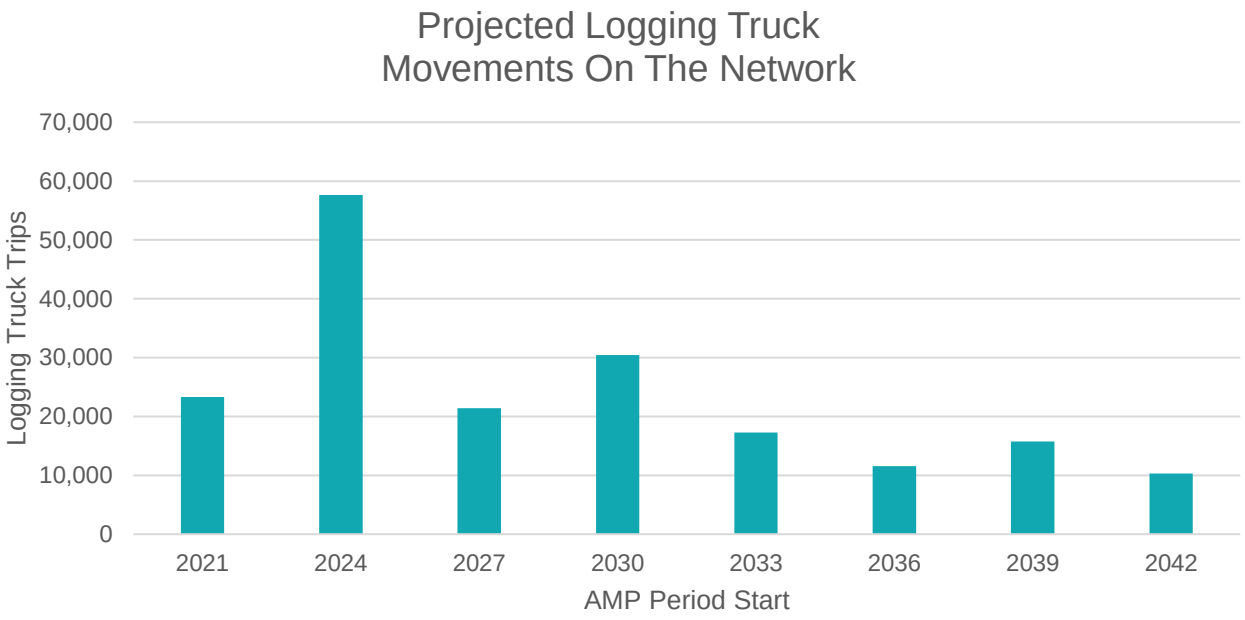


Figure 4-28: Projected Logging Truck Movements from the Port of Taranaki[34]

Level of Service of other modes

With reference to the New Plymouth Network Operating Framework (NOF), the inadequate level of service for transportation modes, excluding private vehicles, raises serious concerns as it directly contributes to the rise in traffic delays. Several gaps in the transportation network exacerbate the problem:

- Pedestrians face challenges due to the absence of crossing facilities along their desired paths.
- Cyclists encounter discontinuities in the cycle network throughout the district.
- Public transport, particularly in the CBD, can be unreliable because multiple local streets in the CBD are congested by light vehicles, attracted by cheap on street parking and lack of bus priority at intersections.

These network gaps severely impact the level of service for alternative transportation options. Consequently, there has been a significant increase in the number of vehicles on the road, further amplifying the risk of crashes.

[34] https://www.npdc.govt.nz/media/a2hfxvf2/2021-2031-transportation-asset-management-plan.pdf Page 287

4.3.3 Problem 3 summary points and evidence gaps

Poor Alignment with Future Network Movement and Place Priorities

- The ONF identifies several Activity Streets around the New Plymouth city centre (including lengths of SH44 and SH45). Significant changes are required to some of these streets to facilitate heavy traffic and through traffic around the CBD while enabling access by walking, cycling and public transport. Highways causing severance leading to low alternative mode uptake.
- In areas around the New Plymouth district the highways often sever the desire lines of active mode users, making access to shopping or recreational areas difficult where pedestrian crossing facilities are not provided.
- In Bell Block the highway severs the residential area to the north and industrial areas to the south. Currently there is just one active mode facility across the highway.

Mean operating speeds through the city

- Mean operating speeds on key active mode routes are above 30km/h. When this speed is combined with the limited crossing facilities, several routes through the central city of New Plymouth put active mode users at increased risk of fatality and serious injury, particularly traveling to New Plymouth CBD and in local towns and centres.

Increasing AADT and heavy vehicle movements

- Vehicle volumes are shown to be steadily increasing on state highways across the district, making these transport routes less attractive to people traveling by active modes.
- The New Plymouth Network Operating Framework identified an inadequate level of service for active modes and for access to public transport, and this level of service continues to drop as traffic volumes increase.

The following aspects should be explored further to develop a better understanding of the causes and impacts of problem 3:

- Modelling data for level of service for public transport, active modes and general traffic and freight.
- Noise pollution statistics and pollution effects on health.
- Vibration from vehicle movement statistics.

4.4 Problem 4

The current active mode transport networks (walking, cycling, and micro-mobility) are fragmented and have unsafe connections resulting in safety issues, poor perception of the network and low active mode uptake.

This issue relates to safety, how the community regard New Plymouth and surrounding towns and villages as desirable places to live and work, and the effects that a fragmented active mode network has on both. The Crash Analysis System (CAS) database, cycle network maps, public feedback data and examples of unsafe cycle infrastructure have been used to investigate the problem statement. Problem four is prevalent across the entirety of the New Plymouth District.

4.4.1 Cycle network gaps

The primary cycle network in New Plymouth exhibits significant operating gaps where cycling facilities are lacking. The current state of the cycle network in the region is relatively underdeveloped and incomplete. By focusing resources and efforts on improving and expanding cycling facilities, New Plymouth can enhance the cycling experience, encourage active transportation, and promote a more sustainable and accessible transportation system.

Abley and ViaStrada completed a Cycle Network Planning Report for NPDC in October 2019 that proposed routes to implement cycling infrastructure (see **Figure 4-29**). The proposed cycle routes, shown by the dotted lines, highlight some of the gaps in the cycle network as it stands today which could provide essential links for active mode trips.

Interested but concerned routes are intended to be separated from traffic on shared paths or separated cycleways, or routes that feature slow speed neighbourhood greenways with low traffic volumes. These routes are intended to cater for a large group of users who are interested in cycling but do not view the existing infrastructure as safe[35], and so they represent a significant opportunity to improve cycling mode share if implemented. Many of these routes would close network gaps, connecting residential areas of New Plymouth to the city centre where trip distances are typically less than 5km. Currently, this standard of facility is provided for only some residents along the Coastal Walkway,

The enthused and confident routes are intended to cater for a generally smaller group of cyclists who are comfortable with limited separation from vehicles. These routes are proposed to connect New Plymouth residential areas via the southern valleys without having to travel through the city centre. This is currently not possible along a continuous cycle facility and is likely to encourage cycling as an option for trips that do not start or finish in the city centre.

These gaps are not just present with New Plymouth, as **Figure 4-29** indicates gaps in both Bell Block and Waitara, and **Figure 4-30** indicates gaps in Inglewood.

[35] https://www.nzta.govt.nz/walking-cycling-and-public-transport/cycling/cycling-standards-and-guidance/cycling-network-guidance/cycle-network-and-route-planning-guide/principles/people-who-cycle/#interested

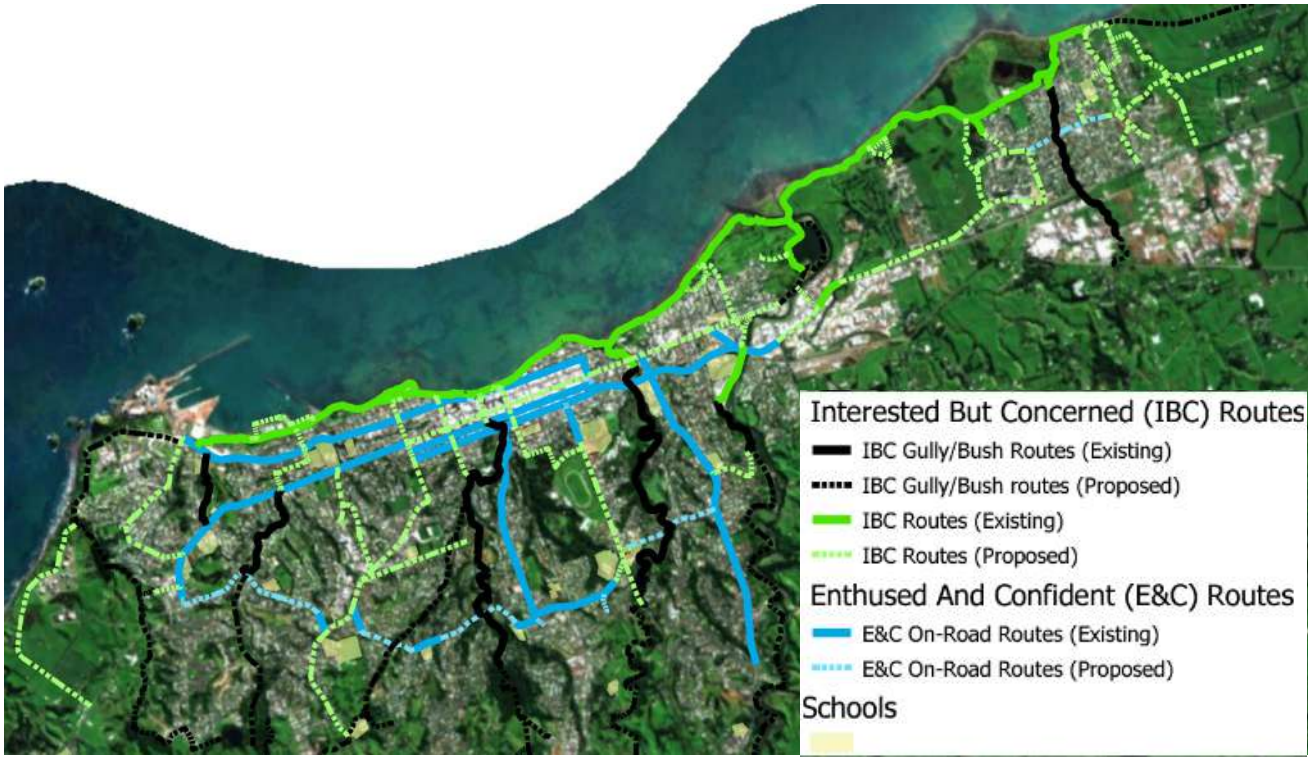


Figure 4-29: Gaps in New Plymouth's cycle-network[36]

Figure 4-30: Gaps in Inglewood's cycle network

[36] Cycle Network Review – Urban New Plymouth (inc Bell Block), Waitara, Inglewood (Viastrada and Abley, November 2019)

4.4.2 Poor Level of Service for walking and cycling

In 2020 Abley and Viastrada prepared a Network Operating Framework (NOF) for NPDC. The purpose of the framework is "*to identify how the network should be managed, including any performance gap(s) between the existing network and the future aspirational state of the transport network. The framework also allows for the identification of interventions or activities that might be required to reduce or remove performance gaps*."

The outcomes for pedestrians and cyclists are highlighted below:

"Many pedestrian operating gaps are observed in and around the CBD, due to higher levels of pedestrian activity and higher pedestrian priority in this area of high place significance. Pedestrian operating gaps are also prominent along busy roads where crossing facilities are not provided. When excluding the relative efficiency factor, the scale of pedestrian performance gaps across the network expands. The focus of investment in the pedestrian network should be on providing crossings on busy roads in areas of high activity. There are also many safety issues with existing crossings that have been identified and should be addressed. In addition to the identified pedestrian operating gaps, it is important that all streets in urban areas provide a footpath that complies with minimum standards to ensure a basic level of access is provided.

Generally cycling operating gaps are prominent along the identified primary cycle network where facilities are not provided. The New Plymouth cycle network is relatively immature, the focus of investment in cycling should be on completing the identified network."

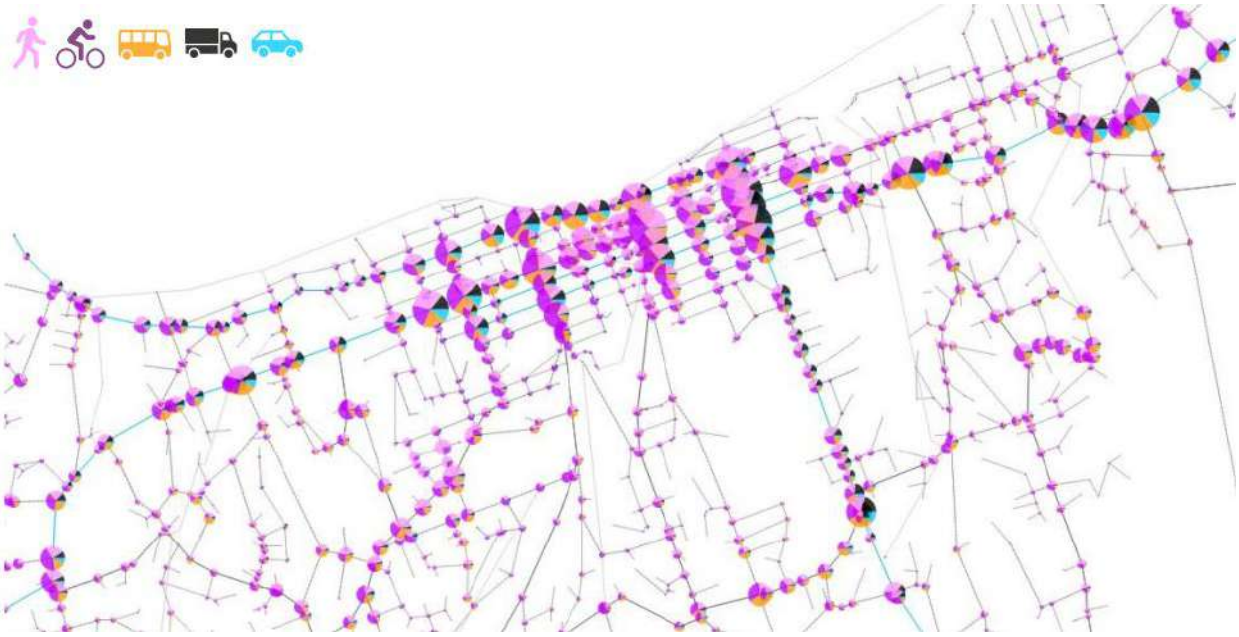


Figure 4-31: AM peak operating gaps (Relative Efficiency Factor excluded) – central New Plymouth

4.4.3 Unsafe existing cycle routes

Although New Plymouth has some established active mode routes across the district, there are some fragments of routes which pose a safety concern to active mode users. These perceived risks within the network can create both an actual and perceived safety risk with using the network which can in turn deter active mode uptake in the district. **Figure 4-32** shows a cycle-lane entering a major intersection which operates as a part of the State Highway Network. Although there is a cycle-lane leading up to the intersection, the cycle lane stops before the intersection, and cyclists enter the intersection with no protection in the road layout. This means cyclist must navigate vehicles to travel through the intersection, resulting in a safety risk for cyclists.

Figure 4-32: Cycle lane entering intersection of Devon St West (SH45) and Morley Street

Another example of an unsafe section of the active mode network in New Plymouth can be seen in **Figure 4-33**. The cycle lane can be seen to narrow through the curve of the road, with indications that vehicles are regularly tracking over the cycleway as the green marking is faded. This causes concern for the safety of cyclists as there is limited separation between them and passing vehicles.

Figure 4-33: Narrow cycleway with fading markings at intersection of Tukapa St and Morley St

Lastly, **Figure 4-34** displays a narrow cycle lane where the cycle symbol does not fit into the actual cycle lane and there is no protection from cars using the live lane aside from the edge line. This creates a safety risk as cyclists are not protected and can easily be struck by passing traffic or vehicle doors.

Figure 4-34: Narrow cycle lane at Morley Street

4.4.4 Poor existing pedestrian safety and accessibility

In line with the previous problem statement 3, the issue of limited accessibility for pedestrians throughout New Plymouth poses a significant challenge. The primary factor contributing to this problem is the severance caused by the State Highways that pass through the heart of New Plymouth Central. Numerous popular walking routes in the city lack appropriate crossing facilities, thereby exposing pedestrians to greater risks of potential conflicts with motor vehicles. However, by implementing adequate crossing facilities on urban roads, pedestrian safety can be enhanced and provided with improved access to a broader range of areas within the New Plymouth District.

The state highway network forms the “main street” in Ōakura, Ōkato and Inglewood, and as a result carry high volumes of both light and heavy vehicles through the commercial areas of these local town centres. These state highways can be difficult for pedestrians to cross and have limited crossing facilities, as shown in **Figure 4-35** to **Figure 4-37.**

Figure 4-35: SH45 in the Ōakura town centre

Figure 4-36: SH45 in the Ōkato town centre

Figure 4-37: SH3 in the Inglewood town centre

4.4.5 Active Mode Crashes

Across the past five-year period (2018-2022) there have been a total of 184 active modes crashes within the New Plymouth District as can be seen from **Table 4-7**. Out of all the crashes there have been two fatalities in the past five years involving an active mode user. Additionally, there are 39 crashes which have resulted in serious injury from the impact of the crash. These numbers highlight the safety issues experienced because of the fragmented network for active modes and can explain the hesitation with the uptake of active modes in the district.

Table 4-7: Active Mode crashes within the New Plymouth District

Year	Fatal	Serious Injury	Minor Injury	Non-injury	Total
2018	0	4	23	6	**33**
2019	1	13	28	5	**47**
2020	0	9	22	3	**34**
2021	0	5	30	7	**42**

Year	Fatal	Serious Injury	Minor Injury	Non-injury	Total
2022	1	8	16	2	**27**
Total	**2**	**39**	**119**	**23**	**184**

Figure 4-38 shows an approximate spatial distribution of the active mode crashes across the New Plymouth District over the past five years. The evidence shows that active mode crashes are prevalent across the entire district, with New Plymouth Central being the most common crash location. This is likely to be a contributing factor to slow active mode uptake.

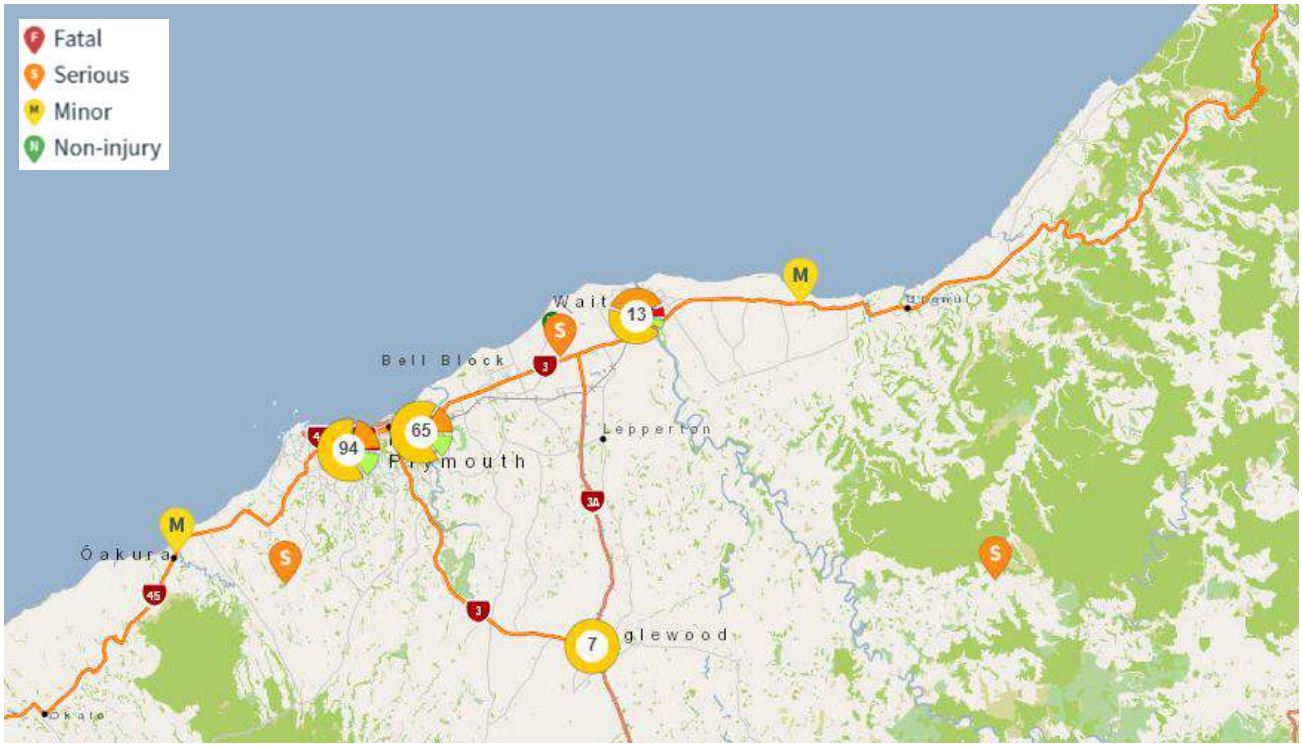


Figure 4-38: Map of active mode crashes over the past five years (2018-2022)

Out of all the days of the week, Tuesday shows the highest amount of active modes crashes over the past five years as can be seen from **Figure 4-39**. The least common days active mode crashes Saturday and Sunday. This suggests that most crashes are likely to be during peoples commute.

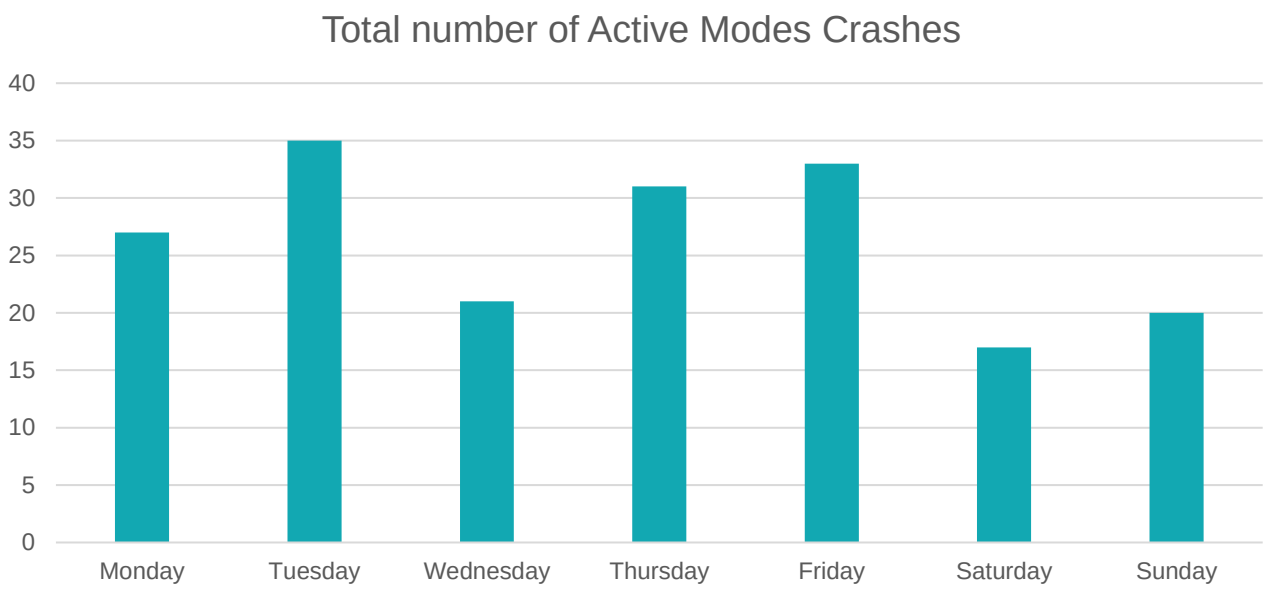


Figure 4-39: Active mode crashes across the week

The most active mode crashes appeared to happen on peak times for travel, 6am-9am and 4pm-6pm, as can be seen from **Figure 4-40**. This supports the argument above and shows that links to key destinations such as school and work are not safe.

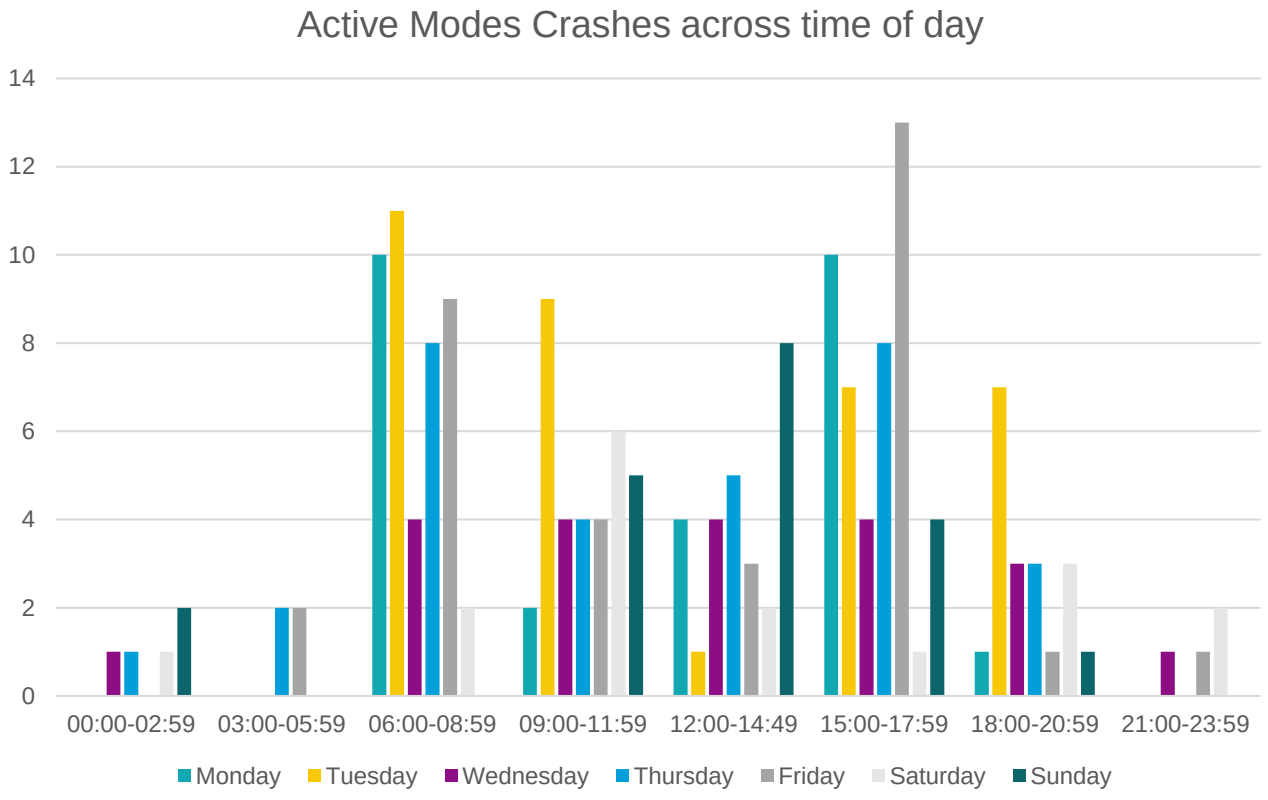


Figure 4-40: Active mode crashes across times of day

4.4.6 Cycle safety

The Community at Risk register from NZTA shows that New Plymouth District were ranked number 3 for crashes involving cyclist across the entirety of New Zealand in the year 2022.[37] This shows that the makeup of the roading network in New Plymouth is in favour of private vehicles and has minimal protection for cyclists, putting them at risk.

4.4.7 Higher active mode user counts on high standard facilities

Figure 4-41 shows annual walking and cycling counts of the Coastal Walkway along the coast in New Plymouth.

- The table shows relatively stable numbers of users until the opening of the walkway extension in 2015 where numbers show a rapid increase.
- This shows that when the infrastructure for active modes is well-designed and safe the demand is there from the community.
- It can also show that there is engagement for walking and cycling where facilities are safe and away from vehicles.

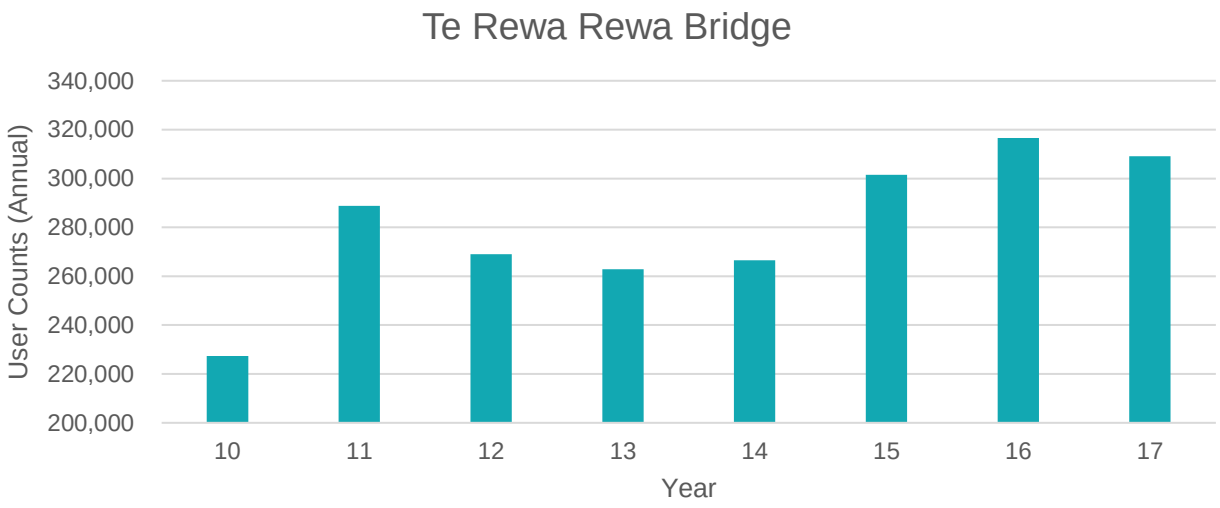


Figure 4-41: Walking and cycling counts

Since mid-2021 a continual count program has been undertaken by NPDC at 21 sites in the district. This data is recorded daily in 15-minute intervals making season changes, the impact of hosted events or changes in weather easy to track.

This data shows that:

- The number of people traveling along the coastal walkway continues to grow, with peak numbers at the Wind Wand (close to the New Plymouth city centre) reaching 614,700 people in 2022 (the most recent full year of data) and at Te Rewa Rewa Bridge (on the eastern side if New Plymouth at the Waiwhakaiho river mouth).
- The Wind Wand section of New Plymouth's Coastal Walkway sees a diverse group of cyclists using it for both commuting and recreation throughout the week. However, there is a notable surge in cyclist activity during the weekend mornings, with approximately 216 individuals making use of this path between 8 am

[37] https://www.nzta.govt.nz/assets/resources/communities-at-risk-register/docs/communities-at-risk-register-2022.pdf

and 9 am. On weekdays during the same time frame, we observe an average of 130 cyclists enjoying the pathway during the month of March 2023. Therefore, recreational usage of the walkway is nearly double the amount of weekday commuters.

New Plymouth also undertakes a yearly active mode cordon count and the results from this survey also show high volumes in areas which have good facilities and connections, especially along the Coastal Walkway. However, this is not the case throughout the rest of district as the mode split figures drop significantly in other areas throughout New Plymouth. On the Coastal Walkway by the Wind Wand, there are typically around 1,000 pedestrians on a typical weekday and 700 cyclists, with a slight increase in both over the weekend.

By comparison, there are typically 134 cyclists a day using SH3 (Coronation Avenue adjacent to Cracroft Street) during the week, and 50 cyclists on SH45 (Devon Street West adjacent to Lorna Street). In addition, for those cyclists not on the coastal walkway, in the 2023 cordon counts 34% of cyclists were on the footpath. This supports the idea that people in New Plymouth are willing to cycle, but the existing on-road facilities with little separation are not desirable.

The census data from 2018 illustrates that New Plymouth's active mode split is less than the average of the rest of New Zealand. As it can be seen below in **Table 4-8** all walking and cycling numbers are below New Zealand averages to get to work and education except for cycling to education where New Plymouth is slightly above the national average.

Table 4-8: Active Mode Split (Census 2018)

Mode	Education		Work	
	New Plymouth	New Zealand	New Plymouth	New Zealand
Jogging / Walking	17.6%	20.5%	5.1%	3.6%
Cycling	4.4%	5.2%	1.7%	2%

4.4.8 Resident Perception Survey results

Every year NPDC conducts a community survey to further understand the perception of the population on different themes related to services and facilities within the New Plymouth District. Recent results show a decrease in satisfaction of the quality and safety of footpaths with a 77% satisfaction rating in 2021 and an 82% satisfaction rating in 2020 as can be seen in **Figure 4-42**. The issues identified by respondents include uneven and broken pavement, the length and quality of footpaths, and safety. These sorts of issues with the footpaths encourage people to not use them. Instead of taking up active modes using the footpath network residents will favour private vehicles instead, leading to a significant loss of amenity. Additionally, a lack of accessibility will occur due to the poor footpath condition, resulting in the need to use a private vehicle, restricting residents without vehicles.

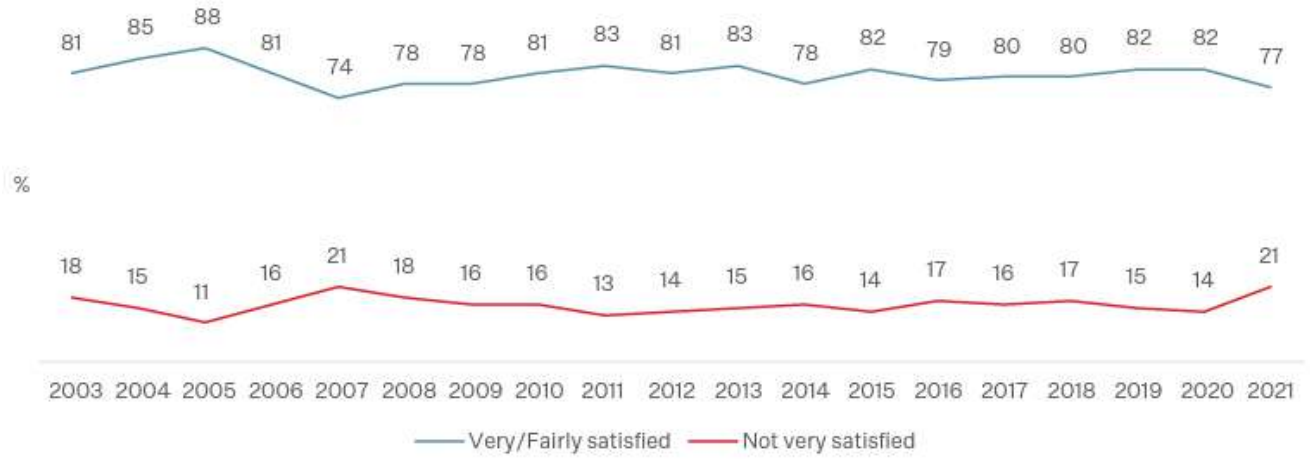


Figure 4-42: Satisfaction and dis-satisfaction of footpaths in New Plymouth[38]

The people that are very to fairly satisfied and not very satisfied with the cycle network has both increased since 2020. **Figure 4-43** shows that satisfaction increased by 2% in 2021 and dissatisfaction increased by 6%. The issues present along the cycle network identified by respondents include poor quality, lack of space dedicated to cycle lanes, and safety. Residents' perception of the cycle network is becoming worse as a result of the severance between suburbs throughout New Plymouth that is worsening. A poorly developed cycling network within a city can inadvertently promote the use of private vehicles among residents, hindering their ability to access various destinations. This discourages individuals without vehicles from freely navigating the city, thereby limiting their social connections and overall mobility. The heavy reliance on private vehicles also reduces the adoption of active modes of transportation, such as walking or cycling, which would be more prevalent if the cycling network were adequately established. By enhancing the quality of the cycling network, the level of amenity within the community can be significantly elevated, providing improved accessibility and promoting healthier and more sustainable modes of transportation.

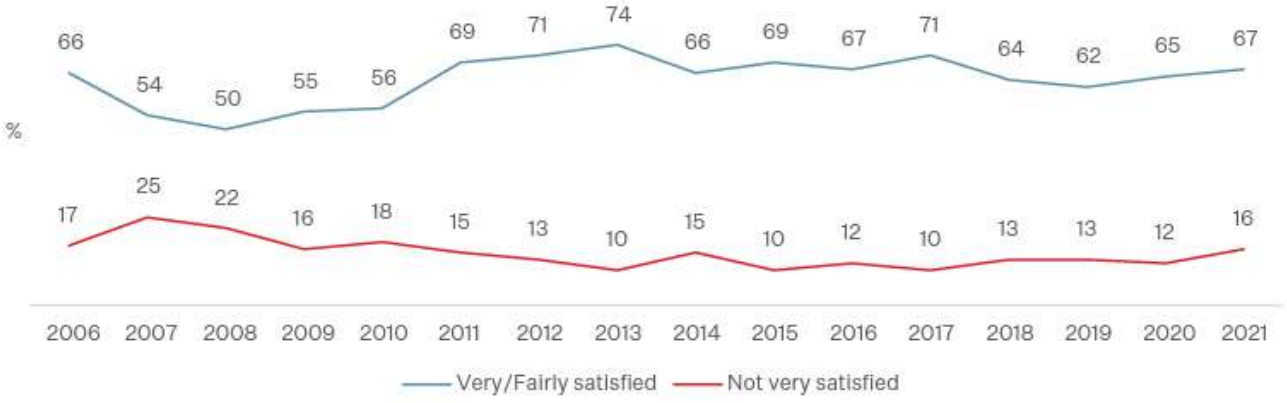


Figure 4-43: Satisfaction and dis-satisfaction of the cycle network in New Plymouth

[38] www.npdc.govt.nz/media/0l1piwpq/npdc-community-survey-2021.pdf

4.4.9 Public perception of active modes

Through the community consultation carried out by TRC for the Future of Transport report, it was found that the existing active mode network throughout the New Plymouth District is perceived as unsafe by respondents. This is one of the reasons that many residents are opting to use private vehicles for transportation throughout the district. However, higher usage of private vehicles increases the risk of crashes, meaning the local road network is unsafe for all users.

The reasons respondents viewed the existing active mode network unsafe related mainly to vehicle speeds and lack of dedicated active mode infrastructure. Respondents identified and prioritised key improvements needed to make walking and cycling feel safer across the district in the following order:

1. Dedicated separated cycle lanes and shared paths.
2. More/safer road crossings.
3. Reduced operating speeds.
4. Education programs.
5. Improving the infrastructure dedicated to walking and cycling.

Respondents also prioritised infrastructure required to improve active transport options in the following order:

1. Cycleways and walkways that link Taranaki communities.
2. More dedicated cycleways and walkways throughout New Plymouth.
3. More separate cycleways on the roads.

Through the implementation of these recommendations the New Plymouth active mode network will become less fragmentated and create continuous cycling and walking pathways. This will encourage a mode shift to active modes, ensure that the network is safer, and, most importantly, improve residents' perception of safety.

4.4.10 Problem 4 summary points and evidence gaps

Cycle network gaps

- The current network has significant gaps where cycling facilities are lacking. By improving and expanding cycling facilities, New Plymouth can enhance the cycling experience, and encourage greater uptake in active transport modes in its centres.

Poor level of service for walking and cycling

- The NOF identified many pedestrian operating gaps, in particular, in and around the CBD, due to higher levels of pedestrian activity and higher pedestrian priority in this area of high place significance. Pedestrian operating gaps are also prominent along busy roads where crossing facilities are not provided at mid-block areas, or long signal cycle phasing at main intersections.
- The NOF also identified that cycling operating gaps are prominent along the identified primary cycle network where facilities are not provided. The New Plymouth cycle network is relatively limited, the focus of investment in cycling should be on completing the identified network.

Unsafe existing cycling routes

- Existing routes are fragmented, with substandard facilities (narrow lanes and lanes that terminate on approaches to intersections) resulting in actual and perceived safety concerns. These concerns are supported by the active mode crash results for the past five years.

Poor existing pedestrian safety and accessibility

- There are limited pedestrian crossing facilities across the highways through the smaller townships in the district. This results in pedestrians crossing with vehicle speeds greater than the recommended safe system vehicle speed of 30km/hr.

Active mode crashes

- Trends show that active mode crashes occur most often during the working week (Monday to Friday) in morning and evening commuting periods.
- The Community at risk register from NZTA shows that New Plymouth District were ranked number 3 for crashes involving cyclist across the entirety of New Zealand in the year 2022.

Higher user counts on good facilities

- Data collected by NPDC shows that pedestrian and cyclist volumes continue to grow on the good active mode facilities in the district, such as the Coastal Walkway. Outside of this facility the number of people traveling by active modes is greatly reduced.

Resident perception survey results

- The district wide yearly perception survey identified a decrease in satisfaction of footpaths and the cycle network in the most recent survey.
- The public perception survey results are further supported by the TRC Future of Transport community engagement, which identified and prioritised key improvements needed to make walking and cycling feel safer across the district. These included dedicated separated cycle lanes and shared paths, more and safer road crossings, reduced operating speeds, education programs and improving the infrastructure dedicated to walking and cycling.

The following aspects should be explored further to develop a better understanding of the causes and impacts of problem 3:

- Evidence of active mode crashes beyond the NZTA Crash Analysis System due to under-reporting.

4.5 Transport network contributions to emissions

Aspects of all four problems contribute to increasing carbon emissions. These aspects relate to increased travel by private vehicles relative to other modes, resulting in a higher number of emissions for travel across the district. The aspects include:

- The public transport network is not competitive with private vehicle travel or conveniently aligned with many typical movements, leading to a preference for travel by private vehicles across the district.
- Low density residential developments that make access by public transport, walking and cycling difficult, leading to a high dependency on private vehicles across the district.
- The network is configured to prioritise private vehicles and road freight over other modes, leading to higher usage of private vehicles.
- The current active mode transport networks are fragmented and unsafe, leading to low active mode uptake relative to private vehicles due to high private vehicle usage across the district.

4.5.1 Carbon Emissions

Figure 4-44 displays the daily carbon emissions across the New Plymouth District transport network. The figure shows high emissions along key routes in the network, particularly the state highways. This is likely to be a result of high private vehicle usage as other transport modes, such as public transport, are not competitive. Being exposed to high levels of carbon dioxide can have harmful effects on people's health. The high emissions from transport in the New Plymouth district is at odds with the strategic direction of the GPS and the ERP. Furthermore, the relationship between high carbon emissions and negative climate and health outcomes is well established.

NZTA has identified that land transportation is the primary contributor to nitrogen dioxide gases (NO_2) in New Zealand's urban centres and a portion of the contribution to particulate matter. Land transportation also increases the volume of dust particles in the air from unsealed and sealed roads, brakes, and tyres. These particles can create respiratory and cardiovascular issues, which can lead to lung problems, reduced life expectancy, and death.

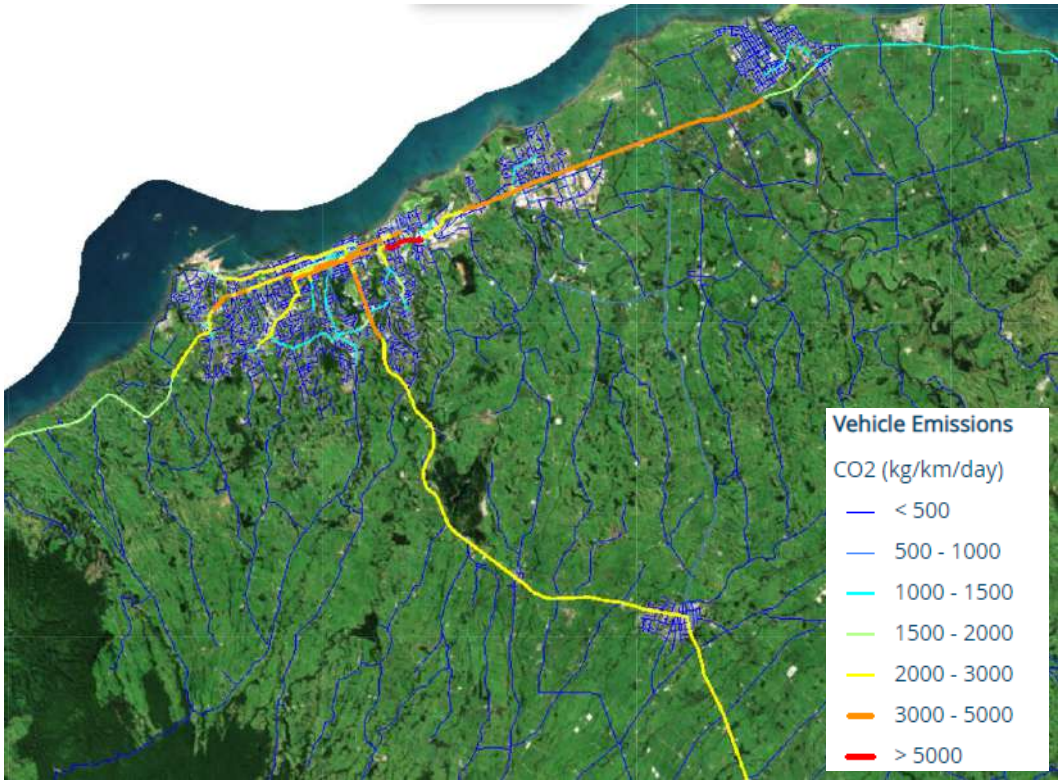


Figure 4-44: Vehicle Emissions in New Plymouth District[39]

4.5.2 Air pollution

Figure 4-45 shows the premature deaths due to air pollution from 2016 based on results from the Health and Air Pollution in New Zealand (HAPINZ) 3.0 study. New Plymouth District experienced 30 to 55 premature deaths because of human-made air pollution in 2016. Additionally, the study reveals the largest contributor to air pollution health impacts across New Zealand is motor vehicles.[40]

[39] https://www.nzta.govt.nz/roads-and-rail/highways-information-portal/technical-disciplines/environment-and-sustainability-in-our-operations/environmental-technical-areas/air-quality/vehicle-emissions-mapping-tool/

[40] https://www.ehinz.ac.nz/indicators/air-quality/health-effects-of-air-pollution/

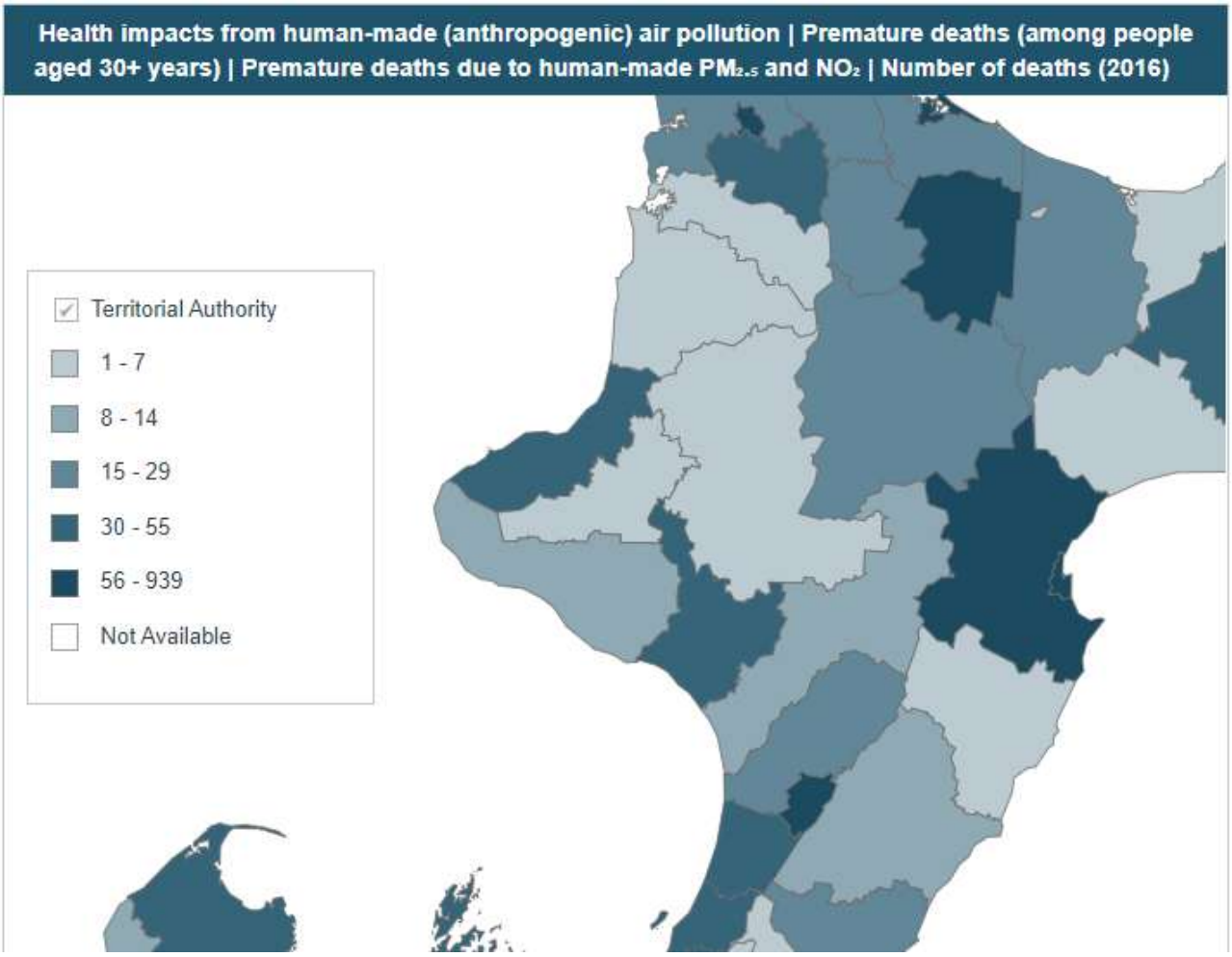


Figure 4-45: Premature deaths due to air pollution (Source: Health and Air Pollution in New Zealand (HAPINZ) 3.0 study)

Key points on contributions to emissions:

- Aspects of all four problems contribute to increasing carbon emissions, which all relate fundamentally to increased travel by private transport relative to other modes.
- There is a need for immediate action to promote more sustainable modes of travel to reduce carbon emissions in the transportation sector which will mitigate the associated health and social risks caused by poor air quality, as well as a changing climate.

4.6 Conclusions

The problems identified by the ILM workshop participants have been reviewed against relevant strategies and the available evidence base.

This has shown that the problems are well aligned with both national and regional strategies, and that there is already supporting evidence for these problems and a need to address them. The strategic case demonstrates the investment needed to support safe and accessible transportation system in New Plymouth which supports the movement of people and goods and provides transport choice.

The following items in **Table 4-9** are information gaps or points from the Strategic Case that would benefit from further investigation and discussion. These are not critical to developing the PBC and can be addressed subsequently to this PBC. There is sufficient evidence in the strategic case to proceed to the economic case.

Table 4-9: Strategic Case evidence gaps

Area	Further aspects to explore
Strategic Alignment	Maintenance considerations as part of GPS 2024 alignment. Community expectation around decreased use of private vehicles may not align with the information in the NPDC Infrastructure Strategy.
Problem 1	Travel patterns and choices outside of travelling to work and education. Public transport reliability. Quality and quantity of active mode links to bus stops and shelters across the district.
Problem 2	Limiting factors of New Plymouth City's linear and low-density form on access to key services. Enabling factors of New Plymouth City's linear form for high-movement public transport corridors. Constraining factors of New Plymouth City's linear form and topography on active mode uptake and congestion. Accessibility of schools across the district.
Problem 3	Modelling data for level of service for public transport, active modes and general traffic and freight. Noise pollution statistics and pollution effects on health. Vibration from vehicle movement statistics.
Problem 4	Evidence of active mode crashes beyond the NZTA Crash Analysis System due to under-reporting.

PART B – DEVELOPING THE PROGRAMME

5 Economic Case

5.1 Overall process

The programme option development and assessment followed the process outlined in **Figure 5-1**.

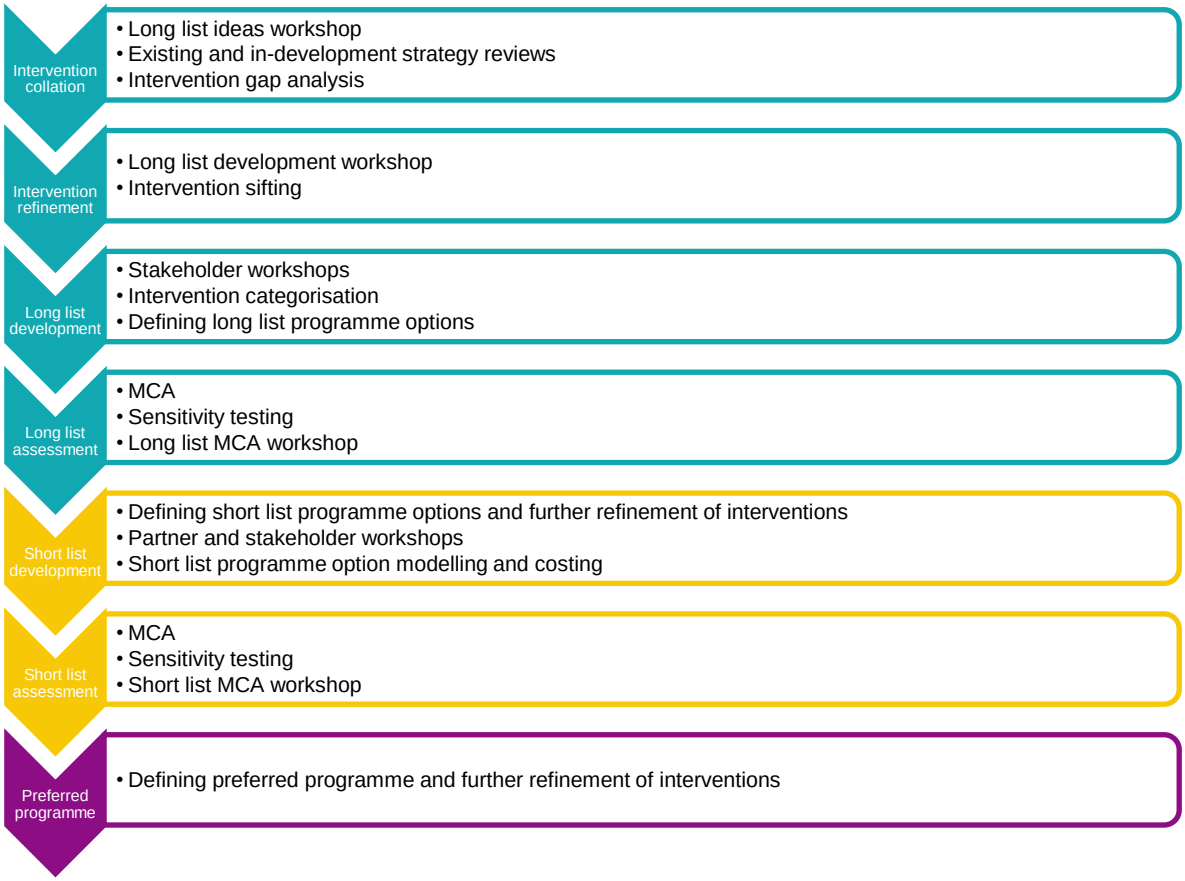


Figure 5-1: Process to develop the preferred programme

5.2 Long list programmes

5.2.1 Long list intervention ideas workshop

The long list intervention ideas workshop was held on the 22nd of March 2023 and was attended by the project partners. Notes from all partner workshops are given in **Appendix D**.

The purpose of long list intervention ideas workshop was to:

- Review and confirm the initial strategic case for this PBC; and,
- Generate a set of intervention ideas that address the evidenced problem statements.

A structured discussion about the strategic case and any amendments or inclusions required took place first. Attendees were then led through a process to generate intervention ideas using maps and other resources to address the problem statements identified.

Key Outcomes from the long list intervention ideas workshop:

- The initial strategic case did not mention resilience. Resilience should be mentioned in the strategic case to support consideration of access and climate resilience.
- The PBC encompasses a long-term vision for the New Plymouth district and should consider land use interventions.
- A set of intervention ideas generated by the project partners for addition to the long list programme options.

5.2.2 Long list intervention collation and gap analysis

An initial set of interventions for long list programme development were collated from the following sources:

- Input from partners through a long list ideas workshop held on 22nd March 2023 (see **5.2.1**).
- Ongoing input from the PBC team (including a SWOT analysis of the New Plymouth transport network).
- A review of existing and in-development strategies, which included the:
  - TRC Public Transport Plan 2020
  - Network Operating Framework (NOF)
  - District Plan
  - City Centre Strategy
  - NPDC Long Term Plan
  - Speed Management Plan
  - Cycling Strategy
  - Transport Choices
  - Regional Land Transport Plan; and,
  - TRC Future of Taranaki Strategy.

The initial set of interventions encompassed a range of different approaches, scales, levels of specificity, and geographies, and are provided in **Appendix E**. Note these interventions were reduced in number and refined during the short list and preferred option stage.

A gap analysis was then conducted on the initial set of interventions. This analysis focused on geographic spread across the region, the intervention type based on the NZTA intervention hierarchy[41], and the transport modes impacted. Given the gaps identified through this process, additional interventions were added with the intention of addressing the problem statements more comprehensively.

This initial collation produced a set of 327 intervention ideas. The set was reduced to 145 interventions after an initial round of cleaning that removed overlapping interventions.

5.2.3 Intervention sifting

Given the large number of potential interventions at this stage, an intervention sift was carried out to better understand the appropriateness and effectiveness of the 145 interventions. The sifting process was based on the NZTA early assessment sifting tool[42]. Upon agreement with NPDC and partners, each intervention was assessed against the five PBC Investment Objectives based on the scoring system in **Table 5-1** and an alignment score was calculated as the average score across all five criteria for each intervention. The higher the score, the lesser aligned with the PBC Investment Objectives. Of the 145 interventions sifted, six had a score of eight and above. Climate change adaptation/mitigation and fatal flaws were two critical success

[41] https://www.nzta.govt.nz/planning-and-investment/funding-and-investing/optioneering/resources/intervention-hierarchy/

[42] https://www.nzta.govt.nz/resources/early-assessment-sifting-tool/

factors (CSFs) assessed in this sifting process (see **Table 5-1**), which helped to increase understanding of the potential impacts and feasibility of the interventions.

Table 5-1: investment objective scoring

Investment objectives	Climate change mitigation/adaptation	Fatal flaws
Alignment and impact on outcomes. **10** – Poor alignment with low impact **9** – Poor alignment with medium impact **7** – Medium alignment with low impact **5** – Medium alignment with medium impact **3** – Excellent alignment with low/medium impact **1** – Excellent alignment with high impact	*Impact on operational emissions.* Increase Neutral Decrease	*Any critical issues with feasibility and viability.* Yes No

The sifting process identified:

- Further duplication of interventions,
- Interventions considered for the do-minimum option only; and,
- Interventions with minimal strategic and investment objective alignment.

5.2.4 Long list development workshop

The long list development workshop was held on the 26th of April 2023 and was attended by the project partners.

The purpose of long list development workshop was to:

- Confirm the do-minimum scenario to use as a baseline for multi-criteria analysis (MCA) at the long list and short list assessment stages,
- Confirm the approach to sifting and refining the intervention set; and,
- Categorise interventions and begin to develop long list programme options.

Partners were led through a structured discussion to achieve the purpose of the workshop.

Key outcomes from the long list development workshop:

- A confirmed do-minimum scenario comprised of activities and interventions that NPDC and TRC had already committed to implement over the next 1 to 3 years.
- A confirmed approach to intervention sifting, but no exclusion of interventions based on high expected cost.
- Confirmed MCA criteria for long list assessment, acknowledging that limited intervention detail is available.
- Agreement that a range of long list programmes, both in scale and purpose, that was preferred for the long list.

5.2.5 Long list stakeholder workshops

Five stakeholder workshops were held during May 2023, which were attended by a variety of stakeholder groups from across the district. Further meetings were held with stakeholders that were unavailable for the May workshops and where that was not possible, some stakeholders provided a written response. This consultation is provided in **Table 5-2**.

Table 5-2: Long list stakeholder workshops

Date	Stakeholder
Wednesday 10th May	North Taranaki Cycling Advocates Safety Interchange New Zealand Police Taranaki Chamber of Commerce St John Ambulance
Tuesday 16th May	Taranaki Disabilities Information Centre Trust I Love Public Transport Taranaki National Road Carriers NZ Police RoadSafe Taranaki Kia Roha Te Whatu Ora
Tuesday 16th May	North Taranaki Cycling Advocates
Thursday 18th May	NP Walkers and Joggers North Taranaki Cycling Advocates
Friday 19th May	Kainga Ora Venture Taranaki
Thursday 27th July	Kiwirail
Wednesday 23rd August	Age concern
Thursday 31st August	Schools: Highlands Intermediate School Inglewood Primary School Waitara East Primary School
Tuesday 19th September	Port Taranaki
Written submission	Zeal (youth)
Written submission	Fire and Emergency New Zealand

The purpose of the stakeholder engagement was to:

- Gauge stakeholder perception of the identified problems.
- Gather additional intervention ideas for consideration in the long list programme options.
- Understand the level of support from stakeholders on perspectives and interventions from the workshops.

The NPDC community engagement team led attendees through the workshops and meetings. Attendees from the wider community were first asked to provide perspectives, potential approaches, and interventions to address the problem statements. Attendees were then asked to vote on which of the suggested approaches and interventions would be the most appropriate and effective.

Key outcomes from the five stakeholder workshops and meetings:

- Inputs from stakeholders covered a range of perspectives and potential interventions.
- Behaviour change was a significant focus. This included both incentivising public transport and active mode travel, and disincentivising private vehicle travel.
- Multi-modal priority was also a significant focus. This included offering improved, more accessible, and safer options for public transport users, pedestrians, and cyclists.
- Connectivity and integrated planning were also focus points from the attendees. This included improved bus frequencies and routes, improving, or removing disjointed connections on public transport and active mode networks, building communities, and encouraging density and mixed-use developments.

Additionally, a workshop with the Ngā Kaitiaki forum was held on the 14th of June 2023. The purpose of the workshop was to understand the types of interventions the forum thought would be beneficial for the district.

Attendees from the Ngā Kaitiaki forum followed a structured discussion with the NPDC community engagement team to achieve the purpose of the workshop.

Key outcomes from the Ngā Kaitiaki forum workshop:

- Prioritise reducing the impact of freight and heavy vehicles on the network.
- Manage growth areas and high-volume routes to avoid congestion.
- Improve safety for students and children around school areas, which includes safe areas for buses and car-free zones.
- Improve connections and traffic flows to better access and utilise natural assets such as the coast, mountains, and rivers.
- Improve connectivity across the district, especially for isolated communities.
- Integrate indigenous narratives and destinations for mana whenua stories.
- Create more localised and people-friendly centres across the district.
- Create safer and more accessible public transport and active mode networks, especially for elderly and disabled people.
- Consider discounted parking options for service providers and elderly.
- Consider mass rapid transport for cruise ships and northern growth areas.

Ultimately, these workshop outcomes confirmed that the set of interventions for long list programme development addressed most of the relevant perspectives and concerns of the Ngā Kaitiaki forum.

5.2.6 Long list programme development

Through the intervention sifting process, long list development workshop, and stakeholder workshops the intervention set size was reduced to 115 interventions. This set of interventions was carried through to long list programme development. To assess how well the interventions covered a range of factors, a gap analysis was completed against the NZTA Intervention Hierarchy, and the region and transport modes the intervention will impact. The comprehensive spread of the long list interventions across the intervention hierarchy, regions, and transport modes are shown in **Figure 5-2**, **Figure 5-3** and **Figure 5-4** respectively.

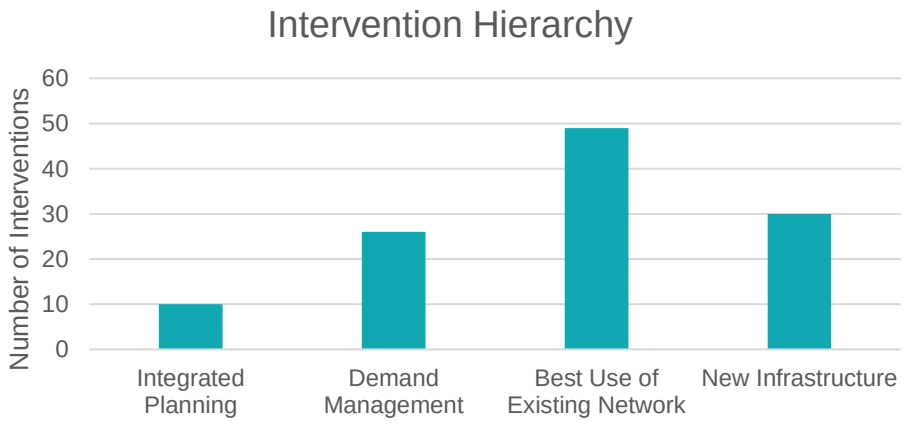


Figure 5-2: Long list intervention spread against the NZTA Intervention Hierarchy

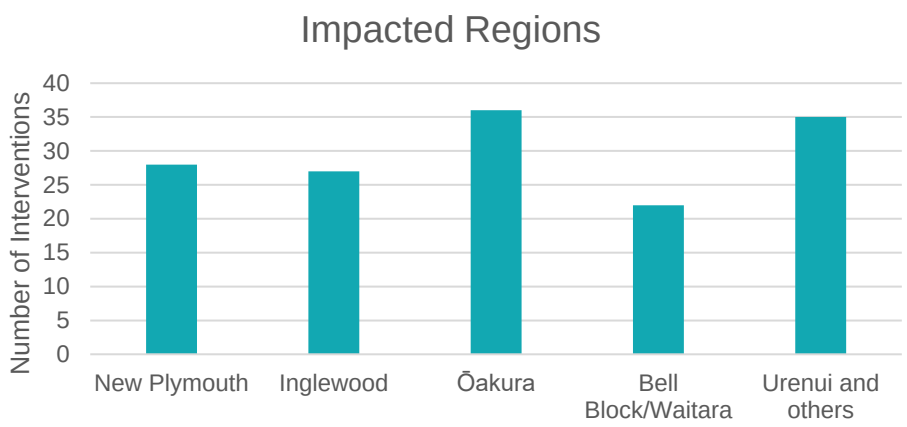


Figure 5-3: Long list intervention spread against impacted regions

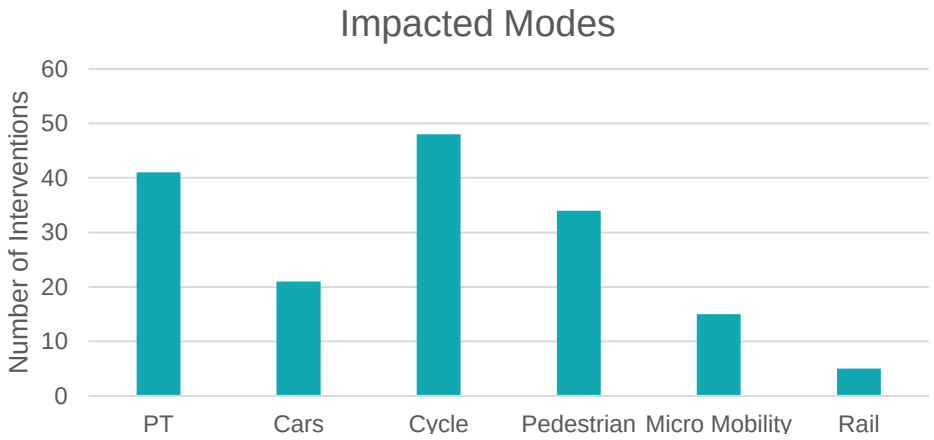


Figure 5-4: Long list intervention spread against impacted modes

To develop the long list of programme options, the set of interventions were first grouped into intervention categories. The categories partition the interventions into specific approaches to addressing the four problem statements and served as the building blocks from which the long list programme options were developed. The long list programme option descriptions, composition, intervention categories and their connections to the problem statements are shown in **Table 5-3**. The full long list of interventions is given in **Appendix E**.

Table 5-3: Intervention categories, long list programme options, and their alignment to the problems at long list stage

Problem statement	Intervention category	Number of intervention items	Long list programme options								
			Balanced	Safer outcomes	PT enabled urban growth	Reduce transport emissions	Connected urban centres	CBD accessibility	Liveability	Resilience and freight	Low-cost low risk
			District Plan growth supported by a mix of resilience, safety, and accessibility projects for all modes.	Improved safety for all modes to tackle the existing problems areas on the network.	Supporting increased urban densification beyond the District Plan by integrating transport and land use.	Maximise transport emissions reduction by pulling all possible levers, with limited focus on safety and liveability.	Creating local centres with active mode connections and high efficiency transport corridors to New Plymouth CBD.	Focus on improved accessibility to the New Plymouth CBD from across the district for all modes.	Improved liveability and accessibility of centres with a focus on people and active modes.	Focus on freight accessibility and the resilience and safety of the roading network (reference option).	Lower cost and lower risk interventions only from the highlighted categories.
Public transport is not competitive with private vehicle travel or convenient to access from active modes resulting in low public transport use and poor customer experience.	Improve public transport frequencies, level of service, and reliability to make PT a more attractive option.	6	■		■	■	■	■	■	■	
	Improve public transport infrastructure and travel time to make public transport more reliable.	5	■	■	■	■	■				
	Align public transport routes with key destinations and make public transport more accessible.	7			■	■	■	■	■		
	Reduce the need to travel where traditional public transport is not competitive.	2				■			■		
Most urban areas have low density residential developments that make access by public transport, walking and cycling difficult resulting in high dependency on private vehicles and increasing transport costs for the community that especially impact lower socio-economic groups.	Address cost imbalance between of driving and alternative modes.	6				■		■	■		
	Improve multi-modal access for communities outside of central New Plymouth.	14	■	■	■	■	■		■		
	Resilient connections at network pinch points for all modes.	6	■	■			■			■	
The network is configured to prioritise private vehicles and road freight over other modes resulting in issues across the cities and towns including severance, and declining amenity.	Reduce the fossil fuel energy use of the transport network.	7				■			■	■	
	Travel demand and travel behaviour management.	2				■	■	■			
	Reconfigure streets to align with One Network Framework outcomes and provide facilities for all modes.	15	■	■	■		■	■	■	■	
	Safe road connections at network pinch points.	1	■	■					■	■	
The current active mode transport networks are fragmented and have unsafe connections resulting in safety issues, poor perception of	Safety improvements for existing active mode facilities.	10	■	■			■	■	■		
	Improve the quality of connections to high level of service active mode routes.	3					■	■	■		

Problem statement	Intervention category	Number of intervention items	Long list programme options								
			Balanced	Safer outcomes	PT enabled urban growth	Reduce transport emissions	Connected urban centres	CBD accessibility	Liveability	Resilience and freight	Low-cost low risk
			District Plan growth supported by a mix of resilience, safety, and accessibility projects for all modes.	Improved safety for all modes to tackle the existing problems areas on the network.	Supporting increased urban densification beyond the District Plan by integrating transport and land use.	Maximise transport emissions reduction by pulling all possible levers, with limited focus on safety and liveability.	Creating local centres with active mode connections and high efficiency transport corridors to New Plymouth CBD.	Focus on improved accessibility to the New Plymouth CBD from across the district for all modes.	Improved liveability and accessibility of centres with a focus on people and active modes.	Focus on freight accessibility and the resilience and safety of the roading network (reference option).	Lower cost and lower risk interventions only from the highlighted categories.
the network and low active mode uptake.	Improve attractiveness and personal safety of active mode facilities.	12		■		■	■	■	■		
	New active mode facilities targeted at mode shift.	3	■		■	■	■	■			
	Complete the urban cycle network.	7				■	■		■		
Land Use	Increase population density in areas near key urban centres and destinations.	4			■	■		■	■		
	Reduce the need to travel where car alternatives are less viable.	3				■				■	
Other	Business as usual roading improvements	2									

5.2.7 Do Minimum

The do-minimum scenario was confirmed with the partners, and comprised of activities and interventions that NPDC and TRC had committed to implement or are likely to implement over the next 1-3 years. **Table 5-4** details the interventions that have been included within the transport model**.** More information on the do-minimum is provided in **Section 5.4** and the separate modelling report. Note the total allocated in the 2021-2031 Long Term Plan for transport projects is approximately $74 million, with $35 million allocated in years 1 to 3. Do-minimum interventions that fall outside the model include:

- Te Rewa Rewa bridge maintenance
- Inglewood Windsor walkway safety improvements
- Dixon Street to Corbett Park walkway
- General road improvements:
  - Mangorei Road kerb and channel
  - Bayley Street kerb and channel
  - Sisson Terrace widening
  - 'Welcome to Waitara' signage
  - North Egmont carpark.
- Raleigh Street and Tate Road intersection improvements
- Brois Street – Govett Avenue intersection improvements

Table 5-4: Do-minimum modelled interventions

Project	Modelled Year	
	2035	2053
Road Network Model		
Free Speed Reduction to 30 km/hr on Gover Street, Fillis Street, Liardet Street from Gover Street / Rogan Street to Molesworth Street / SH44	✓	✓
Free Speed Reduction to 30 km/hr on all school frontages	✓	✓
Signalisation at Tukapa Street / Sanders Avenue.	✓	✓
Upgrade of Intersection Layout at Mangorei Road/ Rimu Street Intersection	✓	✓
Signalisation at Lorna Street / Devon Street.	✓	✓
Single Lane Roundabout at Parklands Avenue / Mangati Road.	✓	✓
Realignment of Airport Drive to connect with Parklands Avenue	✓	✓
Single Roundabout at Belair Avenue / Ōmata Road	✓	✓
Two-Lane Junction Bridge (one Lane per Direction)	✓	✓
Signalisation at SH3 / Henwood Road Interchange	✓	✓
Signalisation at Nugent Street / Henwood Road	✓	✓
New Connection and Intersections between Egmont road and Henwood road via Bishop road	✓	✓
Two-Lane Corbett Road Bridge (one Lane per Direction)	✓	✓
Upgrade Roading and Intersections on Mangorei Road (Tupuhi Place to Mangorei School)	✓	✓
Upgrade the Intersection Layout at Egmont Road/ SH3		✓
New Connection and Intersections from Colson Road to Henwood Road		✓
Public Transport Network Model		
New Express Service between CBD and Waitara	✓	✓
Increase Route 20 (Waitara - Bell Block - CBD service) frequency from 1 bus/hr to 2 bus/hr	✓	✓
Cycle Network Model		

Project	Modelled Year	
	2035	2053
Devon St West from Barrett Road - Dawson Street. Approximately 3.7km of separated cycle facilities, 17 intersection improvements (of which detailed design exists for 10), 3 raised safety platforms (of which detailed design exists for two excluding separated cycle facilities, and concept design for one.)	✓	✓
Mangorei Road, Northgate - SH3. The intention is to develop the concept and scheme design for the full corridor but consult and construct on the section from Merrilands Shops to Northgate. Approx 1.1km of improved on road cycle facility (of which detailed design is complete for the first 150m), 2 raised safety platforms (of which one has detailed design), and approx 615m of shared pathway (150m which has detailed design complete).	✓	✓
SH44, Ngamotu Road - Hobson Street. The intention is to develop the concept and scheme design for the full corridor but consult and construct on the section from Ngamotu to Liardet Street. Approximately 4km of separated cycle facilities, 20 intersection improvements, 3 raised safety platforms, 2km of shared pathways.	✓	✓
Devon Street East & Clemow Road Record - Eliot. Approx 1.6km of separated cycle facilities, 1.2km of neighbourhood greenway, 1 raised safety platform and 1 set of traffic signals. The intention for this project is to complete at pre-implementation, as we do not have sufficient construction capacity in the timeframes required.	✓	✓
Coronation Avenue - Liardet Street, Approximately 1.3km of separated cycle facilities, 800m of neighbourhood greenway, 2 sets of traffic signals. The intention for this project is to complete pre-implementation, as there is not sufficient construction capacity in the timeframes required.	✓	✓
Waiwhakaiho pedestrian bridge to The Valley	✓	✓
Pohutukawa Place walking and drainage improvements	✓	✓
Waitaha Stream underpass	✓	✓
Coastal Walkway Extension to Waitara	✓	✓

5.3 Long list programme assessment

5.3.1 Long list assessment criteria

The long list programme options were assessed against the criteria in **Table 5-5**. The categories and criteria are based on NZTA MCA guidance[43]. The criteria weightings within the investment objectives category reflect the corresponding investment objective weights. The criteria weightings across the critical success factors and impacts and opportunities were set to evenly distribute their influence on the scoring outcome relative to the investment objectives.

[43] https://www.nzta.govt.nz/assets/resources/multi-criteria-analysis/multi-criteria-analysis-user-guidance.pdf

Table 5-5: Long list MCA criteria with baseline weightings

Category	Category overall weighting	Criteria	Criteria weighting within category	Scorer
Investment objectives	50%	Improve public transport network access, reliability, and travel times.	30%	PBC team, reviewed by partners.
		Reduce private vehicle reliance and transport related emissions and increase mode shift.	35%	
		Positive impact on local centres, network productivity and utilisation.	7.5%	
		Improve multi-modal access to key amenity locations.	7.5%	
		Improve the safety and attractiveness of active mode networks for all users (eg children, elderly, and people with disabilities).	20%	
Critical success factor	16.7%	Technical achievability – What are the technical risks and practical considerations involved in implementing this option?	50%	PBC team, reviewed by partners.
		Affordability – Does the cost of this option fit within the likely funding available? What factors might affect the ability of the project owner to afford the cost to operate and maintain the option over its projected life?	50%	
Impacts and Opportunities	33.3%	Te Ao Māori – What, if any, impacts are there on Te Ao Māori?	25%	NPDC on behalf of Ngā Kaitiaki forum.
		Social and cultural impacts – What social or cultural impacts are associated with this option?	25%	PBC team, reviewed by partners.
		Climate change mitigation – What is the long-term carbon emissions impact of the option?	25%	
		Climate change adaptation – How effective is the option at reducing the exposure to physical risks from climate change?	25%	

The following criteria were considered but omitted from the assessment for the reasons noted below:

- **Value for money:** Economic analysis was not conducted at this stage, so indicative costs and benefits are unknown.
- **Scheduling/programming:** Options are all long-term programmes, so timing is not yet a factor.
- **Cumulative effects:** Options are high-level in nature, so there is insufficient detail on cumulative effects.

Criteria were scored using a typical seven-point scale (see **Table 5-6**) to reflect their performance over the full 30-year analysis period (2023 to 2053) relative to the do-minimum scenario.

Table 5-6: Seven-point scoring system used for MCA

Magnitude	Definition	Score
Large positive	Major positive impacts resulting in substantial and long-term improvements or enhancements of the existing environment.	3
Moderate positive	Moderate positive impact, possibly of short-, medium- or long-term duration. Positive impacts may be in terms of new opportunities and outcomes of enhancement or improvement.	2
Slight positive	Minimal positive impact, possibly only lasting over the short term. May be confined to a limited area.	1
Neutral	No discernible or predicted positive or negative impact relative to the do-minimum.	0
Slight negative	Minimal negative impact, possibly only lasting over the short term, and able to be managed or mitigated. May be confined to a small area.	-1
Moderate negative	Moderate negative impact. Impacts may be short-, medium- or long term and are highly likely to respond to management actions.	-2
Large negative	Impacts with serious, long-term, and possibly irreversible effect leading to serious damage, degradation, or deterioration of the physical, economic, cultural, or social environment. Required major rescope of concept, design, location, and justification, or requires major commitment to extensive management strategies.	-3

5.3.2 Long List MCA workshop

The long list MCA workshop was held on the 23rd of May 2023 and was attended by the project partners.

The purpose of long list MCA workshop was to:

- Agree MCA scoring for the long list programme options,
- Agree sensitivity testing for the long list programme options; and,
- Identify the emerging short list programme options.

Attendees were led through a structured discussion about the MCA scoring, sensitivity tests, and amendments required.

Key outcomes from the long list MCA workshop:

- The low-cost low risk option was removed from the long list programme options, as the programme interventions were scattered across categories and the programme itself did not focus on any specific outcomes.
- Mention of climate resilience should be removed from the long list programme options and the strategic alignment diagram, as it is not properly connected to the problem statements.
- The initial scoring by the PBC team was adjusted and confirmed by the partners. The Long list MCA raw scores and weighted score are provided in **Table 5-7**
- The partners agreed with the sensitivity tests for the long list assessment.

Table 5-7: Long list MCA raw scores and weighted score

Programme option	Investment objectives					Critical success factors		Impacts and opportunities				Weighted score
	Improve public transport network access, reliability, and travel times	Reduce private vehicle reliance and transport related emissions and increase mode shift.	Positive impact on local centres, network productivity and utilisation.	Improve multi-modal access to key amenity locations.	Improve the safety and attractiveness of active mode networks for all users (eg children, elderly, and people with disabilities).	Technical achievability	Affordability	Te Ao Māori	Social and cultural impacts	Climate change mitigation	Climate change adaptation	
Balanced	2	1	2	2	2	-1	-2	0	2	1	0	0.82
Safer outcomes	1	1	2	1	1	-1	-2	2	2	1	1	0.79
PT enabled urban growth	3	2	2	2	1	-2	-2	2	2	2	0	1.22
Reduce transport emissions	3	3	1	2	2	-2	-3	1	-1	3	1	1.20
Connected urban centres	3	2	3	3	3	-2	-3	3	3	2	2	1.74
CDB accessibility	2	2	1	2	3	-2	-2	0	2	2	0	1.06
Liveability	2	3	1	2	3	-2	-3	3	2	3	3	1.74
Resilience and freight	0	2	2	1	0	-1	-2	2	1	2	2	0.89

5.3.3 Long list programme scoring

Raw scoring and the final weighted score of the long list programme options is shown in **Table 5-7**.

The initial weighted scoring identified 'Connected urban centres', 'Liveability', 'PT enabled urban growth', and 'Reduce transport emissions' as the highest scoring programmes.

5.3.4 Long list sensitivity testing

The following sensitivity testing was conducted to assess the robustness of the programme option ranking from the initial weighted scoring:

- **Accessibility 1:** 'Te Ao Māori' and 'Social and cultural impacts' are the only included impacts and opportunities criteria.
- **Accessibility 2:** 'Te Ao Māori' and 'Social and cultural impacts' are the only included impacts and opportunities criteria. 'Reduce private vehicle reliance and transport related emissions and increase mode shift' are excluded from the investment objectives.
- **Climate 1:** 'Climate change mitigation' and 'Climate change adaptation' are the only included impacts and opportunities criteria.
- **Climate 2:** Climate change mitigation' and 'Climate change adaptation' are the only included impacts and opportunities criteria. All but 'Reduce private vehicle reliance and transport related emissions and increase mode shift' are excluded from the investment objectives.

The results of the sensitivity testing are shown in **Table 5-8.** 'Connected urban centres' and 'Liveability', were still the highest performing programmes. Considering the performance of the 'Reduce transport emissions' programme in the climate sensitivity tests, and its significant intervention category overlap with 'PT enabled urban growth', these two programmes were combined to form a new programme option 'Reduce transport emissions hybrid'. Full scoring rationale is given in **Appendix F**.

Table 5-8: Long list programme option rankings from MCA sensitivity testing

Programme option	Baseline weighting	Sensitivity scenario				Average ranking
		Access 1	Access 2	Climate 1	Climate 2	
Balanced	6	6	4	7	8	6.2
Safer outcomes	8	5	6	8	7	6.8
PT enabled urban growth	3	3	3	5	5 =	3.8
Reduce transport emissions	4	7	7	3	2	4.6
Connected urban centres	1	1	1	2	4	1.8
CDB accessibility	5	4	5	4	5 =	4.6
Liveability	2	2	2	1	1	1.6
Resilience and freight	7	8	8	6	3	6.4

The programmes taken through to the short list were:

- ‘Connected urban centres’
- ‘Liveability’
- ‘Reduce transport emissions hybrid’

5.4 Short list programmes

5.4.1 Short list development

Following on from the long list stage, the intended short list process was to complete the following steps:

- Further develop and confirm the three programmes taken forward to the short list stage.
- Model the short list options to understand their impact on the New Plymouth District’s transport network.
- Use the modelling outputs to measure the investment KPIs and update the MCA scoring for the short list.
- Define an emerging preferred option.

5.4.2 Strategic Alignment Diagram

During the process of programme development, the PBC team developed a strategic alignment diagram to:

- Better communicate the link between the problems evidenced in the strategic case and the proposed intervention categories, so that the need for the interventions was clear; and,
- Focus the development and assessment of the programmes on intervention categories, rather than the individual interventions themselves.

The strategic alignment diagram for the short list stage is given in **Appendix G**.

5.4.3 Short list workshop 1

The first short list workshop was held on the 21st of June 2023 and was attended by the project partners.

The purpose of the first short list workshop was to:

- Reconfirm MCA scoring for long list programme options,
- Discuss and develop detail within the short list programme options; and,
- Discuss approach to the short list stakeholder engagements.

Attendees were led through a structured discussion about the scoring and short list detail.

Key outcomes from the first short list workshop:

- Despite progressing to the short list stage already, the upcoming elected members workshop will generate feedback on all long list programme options. It is important to communicate the reduced nature of some of the programme options relative to others. For example, ‘Resilience and freight’ is an indicative reference option that is largely covered by other programme options that scored highly at the short list stage.
- Schedule the interventions within their categories of the short list programme options into short- (0-5 years), medium- (6-15 years), and long-term (16+ years) timeframes with the NZTA intervention hierarchy in mind.
- Visualise the do-minimum scenario and short list programme options (e.g., through a GIS platform) to effectively communicate the scope and differences of the programmes.
- Create a ‘Common interventions’ short list programme option that is comprised of the intervention categories that are similar across all three initial short list programme options. This will improve understanding of the efficacy of the common interventions between the short list programmes and the impact of the nuances between the programmes.

5.4.4 Elected member workshop

An elected member workshop was held on the 5th of July 2023, which were attended by elected members of the NPDC and community board members.

The purpose of the elected member workshop was to:

- Provide elected members insight and context around the ITF and the PBC process.
- Gauge elected member perception of the proposed long list programme options.
- Understand the level of support from elected members on activities within the programme options.

The NPDC community engagement team led attendees through the workshop. Attendees were first presented with a summary of the intervention categories and key interventions. Attendees were asked to vote on which of the suggested approaches and interventions would be the most appropriate and effective within each programme option. Finally, attendees were asked to select their preferred programme option.

Key outcomes from the elected member workshop:

- The top three preferred programmes from the elected members were:
  - 'Connected urban centres',
  - 'PT enabled urban growth'; and,
  - 'Resilience and freight'.
- The interventions that elected members were most in support of included:
  - Separated routes for freight,
  - Increased capacities on arterial routes,
  - Improving public transport frequencies, reliability, and levels of service; and,
  - Improving bus stops, hubs, and connections.
- The interventions that elected members were most opposed to included:
  - Making the one-way system two-way,
  - Removing one of the state highways through the city centre,
  - Reprioritising streets with a pedestrian focus; and,
  - Connected cycle network to key tourist destinations.

5.4.5 Short list workshop 2

The second short list workshop was held on the 13th of July 2023 and was attended by the project partners.

The purpose of the second short list workshop was to:

- Discuss outcomes from short list stakeholder workshops,
- Confirm detail within short list programmes for modelling; and,
- Prepare for the short list MCA.

Attendees were led through a structured discussion about the stakeholder workshop outcomes, short list details, and approach to the short list MCA.

Key outcomes from the second short list workshop:

- Confirmation of interventions within short list programme options.
- Confirmation of the benefits to be derived from the modelling outputs and crash data using standard procedures and crash analyses from the NZTA Monetised Benefits and Costs Manual (MBCM)[44].
- The short list MCA will use the same criteria and sensitivity tests as the long list MCA and scoring will be updated based on the modelling outputs and measured investment KPIs from this.

[44] https://www.nzta.govt.nz/assets/resources/monetised-benefits-and-costs-manual/Monetised-benefits-and-costs-manual.pdf

5.4.6 Short list programme development

Progressing through the short list process, the following developments were made to the short list programme options:

- The intervention set size increased to 119 interventions, due to further consolidation of interventions and the inclusion of all necessary precursor studies and business cases to shape and justify interventions.
- Four of the smaller intervention categories were consolidated into the remaining 14 intervention categories for brevity.
- Within the 'Reconfigure streets to align with One Network Framework outcomes and provide facilities for all modes' category, some significant interventions related to best use of the existing network and new infrastructure were retained in only the 'Connected urban centres' and 'Liveability' programme options.
- A 'Common interventions' option was included for short list assessment (see **Section 5.4.3**).

The short list programme option descriptions, composition, intervention categories and their connections to the problem statements are shown in **Table 5-9** and **Figure 5-5** to **Figure 5-9**. The proposed high-level scheduling of the interventions within each short list programme option is given in **Appendix E**.

5.4.7 Short list modelling

Short list programme option modelling was undertaken using the Ngāmotu Strategic Transport Model (STM) to quantify the impacts of the short list programme options on the New Plymouth District's transport network for MCA scoring. The modelling adopted an average population growth 0.9% per year over the 2018 to 2048 period, as per NPDC projections. To model the short list programme options while maintaining a high-level view as appropriate for a PBC, the following approach was adopted:

- Define model inputs based on the intended outcomes the intervention category level.
- Only consider the impacts of interventions that could be well represented in the model.
- Combine building blocks of intervention category level model inputs to constitute the programme options.

A high-level description of the modelling inputs for the short list programme options is given in **Table 5-10**. Full detail on the short list modelling inputs is given in the supplementary model forecasting report.

5.4.8 Short list economic analysis

Economic analysis was undertaken to assess the costs and benefits of the short list programme options:

- Programme option costs were built up from intervention costs estimated by the Beca costing team and NPDC. 85 of the 119 short list interventions were explicitly costed, although these costs covered several of the uncosted interventions implicitly.
- Where possible, the intervention cost estimates have been taken from the NPDC LTP 2021 – 2031. The P5, P50, and P95 costs of the short list programme options are given in **Table 5-11,** the short list intervention P50 capital costs are given in **Appendix E**, and the full costing methodology and calculations are given in the supplementary cost estimation spreadsheet.
- Monetised programme option benefits were calculated from both the Ngāmotu STM outputs and crash analysis system (CAS) data using standard NZTA MBCM processes. A summary of the monetised benefits and their modelled values for the short list options are given in **Table 5-12** and **Table 5-13** respectively.
- Economic sensitivity testing was also conducted on the expected programme costs, significant benefit sources, and discount rate to better understand the efficiency of the short list programme options. The economic sensitivity tests are described in **Table 5-14** and the benefit cost ratio (BCR) analysis outcomes are given in **Table 5-15**.

Full details on the BCR assessment methodology are given in **Appendix H**.

Of the remaining uncosted interventions that are not implicitly covered by other intervention costs:

- Some are focussed on education, subsidies, and promotion of alternative modes, which are difficult to cost realistically at the programme level.
- Some related to district wide tourism and recreational routes which have no defined scope and so cannot be costed.
- Some related to freight movement restructuring which has no defined scope and so cannot be costed.
- Resilience upgrades for isolated communities has no defined scope and so cannot be costed.
- Implementing a road pricing system has no defined scope and so cannot be costed.
- Implementing new bus apps and ticketing systems has no defined scope and so cannot be costed.

Do Minimum

Problem	Intervention Category
Public transport is not competitive, nor convenient to access from active modes, resulting in low public transport use and poor customer experience	
The urban areas have mainly developed in a linear form along the coast with low density residential developments resulting in high dependency on private vehicles and increasing transport costs for the community, especially lower socio-economic groups	
The network is configured to prioritise private vehicles and road freight over other modes resulting in issues across the city and towns including severance, and declining amenity	
A fragmented network for active modes (walking, cycling and micro-mobility) with poor (unsafe) connections resulting in safety issues, poor perception of the network and low active mode uptake.	

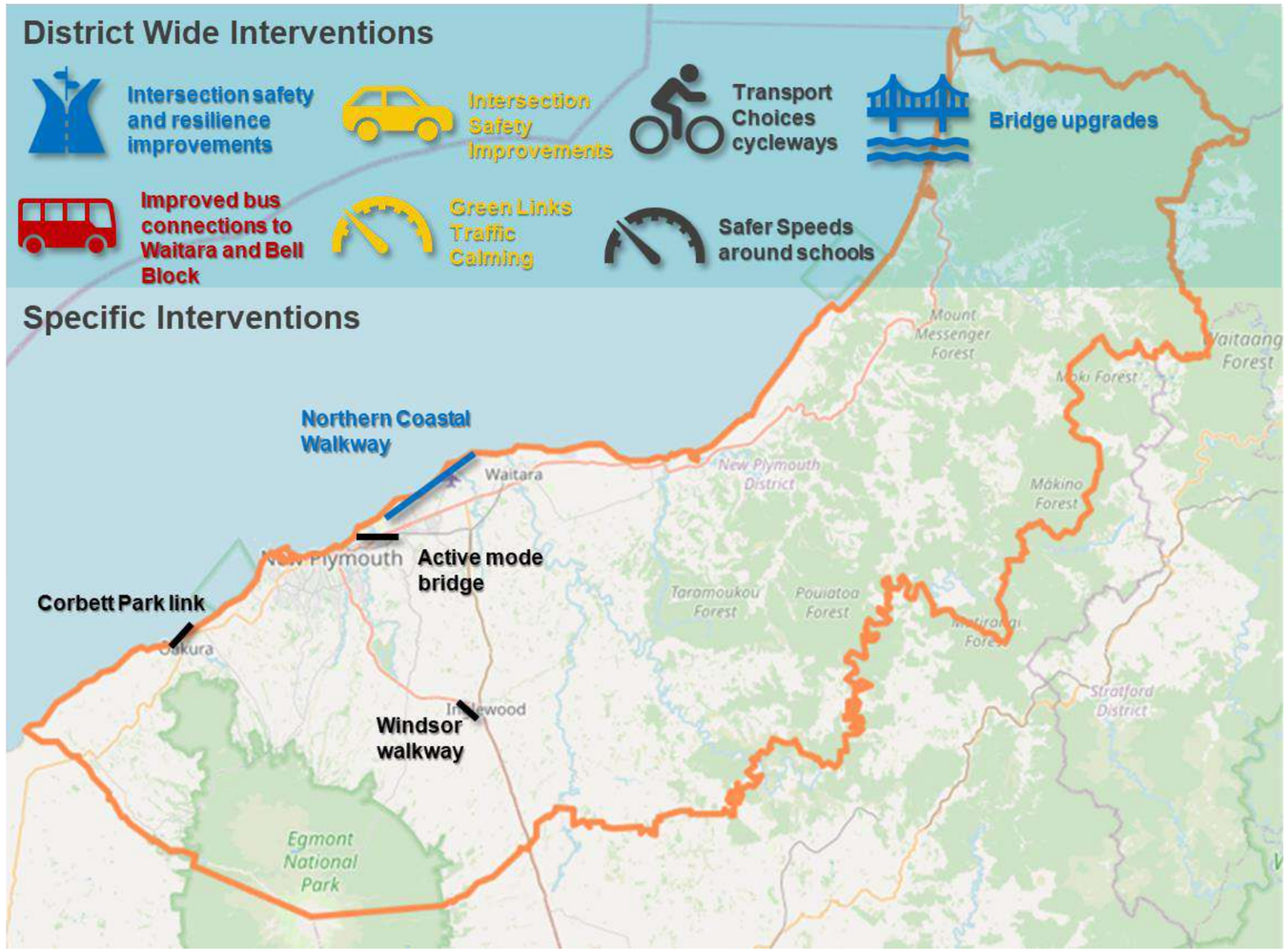


Figure 5-5: Short list Do-minimum

Common Short List Interventions

Problem	Intervention Category
Public transport is not competitive, nor convenient to access from active modes, resulting in low public transport use and poor customer experience	Improve PT frequencies, and LOS to make PT a more attractive option
	Align PT routes with key destinations and make PT more accessible
The urban areas have mainly developed in a linear form along the coast with low density residential developments resulting in high dependency on private vehicles and increasing transport costs for the community, especially lower socio-economic groups	Improve lower cost multi-modal access, especially for communities outside of central New Plymouth
The network is configured to prioritise private vehicles and road freight over other modes resulting in issues across the city and towns including severance, and declining amenity	Reconfigure streets to align with One Network Framework outcomes and provide facilities for all modes
A fragmented network for active modes (walking, cycling and micro-mobility) with poor (unsafe) connections resulting in safety issues, poor perception of the network and low active mode uptake.	Improve attractiveness and accessibility of active mode facilities
	Complete the urban cycle network

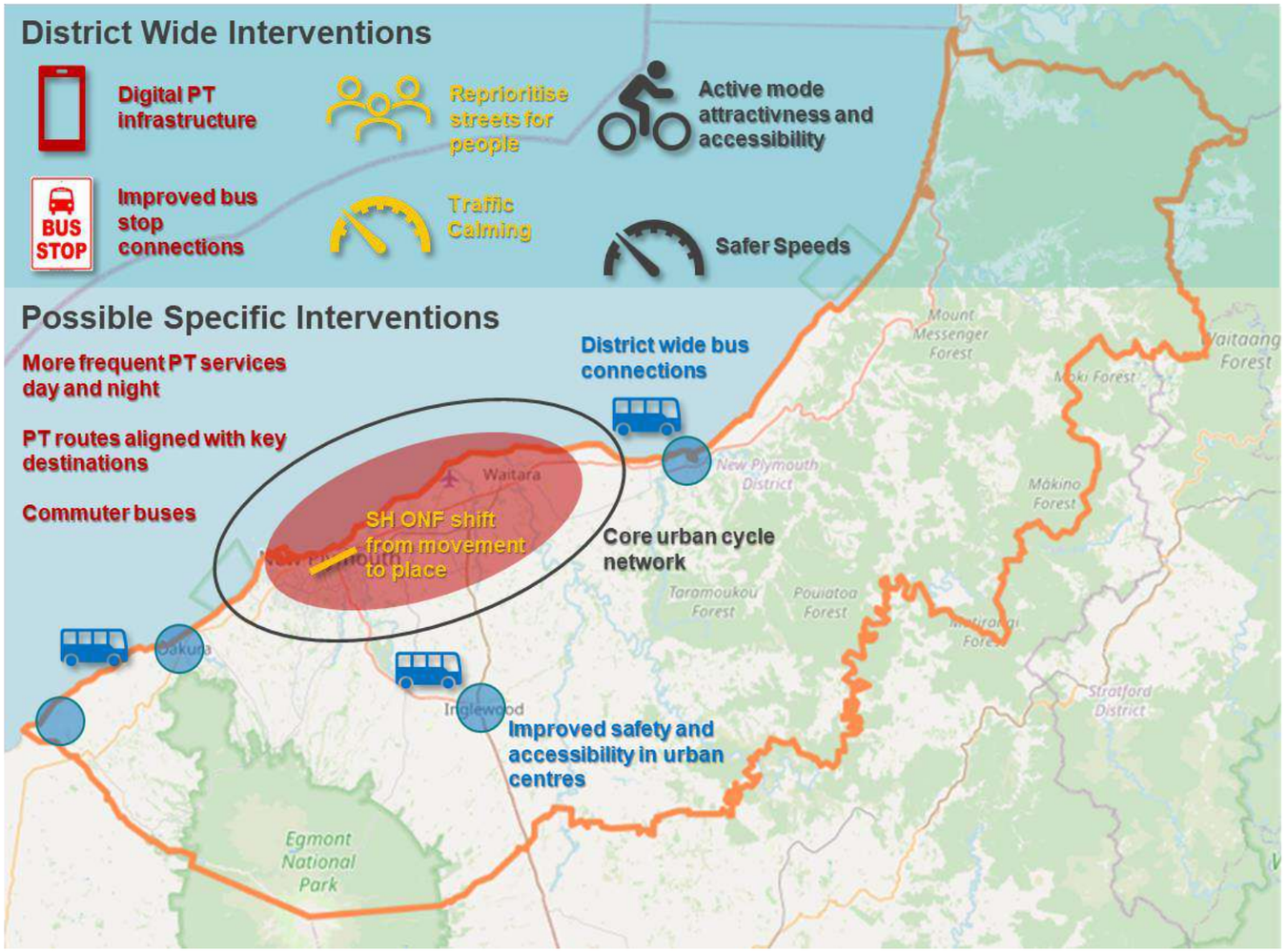


Figure 5-6: Short list ‘Common interventions’ programme

Liveability (Unique Interventions)

Improved liveability and accessibility of centres with a focus on people and active modes in response to Problem 3 and 4.

Problem	Intervention Category
The network is configured to prioritise private vehicles (including freight) over other modes resulting in issues across the city and towns including severance, and declining amenity.	Reduce the fossil fuel energy use of the transport network
	Safe road connections at network pinch points
A fragmented network for active modes (walking, cycling and micro-mobility) with poor (unsafe) connections resulting in safety issues, poor perception of the network and low active mode uptake.	Safety improvements for existing active mode facilities
Land Use.	Increase population density in areas close to key urban centres and destinations

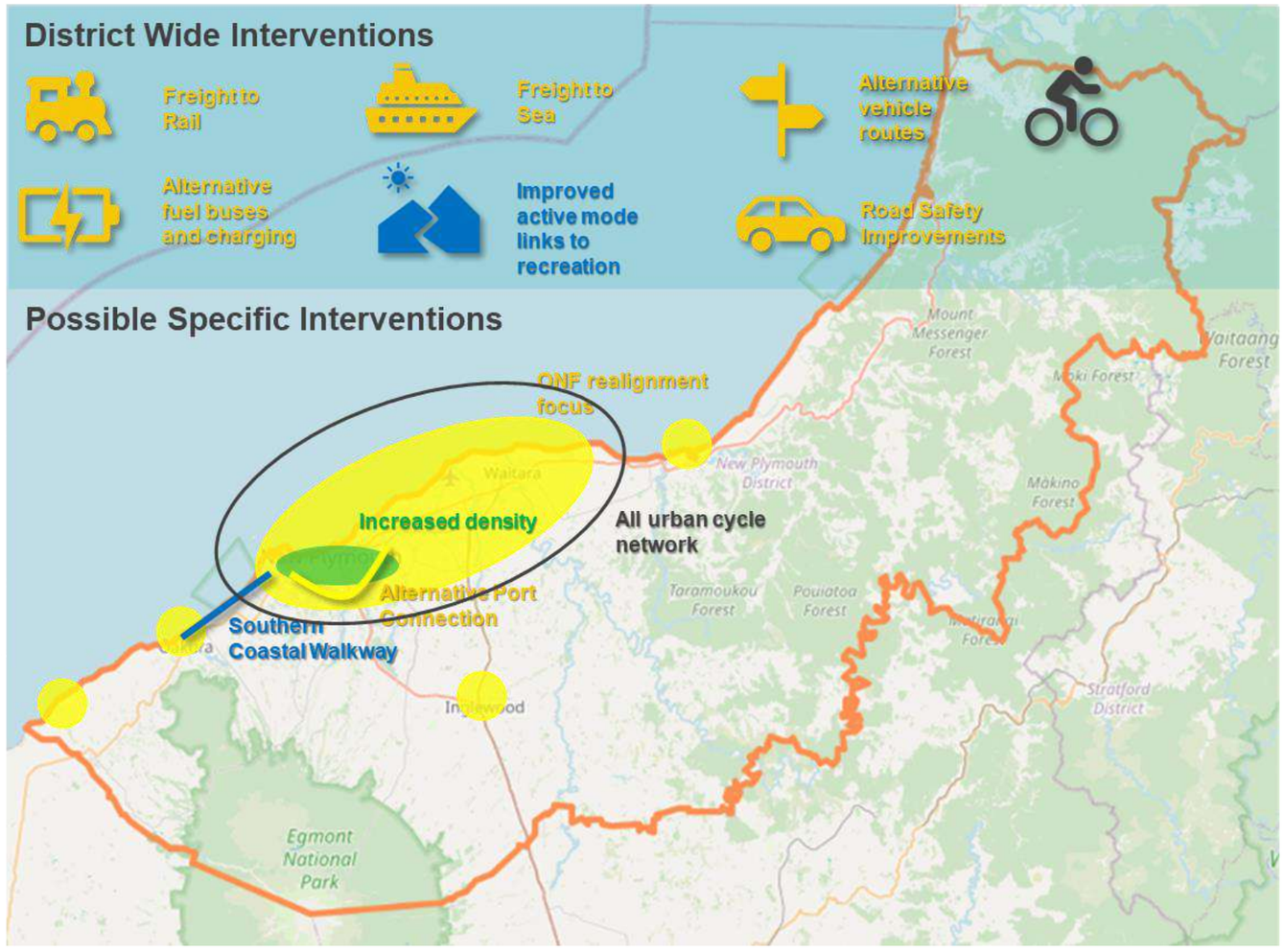


Figure 5-7: Short list ‘Liveability’ programme unique interventions

Connected Urban Centres (Unique Interventions)

Increase accessibility across the District by creating local centres with good active mode connections alongside high efficiency transport corridors to New Plymouth CBD in response to all problems.

Problem	Intervention Category
Public transport is not competitive, nor convenient to access from active modes, resulting in low public transport use and poor customer experience	Improve public transport infrastructure and travel time to make PT more attractive and accessible
The urban areas have mainly developed in a linear form along the coast with low density residential developments resulting in high dependency on private vehicles and increasing transport costs for the community, especially lower socio-economic groups	Resilient connections at network pinch points for all modes
The network is configured to prioritise private vehicles and road freight over other modes resulting in issues across the city and towns including severance, and declining amenity	Travel demand and travel behaviour management
A fragmented network for active modes (walking, cycling and micro-mobility) with poor (unsafe) connections resulting in safety issues, poor perception of the network and low active mode uptake.	Safety improvements for existing active mode facilities
Land Use.	Planned growth.

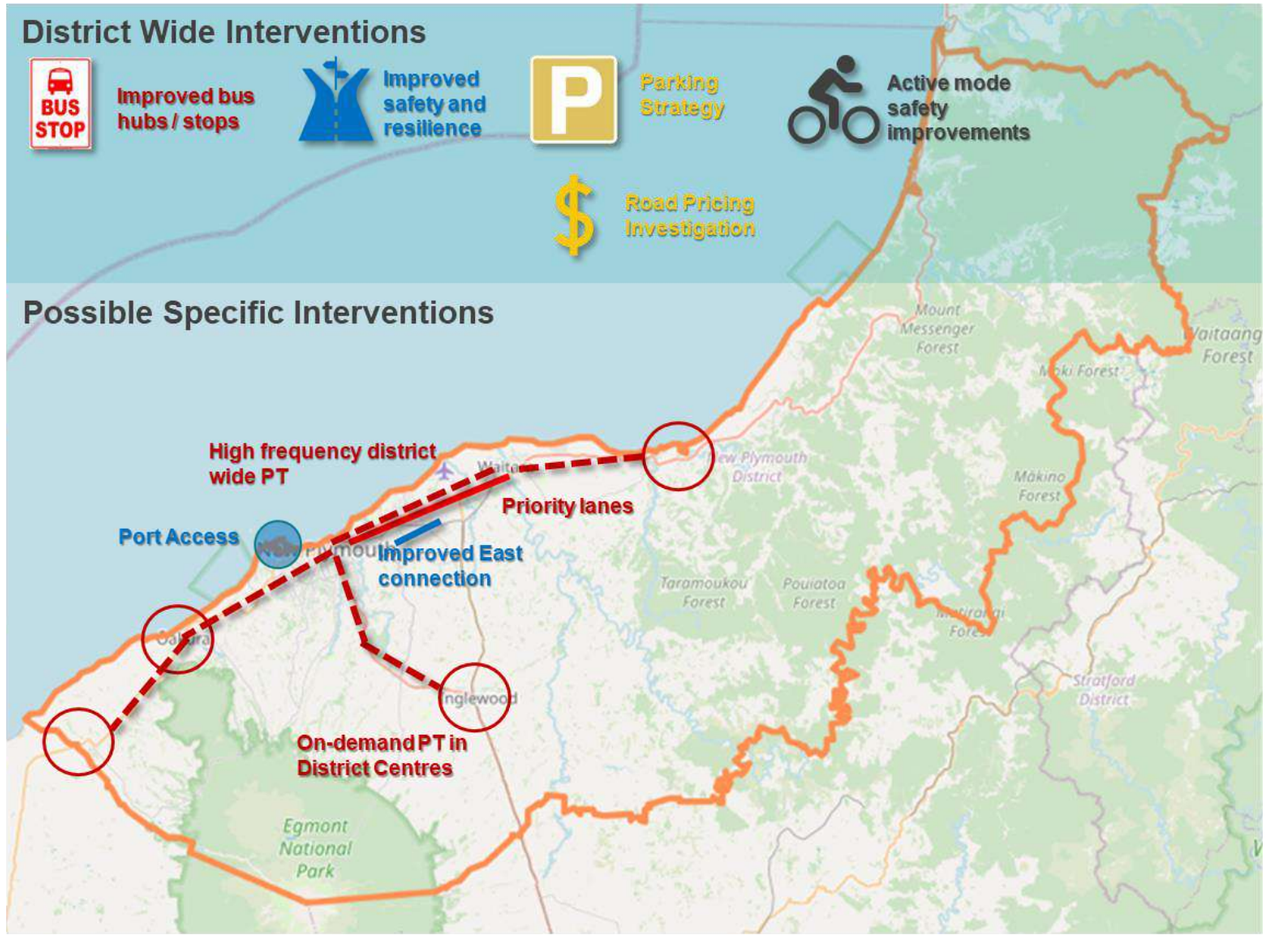


Figure 5-8: Short list ‘Connected urban centres’ programme unique interventions

Reduce Transport Emissions (Unique Interventions)

Maximise transport emissions reduction in response to Problem 1, 2 and 4 by pulling all possible levers (especially land use) but with limited focus on safety and liveability.

Problem	Intervention Category
Public transport is not competitive, convenient to access from active modes or perceived as a safe travel option resulting in low public transport use and poor customer experience.	Improve public transport infrastructure and travel time to make PT more attractive, and accessible
The network is configured to prioritise private vehicles (including freight) over other modes resulting in issues across the city and towns including severance, and declining amenity.	Reduce the fossil fuel energy use of the transport network
	Travel demand and travel behaviour management
Land Use.	Increase population density in areas close to key urban centres and destinations
	Reduce the need to travel where car alternatives are less viable

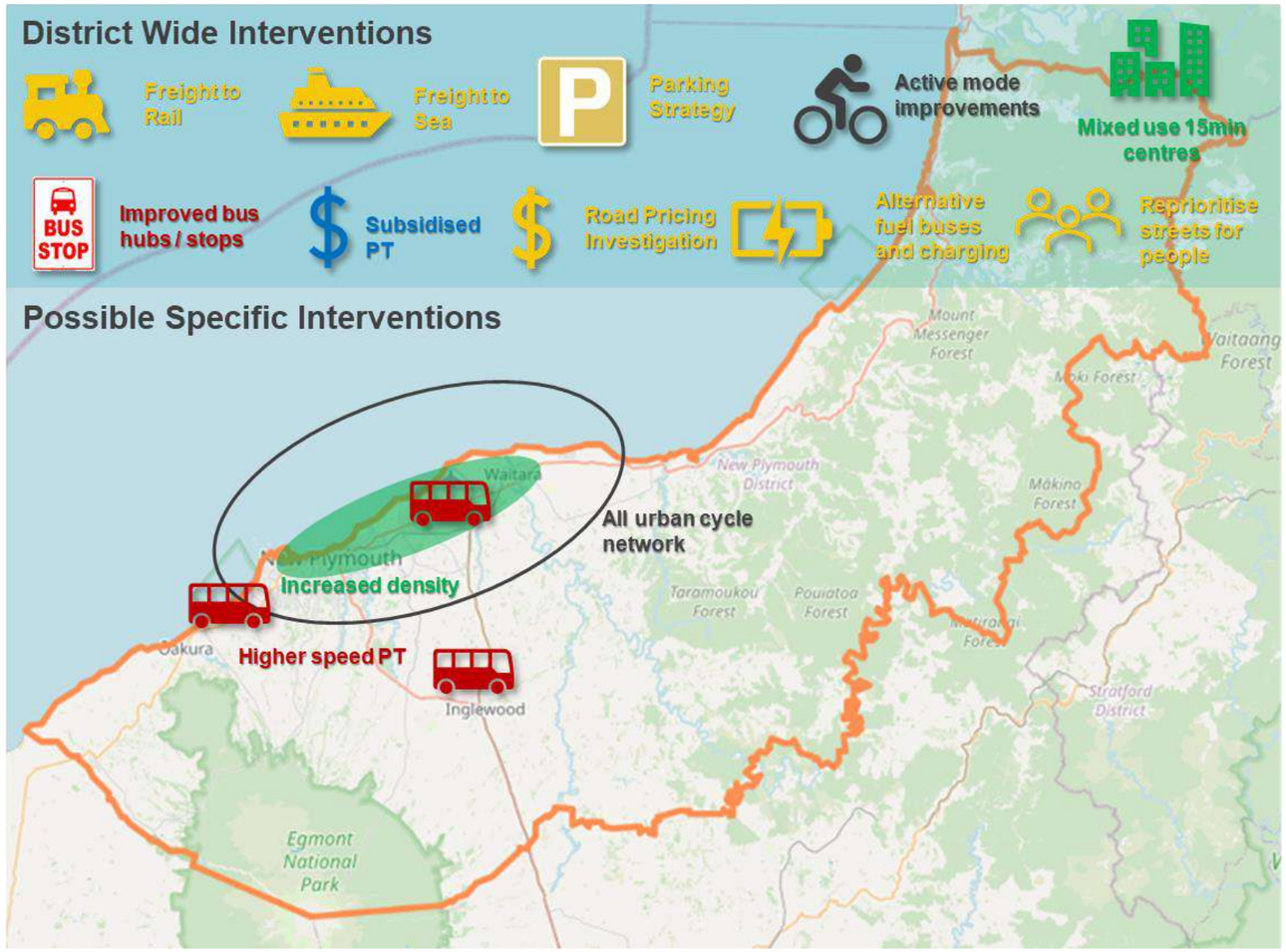


Figure 5-9: Short list ‘Reduce transport emissions’ programme unique interventions

Table 5-9: Intervention categories, short list programme options, and their alignment to the problems at short list stage

Problem statement	Intervention category	Number of intervention items	Long list programme options			
			Common interventions	Reduce transport emissions hybrid	Connected urban centres	Liveability
			Improved safety for all modes to tackle the existing problems areas on the network.	Maximise transport emissions reduction by pulling all possible levers, with limited focus on safety.	Creating local centres with active mode connections and high efficiency transport corridors to New Plymouth CBD.	Improved liveability and accessibility of centres with a focus on people and active modes.
Public transport is not competitive with private vehicle travel or convenient to access from active modes resulting in low public transport use and poor customer experience.	Improve public transport frequencies, level of service, and reliability to make PT a more attractive option.	6				
	Improve public transport infrastructure and travel time to make public transport more reliable.	7				
	Align public transport routes with key destinations and make public transport more accessible.	8				
Most urban areas have low density residential developments that make access by public transport, walking and cycling difficult resulting in high dependency on private vehicles and increasing transport costs for the community that especially impact lower socio-economic groups.	Improve multi-modal access for communities outside of central New Plymouth.	19				
	Resilient connections at network pinch points for all modes.	8				
The network is configured to prioritise private vehicles and road freight over other modes resulting in issues across the cities and towns including severance, and declining amenity.	Reduce the fossil fuel energy use of the transport network.	9				
	Travel demand and travel behaviour management.	4				
	Reconfigure streets to align with One Network Framework outcomes and provide facilities for all modes.	15				
	Safe road connections at network pinch points.	2				
The current active mode transport networks are fragmented and have unsafe connections resulting in safety issues, poor perception of the network and low active mode uptake.	Safety improvements for existing active mode facilities.	11				
	Improve attractiveness and personal safety of active mode facilities.	15				
	Complete the urban cycle network.	10				
Land Use	Increase population density in areas near key urban centres and destinations.	5				
	Reduce the need to travel where car alternatives are less viable.	3				

Table 5-10: High level modelling inputs for short list programme options

Intervention category	Corresponding Ngāmotu STM network component	Input description	Programme option			
			Common interventions	Liveability	Connected urban area	Reduce transport emissions hybrid
Align public transport routes with key destinations and make public transport more accessible	Public transport	Extending TRC bus route 20 and improving headway to 30mins	■	■	■	■
	Public transport	Implementing airport to CBD bus route with 30min headway	■	■	■	■
	Public transport	Decreasing walking perception factors from 2 to 1.5	■	■	■	■
Improve public transport infrastructure and travel time to make public transport more attractive, and accessible	Road	Implementing bus priority on bus routes			■	■
	Public transport	Improving bus stop quality from Normal to Medium and bus stations from Medium to High			■	■
	Public transport	Reducing bus route time factors by 50% for Route 20			■	■
Improve public transport frequencies and level of service to make public transport a more attractive option	Public transport	Increasing bus service frequencies up by 400% (60 minutes to 15 minutes)	■	■	■	■
Improve lower cost multi-modal access, especially for communities outside of central New Plymouth	Public transport	Reducing public transport fares by 50%	■	■	■	■
	Cycle	Reducing cycle journey costs by 10%	■	■	■	■
	Cycle	Improving off road trail perception factors by 20%	■	■	■	■
Resilient connections at network pinch points for all modes	Road	Implementing additional capacity at certain intersections and midblock sections (delays capped at LOS E)			■	
Travel demand and travel behaviour management	Road	Increasing parking costs by up to 300% and expanding parking cost zone			■	■
	Road	Increasing car journey costs by 100%			■	■
Reconfigure streets to align with One Network Framework outcomes and provide facilities for all modes	Road	Reducing speed limits on certain road types	■	■	■	■
	Cycle	Implementing speed management facilities on certain road types	■	■	■	■
	Cycle	Implementing cycle lanes on arterial roads	■	■	■	■
	Road	Reducing capacity on SH44 and increasing capacity on SH45		■	■	
	Road	Implementing ring route around New Plymouth		■		
Safety improvements on existing active mode facilities	Cycle	Upgrading existing cycle lanes to buffered lanes		■	■	
	Cycle	Implement shared paths on all off-road trails		■	■	
Improve attractiveness and accessibility of active mode facilities	Cycle	Uplifting cyclist confidence factors to High	■	■	■	■
	Cycle	Reducing cycle journey costs for trips to the CBD by up to 20%	■	■	■	■
Complete the urban cycle network	Cycle	Implement ‘enthused and confident’ and ‘interested but concerned’ cycle routes	■	■	■	■

Intervention category	Corresponding Ngāmotu STM network component	Input description	Programme option			
			Common interventions	Liveability	Connected urban area	Reduce transport emissions hybrid
Increase population density in areas close to key urban centres and destinations	Land use assumptions	Redistributing most population growth in proposed future urban zones to areas with medium density zoning				
Reduce the need to travel where car alternatives are less viable	Land use assumptions	Reducing traffic growth between central New Plymouth and other townships from 2% per annum to 1%				
	Land use assumptions	Partially redistributing retail and commercial employment growth in Bell Block area to areas with medium density zoning				

Table 5-11: Short list programme option costs

Short list programme option	P5 cost ($M)	P50 cost ($M)	P95 cost ($M)
Common interventions	315.2	372.1	499.3
Liveability	508.8	637.0	889.6
Connected urban centres	689.7	871.1	1,216.6
Reduce transport emissions hybrid	499.3	613.9	842.0

Table 5-12: Monetised transport benefits for programme option assessment

Transport benefit	Assessment approach
Traffic travel time and reliability	Value of travel time and time in congestion on modelled network calculated using variable trip matrix (VTM) method. Reliability benefit estimated as proportion of travel time benefit.
Vehicle operating costs	Value of base running costs, intersection idling costs, and additional running costs due to congestion of modelled network.
Public transport travel time and reliability	Value of travel time calculated using VTM method. Reliability benefit estimated as proportion of travel time benefit.
Crash reductions	Changes in midblock crashes calculated using crash rate analysis and changes in traffic volumes, speed limits, and safety interventions on modelled network. Changes in crashes at intersections and crossing points calculated using crash-by-crash analysis and changes in safety interventions at key locations.
Cycling travel time and user health	Value of travel time calculated using VTM method. Health benefits calculated using difference in cycle kilometres travelled new cycle trips.
External impacts of emissions	Value of emission damage costs calculated using modelled VKT outputs and NZTA vehicle emissions prediction model standard rates.

Table 5-13: Short list programme options modelled benefits by transport benefit category

Transport benefit	Short list programme option benefit ($M)				Key Benefit Drivers
	Common interventions	Liveability	Connected urban centres	Reduce transport emissions hybrid	
Traffic travel time and reliability	55.9	349.6	291.3	294.4	The 'Liveability' programme derives the greatest road travel time benefits due to the provision of a ring route in 2053. The 'Connected urban centres' and 'Reduce transport emissions hybrid' programmes derive road travel time benefits from the provision of resilient connections at network pinch points.
Vehicle operating costs	0.6	-1.6	20.5	17.9	The 'Connected urban centres' and 'Reduce transport emissions hybrid' programmes derive VOC benefits from reductions in overall number of people driving due to larger mode shift from private vehicles to PT. This is driven by improved public transport infrastructure and travel times that make public transport a more attractive, accessible, and convenient option, as well as travel demand management in these programmes.
Public transport travel time and reliability	156.1	158.4	874.4	853.3	The 'Connected urban centres' and 'Reduce transport emissions hybrid' programmes derive the most PT benefits from increased patronage and reduced PT travel times. This is driven by improved public transport infrastructure and travel times that make public transport a more attractive, accessible, and convenient option, as well as travel demand management in these programmes.
Crash reductions	15.9	37.1	86.7	36.3	Speeds on local streets are reduced in all programmes as part of reconfiguring streets to align with One Network Framework

Transport benefit	Short list programme option benefit ($M)				Key Benefit Drivers
	Common interventions	Liveability	Connected urban centres	Reduce transport emissions hybrid	
					outcomes and providing facilities for all modes, which leads to crash reduction benefits across all programmes. The 'Connected urban centres' programme derives the most benefits here, likely from lower overall traffic flows due to mode shift from private vehicles to PT. This is driven by improved public transport infrastructure and travel times that make public transport a more attractive, accessible, and convenient option, as well as travel demand management in these programmes.
Cycling travel time and user health	735.9	912.2	889.6	843.7	Significant benefits from increased cycling mode share are apparent across all programmes. All options improve access to lower cost multi-modal options, improve attractiveness and accessibility of active mode facilities, and complete the proposed urban cycle network by 2053. The 'Liveability' and 'Connected urban centres' programmes provide safety improvements for existing active mode facilities which generates additional benefits compared to the other programmes.
External impacts of emissions	3.6	3.8	13.9	12.8	The 'Connected urban centres' and 'Reduce transport emissions hybrid' programmes derive benefits from reductions in emissions due to mode shift from private vehicles to PT. This is driven by improved public transport infrastructure and travel times that make public transport a more attractive, accessible, and convenient option, as well as travel demand management in these programmes.

Table 5-14: Short list economic analysis sensitivity tests

Category	Sensitivity test	Description
Discounting factor	3% and 6%	Standard sensitivity test on 4% discounting factor as recommended in the NZTA MBCM.
Programme option costs	P5 and P95 costs	Variation on expected (P50) costs as defined by the Beca costing team. Based on the high-level nature of the costing process. For exact cost values see the supplementary cost estimation report.
Significant benefit sources	-20% and +20% for crash reduction benefits estimated from CAS data	Crash reductions used in this analysis are from SSI toolkit and crash compendium estimates, which are based on nationwide and some international evidence. Exact impact for the New Plymouth context is not well known, and deviation from the estimated reduction is likely.
	-30% and +10% for: • Crash reduction benefits estimated from changes in VKT • Public transport benefits (including travel time and reliability) • Cycling benefits (including travel time and health benefits to users)	Modelled VKT reductions and mode shift risks are likely to be more on the downside.

Table 5-15: Short list programme option benefit cost ratio (BCR) values from economic analysis

Short list programme option	BCR	Sensitivity testing	
		Lowest BCR	Highest BCR
Common interventions	2.6	1.1	3.7
Liveability	2.3	1.0	3.4
Connected urban centres	2.5	1.1	3.7
Reduce transport emissions hybrid	3.4	1.5	4.9

5.5 Short list programme assessment

5.5.1 Short list assessment criteria

The short list programme options were assessed against the same criteria and scoring system as the long list programme options, as shown in **Table 5-5** and **Table 5-6**. However, 'Value for money' was also included for assessment at this stage as indicative costs and benefits had been calculated. The MCA scoring at this stage was informed by the modelling outputs and measured investment KPIs from this. The measured investment KPI results for the short list programme options at modelled year 2035 and 2053 are given in **Table 5-16**.

5.5.2 Short list MCA workshop

The short list MCA workshop was held on the 27th of July 2023 and was attended by the project partners.

The purpose of the short list MCA workshop was to:

- Discuss initial MCA scoring and modelling for the short list programme options,
- Identify the emerging preferred programme option.

Attendees were led through a presentation about the MCA scoring, modelling results, and the next steps.

Key outcomes from the first short list workshop:

- General agreement around the emerging preferred option of 'Connected urban centres'.
- Confirm some of the observed modelling outcomes were an accurate representation of real-life conditions.
- Discuss the best way to gather data for the KPIs that have not yet been measured.

Table 5-16: Measured investment KPI results for the short list programme options at model year 2035 and 2053

Model Year	Programme option	Improve public transport network access, reliability, and travel times.			Reduce private vehicle reliance and transport related emissions and increase mode shift.					Positive impact on local centres, network productivity and utilisation.			Improve multi-modal access to key amenity locations.	Improve the safety and attractiveness of active mode networks for all users.	
		KPI 1: PT travel times (Average of 4 Origins to CBD in mins)	KPI 3: % of population within 400 metres PT walking catchments.	KPI 4a and 4b: PT mode share for AM journey to work + school trips	KPI 5: Tonnes of CO2E (change compared to do-minimum)	KPI 6a: AM JTW by light vehicle mode share (change compared to do-minimum)	KPI 6b: VKT (change compared to do-minimum)	KPI 7: PT mode share for journey to work trips	KPI 8: PT mode share for journey to school trips	KPI 10: PT travel time minus car travel time (Average of 4 Origins to CBD in mins)	KPI 13a: % of freight on non-arterial corridors	KPI 13b: Freight travel times from east to port (change compared to do-minimum in mins)	KPI 11: % of residents living within 400m of local centre	KPI 14: Annual deaths and serious injuries for cyclists	KPI 15: % of primary cycling network that is safe and separated
2035	Do-minimum	14.4	57.2%	0.7% 13.9%	-	-	-	0.7%	13.9%	17	76.4%	-	10.2%	2.88	13%
	Common interventions	14.4	57.2%	1.4% 14.9%	-1.1%	-1%	-1.2%	1.4%	14.9%	14	76.5%	-0.1	10.2%	2.42	16%
	Liveability	14.4	57.2%	1.4% 15.7%	-1.2%	-1%	-1.4%	1.4%	15.7%	14	76.5%	-0.1	10.2%	1.81	23%
	Connected urban centres	14.3	57.2%	6.4% 16.9%	-3.9%	-7%	-3.5%	6.4%	16.9%	12	76.8%	-0.1	10.2%	1.66	23%
	Reduce transport emissions hybrid	14.3	57.2%	6.5% 17.8%	-3.0%	-7%	-3.4%	6.5%	17.8%	12	76.8%	-0.3	10.2%	1.59	23%
2053	Do-minimum	14.9	55.5%	0.7% 13.5%	-	-	-	0.7%	13.5%	16.7	75.1%	-	9.6%	3.72	13%
	Common interventions	14.8	55.5%	2.5% 18%	-2%	-3%	-2%	2.5%	18.0%	12.8	75.3%	-0.3	9.6%	2.18	25%
	Liveability	14.6	57.5%	2.4% 18.9%	0%	-4%	-1%	2.4%	18.9%	13.3	79.9%	-1.0	10.5%	2.58	28%
	Connected urban centres	14.6	55.5%	15.7% 26.7%	-10%	-16%	-11%	15.7%	26.7%	6.8	77.9%	-1.2	9.6%	1.05	29%
	Reduce transport emissions hybrid	14.3	57.5%	14.7% 28.2%	-10%	-16%	-11%	14.7%	28.2%	6.8	76.3%	-1.7	10.5%	0.98	29%

Table 5-17: Short list MCA raw scores and weighted scores

Programme option	Investment objectives					Critical success factors			Impacts and opportunities				Weighted score
	Improve public transport network access, reliability, and travel times	Reduce private vehicle reliance and transport related emissions and increase mode shift.	Positive impact on local centres, network productivity and utilisation.	Improve multi-modal access to key amenity locations.	Improve the safety and attractiveness of active mode networks for all users (eg children, elderly, and people with disabilities).	Technical achievability	Affordability	Value for money	Te Ao Māori	Social and cultural impacts	Climate change mitigation	Climate change adaptation	
Common interventions	1	1	0	1	1	-1	-1	1	1	2	0	1	0.74
Liveability	1	1	0	2	3	-2	-2	1	3	2	0	2	1.12
Connected urban centres	2	2	1	1	3	-1	-3	1	2	3	3	2	1.69
Reduce transport emissions hybrid	2	2	2	2	3	-2	-2	2	1	0	3	2	1.49

5.5.3 Short list programme scoring

Raw scoring and the final weighted score of the short list programme options is shown in **Table 5-17**. Full scoring rationale is given in **Appendix F**.

The initial weighted scoring identified 'Connected urban centres' as the highest performing programme.

5.5.4 Short list sensitivity testing

The results of the sensitivity testing are shown in **Table 5-18.** 'Connected urban centres' was still the highest performing programme.

Table 5-18: Short list programme option rankings from MCA sensitivity testing

Programme option	Baseline weighting	Sensitivity scenario				Average ranking
		Access 1	Access 2	Climate 1	Climate 2	
Common interventions	4	4	4	4	4	4
Liveability	3	2	2	3	3	2.6
Connected urban centres	1	1	1	2	2	1.4
Reduce transport emissions hybrid	2	3	3	1	1	2.0

From this process, 'Connected urban centres' was taken through to the preferred programme option stage.

5.5.5 Short list stakeholder consultation

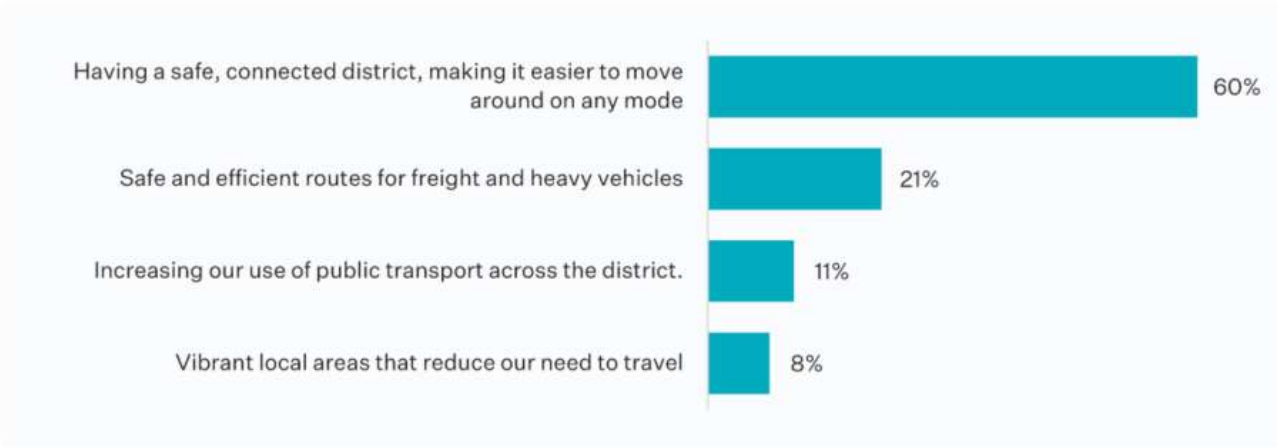
Stakeholder consultation was carried out by NPDC with some of the key project stakeholder groups between July and September 2023. Generally, the views that were shared aligned with the existing intervention categories and so existing interventions within each of the short list programme options covered off transport network priorities the groups would like to see action on. This feedback is summarised in **Appendix I**.

5.5.6 Short list community consultation

Public consultation with the New Plymouth District community was carried out by Research First on behalf of NPDC in August and September 2023, with a full copy provided in **Appendix I**. This was carried out using two methods:

- A representative survey of the residents of the district aged 18 years and older on age, gender, ethnicity, and location with 500 responses.
- An open submission via a digital public access open link survey with 305 responses.

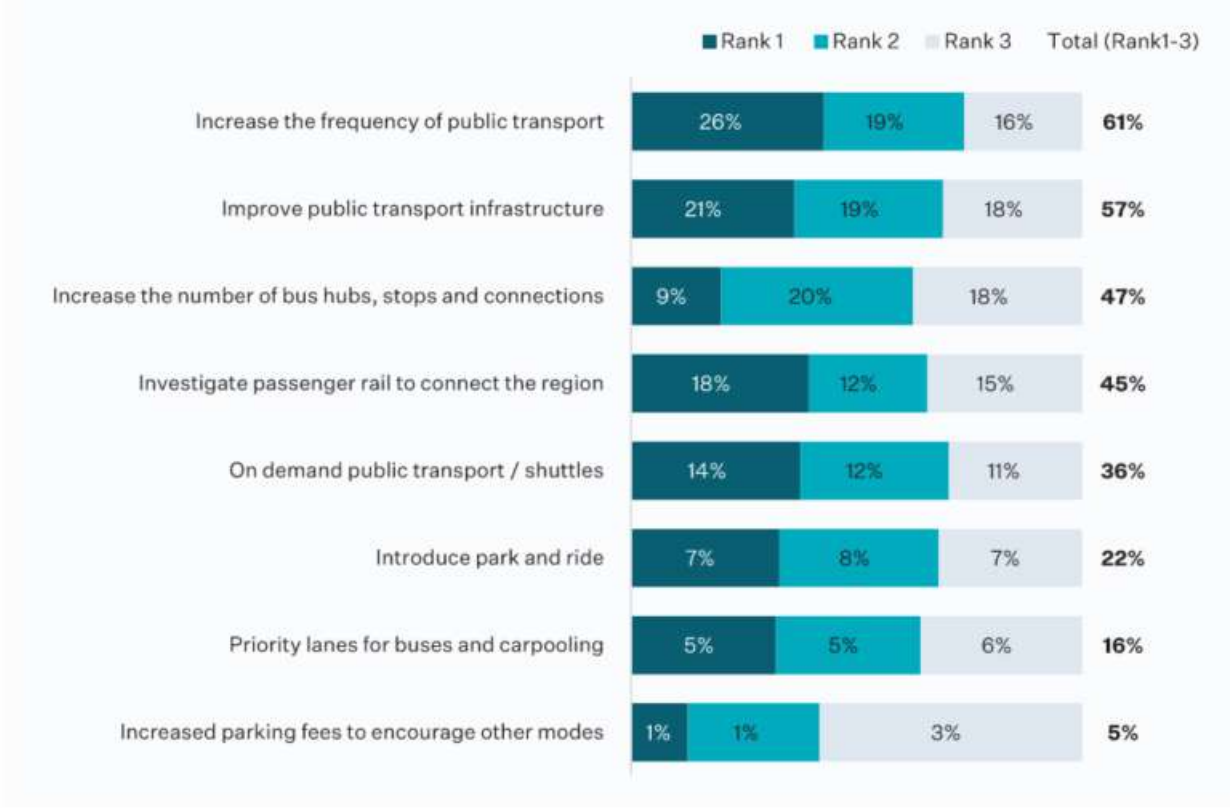
The first question focussed on the key priority areas for the district's transport network, which is intended to be at a programme option level rather than focus on specific interventions. **Figure 5-10** below shows the results of the survey. This indicates that at a high-level, the general transport priorities align with the Connected Urban Centres and Liveability options, rather than the Reduce Transport Emissions option.



Q. Considering the four broad themes below, what is your key priority across the district's transport network?
Base: n=500 (representative sample only).

Figure 5-10: Key priority areas

The second question asked respondents to rank the top three priorities for public transport initiatives, which aligns with Objective 1 of the PBC. The highest ranked initiatives as shown in **Figure 5-11** were more frequent PT, improved PT infrastructure and passenger rail to connect the region, and when cost was considered this top three remained the same. This ranking best aligns with the Connected Urban Centres and Reduce Transport Emissions programme options.



Q. The Council wishes to understand how it can best improve public transport. Of the following public transport initiatives, please rank what you consider to be the 3 top priorities for the Council. Please rank the following initiatives by entering 1, 2 and 3 to indicate your top 3 priorities for the Council – where 1 is the topmost priority. Base: n=500.

Figure 5-11: Ranking for public transport initiatives (% respondents ranked 1 to 3)

The third question asked respondents to rank how to best improve access to key amenity areas, which aligns with Objective 3 of the PBC. Assigning relative costs to the initiatives significantly influenced the prioritisation, with the highest ranked initiatives as shown in **Figure 5-12** being better connected PT, encouraging work from home schemes and villages with services and shops to avoid travel. This displaced a separate route for freight and through traffic in towns and resilient connections for all modes from the top three before cost was considered. This ranking best aligns with the Reduce Transport Emissions programme option.

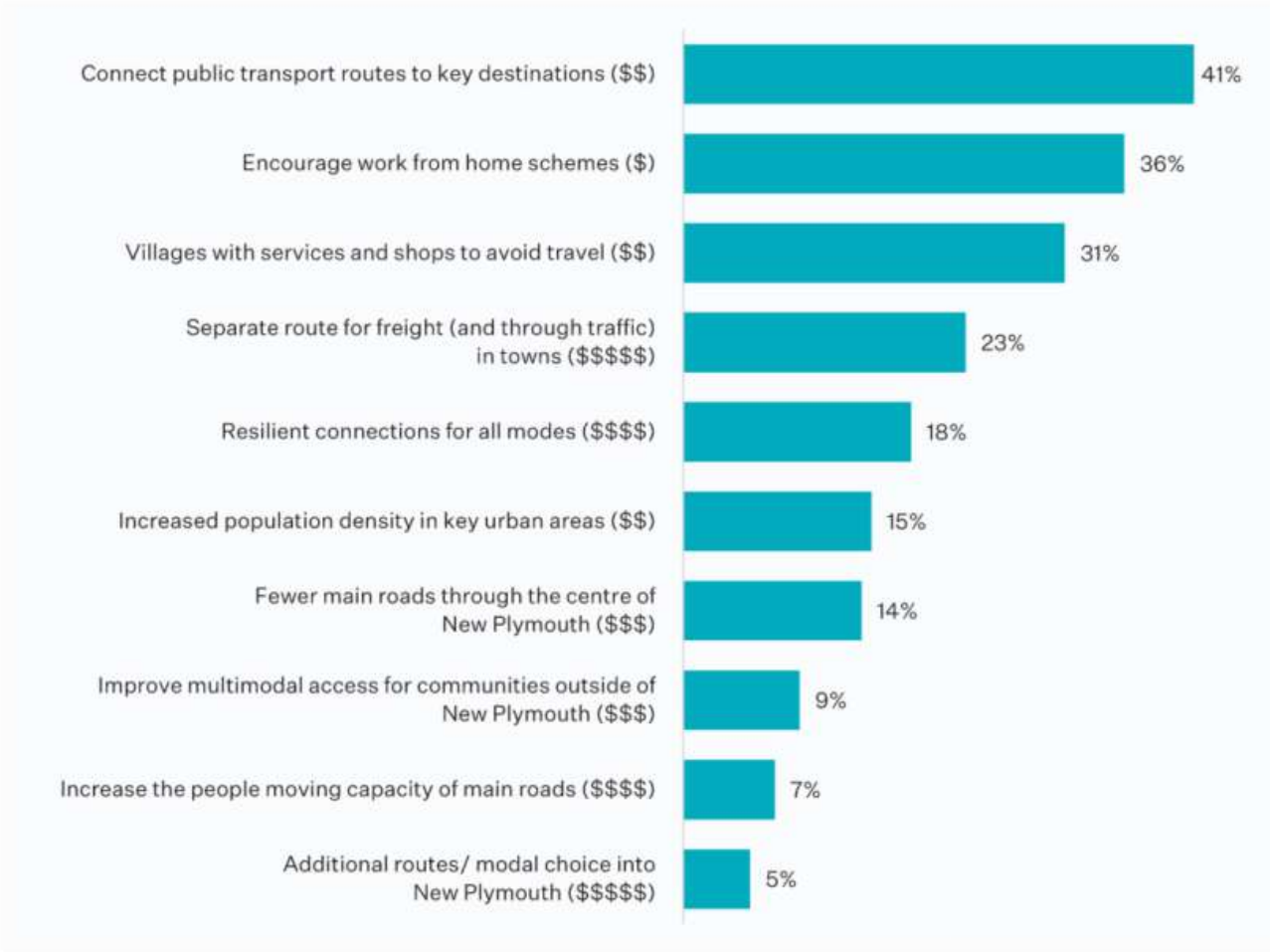
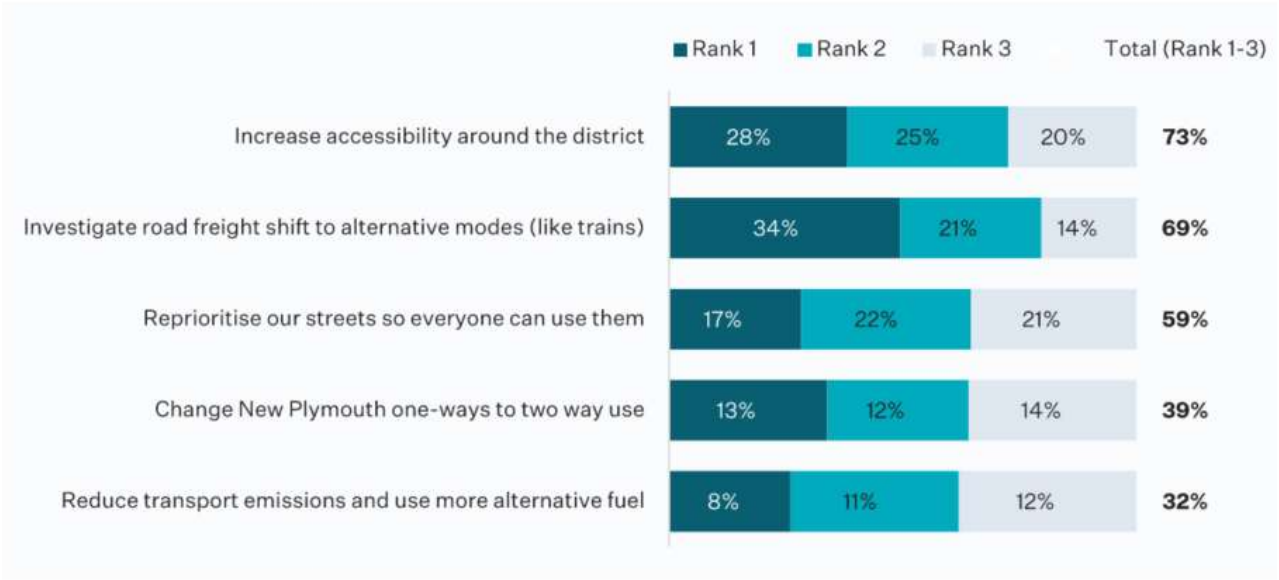


Figure 5-12: Ranking for initiatives to improve access to key amenities (post relative cost being applied)

The fourth question asked respondents to rank how to best reduce reliance on private vehicles, which aligns with Objective 2 of the PBC. The highest ranked initiatives as shown in **Figure 5-13** were shifting road freight to alternative modes, increasing accessibility around the district and reprioritising streets so everyone can use them, and when cost was considered this top three remained the same. This ranking best aligns with the Liveability and Reduce Transport Emissions programme options.



Q. The Council wishes to understand how it can reduce our reliance on private vehicles (including freight). Of the following initiatives, please rank what you consider to be the 3 top priorities for the Council. Please rank the following initiatives by entering 1, 2 and 3 to indicate your top 3 priorities for the Council. Base: n=500.

Figure 5-13: Ranking for initiatives to reduce reliance on private vehicles (% respondents ranked 1 to 3)

The fifth question asked respondents to rank how to best improve the fragmented active travel network, which aligns with Objective 5 of the PBC. Assigning relative costs to the initiatives influenced the prioritisation, with the highest ranked initiatives as shown in **Figure 5-14** being increasing active mode end of trip facilities (e.g., seating and cycle parking), raised crossings and improving existing road connection for active modes. This displaced bridge upgrades from the top three before cost was considered. This ranking best aligns with the Connected Urban Centres programme option.

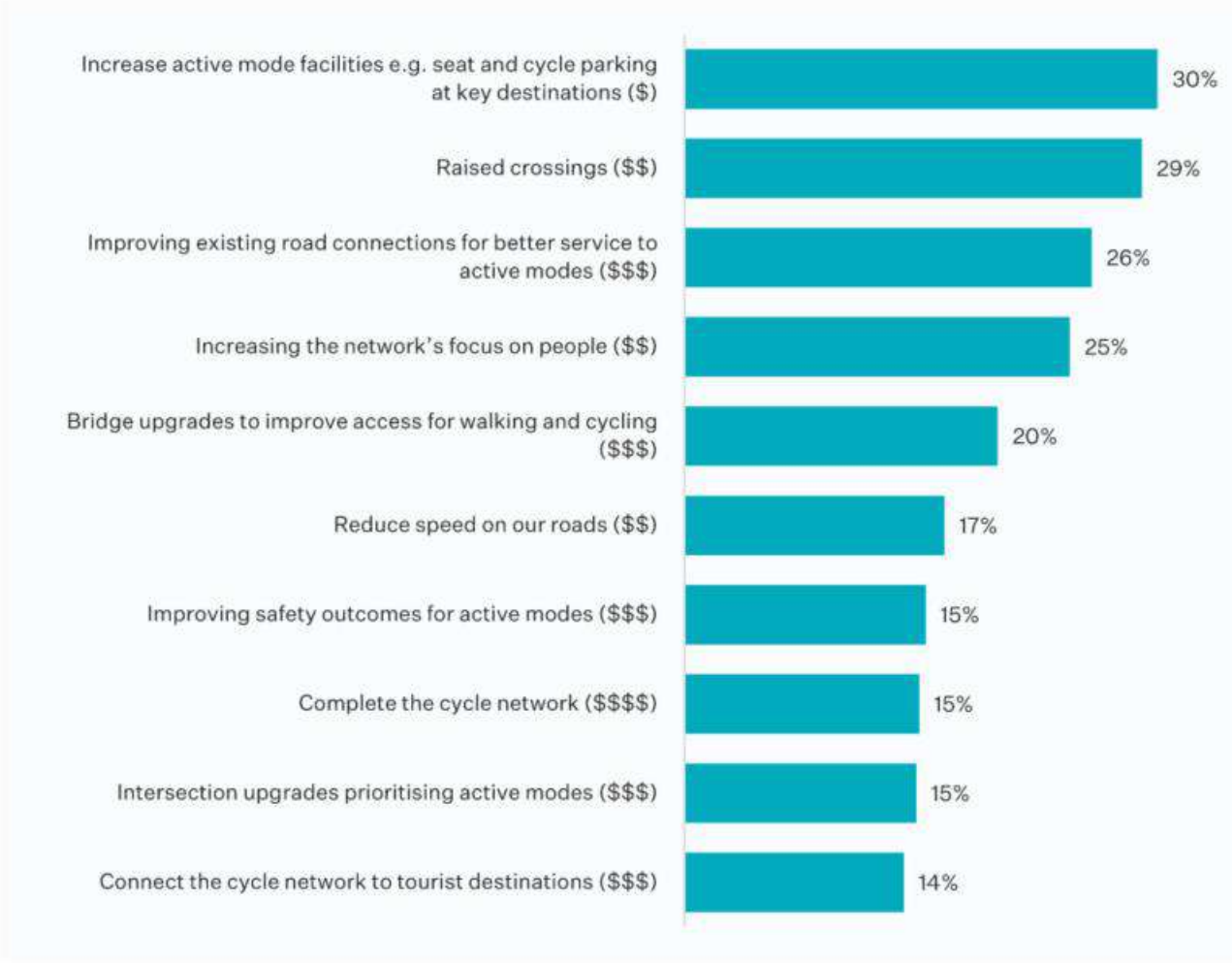


Figure 5-14: Ranking for initiatives to improve the active travel network (post relative cost being applied)

The final question asked respondents to score their support for road upgrades for those walking and cycling, with 47% being supportive and 28% being neutral. With respect to general comments, the key themes were:

- Support was mixed for walking and cycling initiatives,
- Repair the existing roads being starting new projects,
- Improve and explore other modes of PT first and shift freight; and,
- Take a balanced approach that considers all road users.

Overall, the community showed the most alignment with the Connected Urban Centres and the Reduce Transport Emissions programme options, which supports the outcomes of the MCA scoring.

PART C – PREFERRED PROGRAMME

6 Preferred Programme Development

6.1 Improving preferred programme affordability and outcomes

Considering budgetary constraints on delivering the current NPDC long-term plan, NPDC and the project partners agreed to review the scheduling of costed interventions from the short list stage. The aim of this refinement was to reduce the overall programme cost while still delivering similar outcomes. This was achieved by changing the scheduling of the costed interventions to smooth the annual and total programme costs while maintaining the critical path of the costed interventions to deliver the modelled outcomes.

To further support programme outcomes, the PBC team and partners agreed that increased travel demand management and land use interventions should be included in the preferred programme. The high-level changes to the scope of interventions in the preferred programme are described in **Table 6-1.**

Table 6-1: Changes to preferred programme option from short list stage

Intervention hierarchy category	Lever	Input description	Related intervention category
Integrated planning	Land use	Redistributing most population growth in proposed future urban zones to areas with medium density zoning	Increase population density in areas close to key urban centres and destinations
Manage demand	Speed limit changes	Reducing speed limits on more roads, including some rural roads where it will significantly improve safety	Reconfigure streets to align with One Network Framework outcomes and provide facilities for all modes
	Parking costs	Increasing parking costs and the proportion of people who pay for parking	Travel demand and travel behaviour management

The composition and scheduling of interventions within the preferred programme *first* focuses on studies and cost-effective interventions that sit higher up the intervention hierarchy (see **Figure 2-1**) to deliver outcomes *before* considering new infrastructure further in the future. This focus is demonstrated through the preferred programme non-discounted cashflow categorised by intervention hierarchy in **Figure 6-1**. Furthermore, the analysis of preferred programme interventions by intervention hierarchy and the proposed high-level scheduling of the interventions within the preferred programme is given in **Appendix E**.

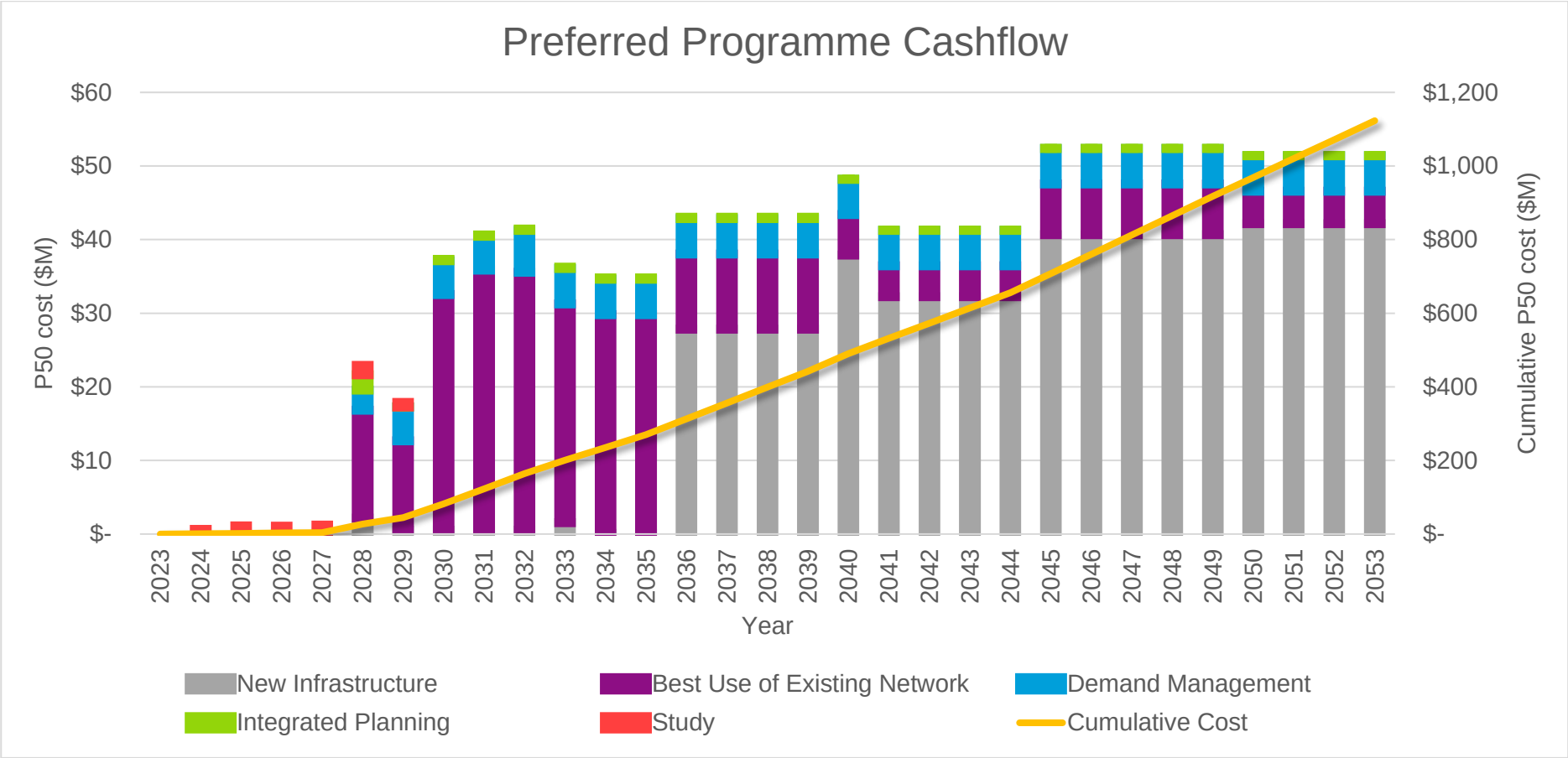


Figure 6-1: Preferred programme 30-year non-discounted cashflow by study and NZTA Intervention Hierarchy costs

6.2 Feedback on the preferred programme

Following the confirmation of the preferred programme option, the previous community feedback was reviewed at an initiative level to confirm alignment with the community views that were shared earlier on. As summarised in **Table 6-2**, the top ranked initiatives have been included in the preferred programme and some of the lower ranked initiatives have been delayed to the long-term pending feasibility studies.

Table 6-2: Alignment between the preferred programme and the community consultation

Question	Initiative	Community Ranking	Alignment with Preferred option
Key transport priorities	Having a safe, connected district, making it easier to move around on any mode (60%)	**High**	The preferred option covers improvements for all modes.
	Vibrant local areas that reduce our need to travel (8%)	**Low**	Reducing the need to travel through creating urban centres with mixed used developments is included as it aligns with the PBC objectives but is delayed until the long term.
Initiatives to improve public transport	Increase PT frequency (55%)	**High**	These are included in the preferred option.
	Investigate passenger rail (54%)	**High**	
	Improve PT infrastructure (48%)	**High**	
	Introduce park and ride (16%)	**Low**	This is included in the preferred option in the short term as a travel behaviour management intervention.
	Increased parking fees (8%)	**Low**	This may be identified in the parking study proposed in the short term.
	Priority lanes for buses and car pooling (7%)	**Low**	This is included in the preferred option as it aligns with the PBC objectives but is delayed until the long term.
Improve access to key amenity areas	Connect public transport routes to key destinations (41%)	**High**	This is included in the preferred option.
	Encourage work from home schemes (36%)	**High**	
	Villages with services and shops to avoid travel (31%)	**High**	
	Improve multimodal access for communities outside of New Plymouth (9%)	**Low**	This is included in the preferred option across all time periods as it aligns with the PBC objectives.
	Increase the people moving capacity of main roads (7%)	**Low**	These are included in the preferred option, but the large-scale investments are delayed until the long-term pending studies.
	Additional routes/ modal choice into New Plymouth (5%)	**Low**	
Reduce reliance on	Increase accessibility around the district (70%)	**High**	This is included in the preferred option.

Question	Initiative	Community Ranking	Alignment with Preferred option
private vehicles	Investigate road freight shift to alternative modes (like trains) (67%)	**High**	This is not included in the preferred option, but other initiatives are included to reduce heavy vehicle traffic within urban areas.
	Change New Plymouth one-ways to two-way use (26%)	**Low**	This is included in the preferred option, but the large-scale investments are delayed until the long-term pending studies.
	Reduce transport emissions and use more alternative fuel (24%)	**Low**	This is not included in the preferred option.
Encourage active travel modes	Increase active mode facilities e.g., seat and cycle parking at key destinations (30%)	**High**	These are included in the preferred option.
	Raised crossings (29%)	**High**	
	Improving existing road connections for better service to active modes (26%)	**High**	
	Complete the cycle network (15%)	**Low**	This is included in the preferred option as it aligns with the PBC objectives but is delayed until the long term.
	Intersection upgrades prioritising active modes (15%)	**Low**	This is included in the preferred option as it aligns with the PBC objectives.
	Connect the cycle network to tourist destinations (14%)	**Low**	This is included in the preferred option, but the large-scale investments are delayed until the medium-term pending studies.

6.3 Preferred programme assessment

The preferred and short list programme costs, modelled benefits, and BCR values are given in **Table 6-3, Table 6-4**, and **Table 6-5** respectively. Additionally, the 'Connected urban centres' preferred programme KPI results are shown in **Table 6-6**. It is noted that the BCR and KPI results are slightly different to those reported for the 'Connected urban centres' programme in **Section 5.4** and **Section 5.5**, respectively, because programme has been further developed to support programme outcomes as per **Section 6.1**.

Table 6-3: Programme option costs

Assessment stage	Programme option	P5 cost ($M)	P50 cost ($M)	P95 cost ($M)
Short list	Common interventions	315.2	372.1	499.6
	Liveability	508.8	637.0	889.6
	Connected urban centres	689.7	871.1	1,216.6
	Reduce transport emissions hybrid	499.4	613.9	842.0
Preferred option	**Connected urban centres hybrid**	**567.6**	**717.2**	**999.4**

Table 6-4: Programme option modelled benefits by transport benefit category

Transport benefit	Short list programme option				Preferred programme
	Common interventions	Liveability	Connected urban centres	Reduced transport emissions hybrid	Connected urban centres hybrid
Traffic travel time and reliability	55.9	349.6	291.3	294.4	**251.6**
Vehicle operating costs	0.6	-1.6	20.5	17.9	**27.1**
Public transport travel time and reliability	156.1	158.4	874.4	853.0	**1,078.9**
Crash reductions	15.9	37.1	86.7	36.3	**125.4**
Cycling travel time and user health	735.9	912.2	889.6	843.7	**828.9**
External impacts of emissions	3.6	3.8	13.9	12.8	**17.8**

Table 6-5: Programme option benefit cost ratio (BCR) values from economic analysis

Assessment stage	Programme option	BCR	Sensitivity testing	
			Lowest BCR	Highest BCR
Short list	Common interventions	2.6	1.1	3.7
	Liveability	2.3	1.0	3.4
	Connected urban centres	2.5	1.1	3.7
	Reduce transport emissions hybrid	3.4	1.5	4.9
Preferred option	**Connected urban centres hybrid**	**3.2**	**1.5**	**4.8**

Table 6-6: Measured investment KPI results for the do-minimum and preferred programme at modelled years

Investment objective	KPI	2035		2053	
		Do Minimum	Preferred Programme	Do Minimum	Preferred Programme
Improve public transport network access, reliability, and travel times.	KPI 1: PT travel times (Average of 4 Origins to CBD in mins)	14.4	14.5	14.9	14.4
	KPI 3: % of population within 400 metres PT walking catchments.	57.2%	57.2%	55.5%	57.5%
	KPI 4a: PT mode share for AM journey to work trips	0.7%	6.4%	0.7%	19.6%
	KPI 4b: PT mode share for AM journey to school trips	13.9%	17.7%	13.5%	28.2%
Reduce private vehicle reliance and transport related emissions and increase mode shift.	KPI 5: Tonnes of CO2E (change compared to do-minimum)	-	-6%	-	-15%
	KPI 6a: AM JTW by light vehicle mode share (change compared to do-minimum)	-	-7%	-	-21%
	KPI 6b: VKT (change compared to do-minimum)	-	-4%	-	-15%
	KPI 7: PT mode share for journey to work trips	0.7%	6.4%	0.7%	19.6%
	KPI 8: PT mode share for journey to school trips	13.9%	17.7%	13.5%	28.2%
Positive impact on local centres, network productivity and utilisation.	KPI 10: PT travel time minus car travel time (Average of 4 Origins to CBD in mins)	17	13	16.7	7
	KPI 13a: % of freight on non-arterial corridors	76.5%	76.1%	75.1%	77.3%
	KPI 13b: Freight travel times from east to port (change compared to do-minimum in mins)	-	-0.1	-	-1.6
Improve multi-modal access to key amenity locations.	KPI 11: % of residents living within 400m of local centre	10.2%	10.2%	9.6%	10.5%

Investment objective	KPI	2035		2053	
		Do Minimum	Preferred Programme	Do Minimum	Preferred Programme
Improve the safety and attractiveness of active mode networks for all users.	KPI 14: Annual deaths and serious injuries for cyclists	2.88	1.4	3.72	0.92
	KPI 15: % of primary cycling network that is safe and separated	13%	23%	13%	29%

7 Assessment Profile

An assessment of the indicative Strategic Fit and Effectiveness has been undertaken in accordance with the NZTA Investment Prioritisation Method (IPM). There are three components the assessment: GPS Alignment, Scheduling and Efficiency, which get assigned a rating based on the criteria of each component.

This may need updating in future when the GPS is updated if the IPM is also updated accordingly.

7.1 GPS Alignment

The problems and benefits identified through the ILM align well with the 2021 GPS as shown in **Table 7-1.** Given the number of *Very High* and *High* ratings, an overall rating of *Very High* is considered appropriate.

While the draft 2024 GPS does not have an IPM as of yet, as discussed in **Section 1** this programme aligns well with increasing public transport patronage, improving access to markets and employment areas, improving housing supply, and making better use of existing capacity.

Table 7-1: Alignment of Benefits to GPS priorities

2021 GPS Alignment Factor	Strategic Case Objective	Rating and Criteria met.
Safety	Improve the safety and attractiveness of active mode networks for all users (e.g., children, elderly, and people with disabilities) leading to decreased crashes.	A *Very High* rating requires a 40% DSI reduction over a 5-year period on targeted medium-high or high collective risk corridors/intersections. Cyclist DSIs are estimated to be reduced by 75%, with a reduction in annual cyclist DSIs from 3.72 to 0.92 by 2053 as a result of new infrastructure and safety improvements. Various other safety improvements are proposed for other modes, including in the *resilient connections at network pinch points for all modes* category (safety improvements on SH3, SH3A and SH45 would be progressed). Therefore, a *Very High* rating is considered appropriate.

2021 GPS Alignment Factor	Strategic Case Objective	Rating and Criteria met.
Better Travel Options and Climate Change	Reduce private vehicle reliance/transport related emissions and increase mode shift leading to decreased VKT and carbon emissions. Improved multi-modal access to key amenity locations leading to improved accessibility. Improve public transport network access, reliability and travel times leading to decreased VKT and carbon emissions	*A Very High* rating requires a >6% change in the share of private passenger vehicle-based trips to other modes. The journey to work mode share of light vehicles in the AM peak is expected to drop by 21% in 2053 compared to the do minimum. Therefore, a *Very High* rating is considered appropriate.
Better Travel Options	Reduce private vehicle reliance/transport related emissions and increase mode shift leading to decreased VKT and carbon emissions. Improved multi-modal access to key amenity locations leading to improved accessibility. Improve public transport network access, reliability and travel times leading to decreased VKT and carbon emissions.	A *High* rating requires new walking and cycling links being created in medium and large urban networks (10,000 – 99,999 residents[45]). As part of the preferred programme there are numerous new waking and cycling links proposed in the New Plymouth large urban area network, increasing the % complete of the primary cycle network from 13% to 29% in 2053. Therefore, a *High* rating is considered appropriate.
Improving freight connections and climate change	Positive impact on local centres, network productivity and utilisation leading to improved accessibility.	N/A
Improving freight connections		A *Medium* rating requires improving connections between regionally significant production and distribution points. As part of the preferred programme there is a 1.6-minute reduction in freight travel times to and from Port Taranaki from across New Plymouth, with targeted improvements to access the Port part of the proposed programme. Therefore, a *Medium* rating is considered appropriate.
Climate Change (GHG)	Reduce private vehicle reliance/transport related emissions and increase mode shift leading to decreased VKT and carbon emissions.	A *Very High* rating requires a >6% reduction in VKT. As a 15% reduction in VKT by 2053 is estimated, a *Very High* rating is considered appropriate.

[45] https://www.nzta.govt.nz/planning-and-investment/planning-and-investment-knowledge-base/202124-nltp/2021-24-nltp-investment-prioritisation-method/investment-prioritisation-method-definitions-and-description-of-criteria/

7.2 Scheduling

The scheduling factor has two criteria: *interdependency* and *criticality*. Interdependency has a focus on the impact that non-delivery of an activity will have on realising the benefits of the programme. Criticality places emphasis on the necessity of undertaking actions to allow the implementation of an activity, programme, or package during a particular National Land Transport Programme (NLTP) period *or* the resultant unplanned loss of service to a portion of the network if an action is not delivered.

The interdependency component is scored as *High*. This is due to the work being a long-term standalone programme, of which delivery of the follow-on work (i.e., future studies) is required to enable further implementation of the preferred programme. The result of non-delivery of the activity in the 2021-2024 NLTP will result in no benefits being realised and delays to implementation, meaning that various VKT and low emission transport benefits and targets will not be achieved.

The criticality component was also rated as *High* as there is a need to undertake this activity to deliver the remainder of the programme to be implemented within the 2024-27 NLTP. This is because of the follow up studies from this programme that are required before design and implementation stages can commence as part of this long-term programme.

7.3 Efficiency

The efficiency of the programme is directly related to the BCR and a BCR of 3.2 results in a *Medium* rating.

7.4 Investment profile

As part of the 2021-2024 National Land Transport Programme (NLTP) an investment prioritisation method has been determined based on the 2021 GPS.

The NZTA Investment Assessment Framework (IAF) outlines the processes and procedures to assess and prioritise business cases, programmes, plans, projects, and other activities to be submitted for funding consideration. The investment profile of the preferred programme is shown in **Table 7-2**.

Table 7-2: Preferred programme investment profile

Strategic priority / Activity Class	**Public transport Services, public transport infrastructure, walking and cycling improvements, local road improvements and investment management**
GPS Alignment	Very High
Scheduling	High
Efficiency	Medium
Priority Order	1

So, although the efficiency rating is Medium due to the relatively low BCR, the other high ratings result in a priority order 1, which is very strong overall (maximum of 1, low of 12).

8 Commercial Case

The commercial case outlines the proposed procurement arrangements for the preferred option.

8.1 Procurement strategy

NPDC and NZTA will be responsible for procuring the activities for which they are the lead. Each will be bound by their individual procurement strategies.

The project procurement will be shaped by the NPDC Procurement Policy 2019. Endorsed by NZTA, this policy effectively responds to the prevailing economic landscape while also understanding resource availability in the Taranaki region. The underlying principles of this policy revolve around prioritising people, nurturing our environment, and fostering a thriving community.

While there are no intentions to deviate from the current procurement policies and plans within this program, it's important to acknowledge the potential risk that, for the sake of affordability, alternative funding sources might need to be pursued. In such cases, the specific procurement obligations of these diverse funding entities will have to be accommodated. The details of these procurement prerequisites will only become apparent when the situation arises, and they are not elaborated upon in this PBC.

NPDC does not have a professional services panel. Therefore, planning and design projects typically go to the open market, following the New Zealand government procurement standards. NZTA will procure using their normal procurement processes.

8.2 Risk management

The Project Manager of individual projects will be responsible for managing project risk and will maintain the risk register based on the NPDC Risk Management Framework. The risk register is a living document of the programme, where all risks are reviewed and updated at each phase of development. The extreme and high risks are then focused on to enable the project to spend time and resource wisely.

NPDC's approach to risk is identify all risks, score them, provide a mitigation treatment where able, then re-score the risk once mitigated. The focus is then on the extreme and high risks once mitigation is applied; and to review all risks at key milestones or phases of the project. Project risks at the time of writing the business case are given in **Appendix J**.

Climate resilience was identified by stakeholders as an integral risk for the project, however it is not included in the ITF risk register. This is not included because NPDC consider climate resilience as an essential part of any project and therefore it will be captured in a future climate hazard risk assessment, undertaken by NPDC, once individual projects are identified out the ITF. For the operation and maintenance of the transportation network, climate resilience is captured in the transportation activity management plan.

The risks will be escalated to and reviewed by the ITF steering group on a regular basis.

8.3 Change control

At the outset of each individual project, it is important for the scope of work to be clearly defined between the client and consultant/contractor. It should also be communicated between NPDC and NZTA where it will result an adjustment of programme and benefit realisation. Change can then be managed within an understanding of the tolerances of each project (related to funding, scope, risk, quality, and benefits).

It is recommended that a change control register is established for each project, and across the programme to show how the interdependencies of change are managed. The programme change control register will sit alongside the programme risk register and should be managed by the programme project manager.

8.4 Programme assurance

This PBC has been subject to internal review by the consultant team (Beca). The recommended project assurance deliverables for future phases are set out below in **Table 8-1**.

Table 8-1: Project assurance deliverables

Item	Component	Description	Owner
Funding	Approval by NPDC and NZTA	Internal approvals will be required for each of the projects, along with approval within the LTP and NLTP.	NPDC/NZTA
Property	Property acquisition	Internal approvals will be required for any property acquisition, and this will follow the relevant legal processes.	NPDC/NZTA
Peer reviews	Future business cases	Independent peer review is required for future business cases.	NPDC/NZTA and carried out by independent peer reviewer
Detailed design	Infrastructure design	Internal approval of designs, in particular where the design has deviated from typical standards.	NPDC/NZTA
Safety audits	Safe system assessments	Safe system assessments will be required for designs. The number and timing of the audits will depend on the complexity of the design.	NPDC/NZTA and carried out by an independent audit team
Tender phase	Procurement strategy	A procurement strategy is required to guide all procurement process. This is subject to internal approval.	NPDC/NZTA
Construction	Oversees and sign off practical completion	Internal procurement and contractual processes to be followed and approvals sought, including client field assurance.	NPDC/NZTA
Construction	Health and safety	All health and safety plans in place and approved before construction commences. Plans to be followed through to completion of construction.	NPDC/NZTA
Construction	MSQA	Independent external provider to provide quality assurance throughout construction.	NPDC or external provider

9 Financial Case

This section identifies the affordability of the programme. Full details of programme cost estimates are in the supplementary documentation.

9.1 Preferred program cost

The preferred programme has a total present value cost estimate of $717.2 million and a non-discounted cost estimate of $1,886.5 million. The non-discounted preferred programme costs are shown in the following tables, where **Table 9-1** focuses on displaying the costs by intervention category and **Table 9-2** focuses on displaying the costs by intervention scheduling categories of short, medium, and long term. The scheduling categories are defined relative to the start of the programme analysis period (2023), with short term being 0-5 years, medium term being 6-15 years, and long-term being 16+ years.

To align with NPDC LTP reporting requirements, a 30-year programme cost and cashflow are also given. The preferred programme has a 30-year (2023-2053) non-discounted cost estimate of $1,123.1 million. It is acknowledged that there is capital expenditure beyond 2053 in the full preferred programme for interventions contingent on further studies and business cases. **Figure 9-1** shows the 30-year non-discounted cashflow of the preferred programme by capital expenditure and operational expenditure. Capital expenditure refers to the cost of constructing new assets, while operational expenditure refers to the cost of operating new services and maintaining and renewing new assets. **Figure 6-1** shows the 30-year non-discounted cashflow of the preferred programme by NZTA intervention hierarchy category. This demonstrates an early focus in the preferred programme on studies and cost-effective interventions that sit higher up the intervention hierarchy (see **Figure 2-1**) to deliver outcomes prior to constructing new infrastructure.

Cost estimates for the interventions included within the preferred programme have been based on a series of assumptions regarding the nature of each intervention. Often these interventions are only a guide as, in most cases the details will be further developed in the recommended follow-on studies. Where possible the estimates of the cost for some interventions have been taken from the NPDC LTP 2021 – 2031. There is approximately $5.9 million identified for studies or business case projects to further analyse risks and requirements.

9.2 Funding risk

The estimates presented below are expected estimates (P50). An additional increase of 50% on capital expenditure is assumed to reach a P95 estimate.

Table 9-1: Preferred programme summary of intervention category activities and costs

Intervention category	Activity examples	Scheduling Term	Non-discounted Cost ($M)
Align PT routes with key destinations and make PT more accessible	• Study to focus on supporting access to PT routes. • Park and ride facilities. • New bus route to New Plymouth airport from New Plymouth CBD. • Express bus services to Bell Block, Waitara, Inglewood, Egmont Village and Ōkato-Ōakura.	Short	4.13
		Medium	74.35
		Long	116.26
Improve PT infrastructure and travel time to make public transport more attractive and accessible	• High speed public transport to key communities outside New Plymouth (e.g., Waitara). • Bus shelters and real time information implemented at most bus stops. • More bus hubs outside of New Plymouth (e.g. Waitara, Bell Block, and Ōakura). • Priority bus and carpool lanes at congested points on network. • Integrate key destinations and other modes with New Plymouth City Centre bus hub. • On-demand public transport for communities where regular public transport is not proposed. • Study to focus on new public transport services.	Short	1.76
		Medium	18.19
		Long	609.42
Improve PT frequencies and LOS to make PT a more attractive option	• More frequent public transport services and increased night time services on existing routes. • Upgrade and better fund the Total Mobility management system for more inclusive public transport access. • Study to focus on new public transport digital infrastructure.	Short	0.13
		Medium	7.70
		Long	27.50
Improve lower cost multi-modal access, especially for communities outside of central New Plymouth	• More active mode connections across high-speed state highways in fringe areas. • Extend the coastal walkway to the southern coastal areas (e.g., Ōakura and Ōkato). • Footpath improvements to align with One Network Framework in high place function areas. • Cycle infrastructure within Ōkato and Egmont Village. • Better active mode facilities in Urenui. • Footpaths in Waitara to same standard as rest of district – priority linking to schools, shops, coastal walkway extension. • Inclusive access to Marae. • More frequent buses between New Plymouth and district (e.g., Ōakura, Ōkato, and Inglewood). • Study to focus on regional active mode connections.	Short	4.24
		Medium	88.25
		Long	146.70

Intervention category	Activity examples	Scheduling Term	Non-discounted Cost ($M)
Resilient connections at network pinch points for all modes	• New Plymouth intersection resilience and capacity upgrades. • Study to investigate strategic upgrade priorities.	Short	2.22
		Medium	104.96
		Long	465.45
Travel demand and travel behaviour management	• Parking strategy update. • Study to investigate road pricing strategy. • Western Ring Route indicative business case.	Short	2.10
		Medium	4.40
		Long	-
Reconfigure streets to align with One Network Framework outcomes and provide facilities for all modes	• Access for buses and active modes only on Ariki Street from Egmont Street to Brougham Street. • Focus movements on one state highway route through the centre of New Plymouth (e.g., SH45) and detune the other roads (e.g., SH44) to increase people focus. • Convert New Plymouth one-way system to a single two-way state highway to reduce severance. • Strandon Village place focussed treatments. • Inglewood CBD upgrade to reduce severance. • Reprioritise Devon Street East – Mangorei Road intersection to encourage through traffic to use SH3 Northgate via Mangorei Road to travel through Fitzroy. • Elliot Street precinct development. • More mobility parking, better positioned and designed to standard. • Create more people focussed spaces in district towns and centres. • New Plymouth District ONF study. • Update Network Operating Framework.	Short	5.91
		Medium	27.09
		Long	13.40
Safety improvements for existing active mode facilities	• Signalised crossing points at schools in New Plymouth. • Bridge upgrades. • Raised pedestrian crossings around the district. • Inglewood Windsor Walkway safety improvements. • Convert Tukapa Street – Sanders Avenue roundabout to signalised intersection. • David Street – Tukapa Street signalisation. • District wide upgrade package investigation.	Short	2.63
		Medium	6.21
		Long	1.85

Intervention category	Activity examples	Scheduling Term	Non-discounted Cost ($M)
Complete the urban cycle network	• New Plymouth – Enthused and Confident Routes, and Interested but Concerned Routes • Bell Block – Enthused and Confident Routes, and Interested but Concerned Routes • Waitara – Enthused and Concerned Routes, and Interested but Concerned Routes • Inglewood – Enthused and Concerned Routes, and Interested but Concerned Routes • High LOS cycle facility engagement and design	Short	0.78
		Medium	2.99
		Long	65.91
Improve attractiveness and accessibility of active mode facilities	• Park and ride options for cycling on the Coastal Walkway including bike parking and hire. • Street lighting for key commuting active mode corridors to improve year-round usage. • Low traffic neighbourhood greenways for active modes. • Safer school crossings with shelters. • More safe and secure bike parking in city centre that considers repurposing existing car parks. • Improved and increased seating in town centres. • Study to focus on new facilities.	Short	2.70
		Medium	36.29
		Long	40.67
Increase population density in areas close to key urban centres and destinations	• Facilitate high density residential developments along high frequency public transport routes. • Limit growth to existing urban areas in New Plymouth, southern growth areas, and Bell Block. • Enabling social housing in areas with good transport choices. • Medium and high-density development with urban amenities nearby. • Study to identity land use changes to support higher density residential areas.	Short	0.20
		Medium	1.20
		Long	0.13
Reduce the need to travel where car alternatives are less viable	• 15-minute city concept – villages with services, retail, and place making to avoid CBD travel for communities over 5km away. • Addition of local centre and mixed use in Development Areas identified in the District Plan which are located more than 2km away from basic amenities.	Short	-
		Medium	0.60
		Long	0.07

Table 9-2: Preferred programme summary of costs by scheduling category

Intervention Category	Non-discounted Cost ($M)		
	Short Term (0-5 years)	Medium Term (6-15 years)	Long Term (16+ years)
Align PT routes with key destinations and make PT more accessible	4.13	74.35	116.26
Improve public transport infrastructure and travel time to make PT more attractive and accessible	1.76	18.19	609.42
Improve PT frequencies and LOS to make PT a more attractive option	0.13	7.70	27.50
Improve lower cost multi-modal access, especially for communities outside of central New Plymouth	4.24	88.25	146.70
Resilient connections at network pinch points for all modes	2.22	104.96	465.45
Travel demand and travel behaviour management	2.10	4.40	-
Reconfigure streets to align with One Network Framework outcomes and provide facilities for all modes	5.91	27.09	13.40
Safety improvements for existing active mode facilities	2.63	6.21	1.85
Complete the urban cycle network	0.78	2.99	65.91
Improve attractiveness and accessibility of active mode facilities	2.70	36.29	40.67
Increase population density in areas close to key urban centres and destinations	0.2	1.20	0.13
Reduce the need to travel where car alternatives are less viable	-	0.60	0.07
Total	**26.92**	**372.23**	**1,487.36**

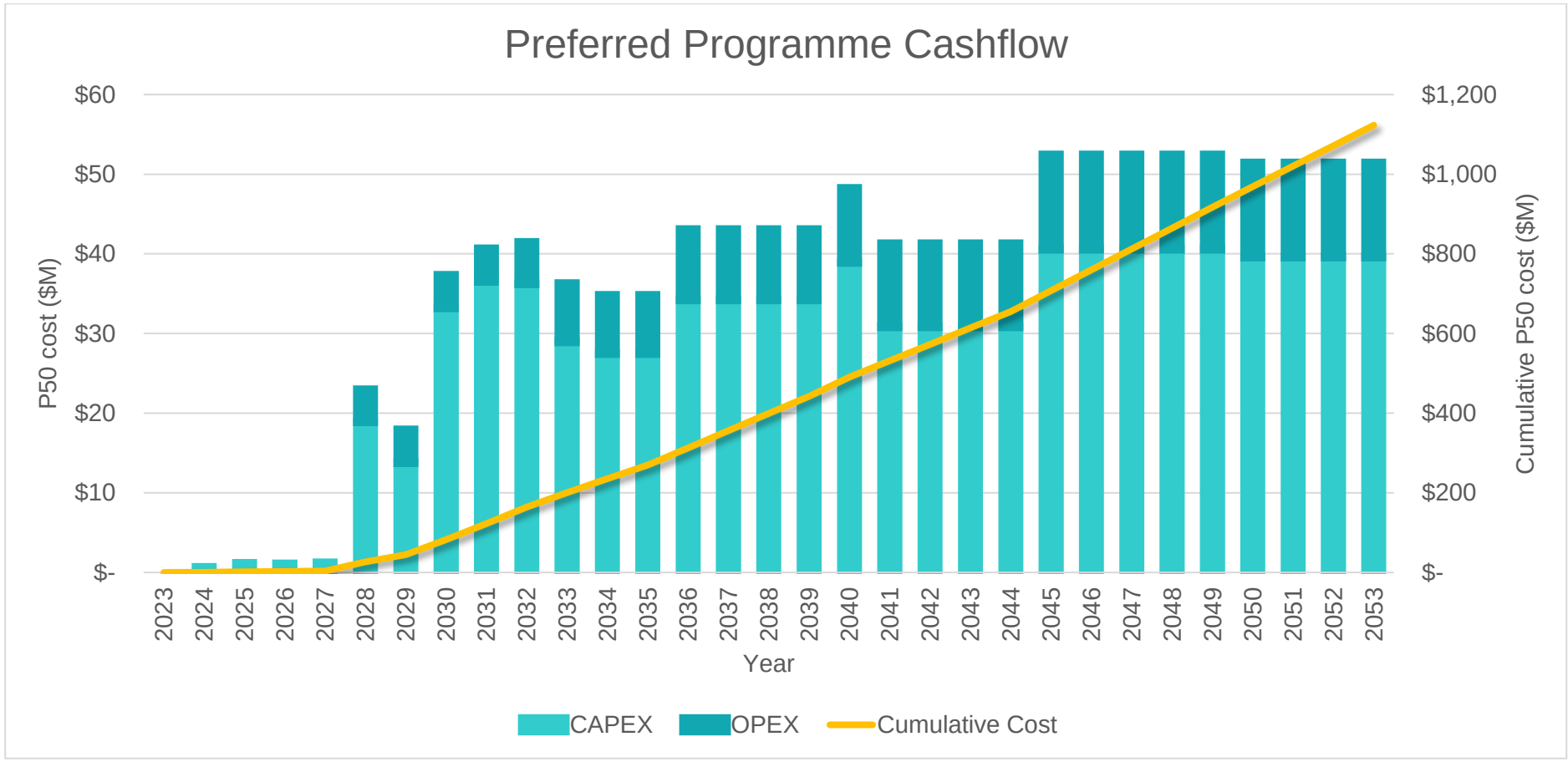


Figure 9-1: Preferred programme 30-year non-discounted cashflow by capital expenditure and operational expenditure

10 Management Case

10.1 Programme governance and decision-making

10.1.1 Governance

Existing governance

The overall governance of the current programme is shown in **Figure 10-1**.

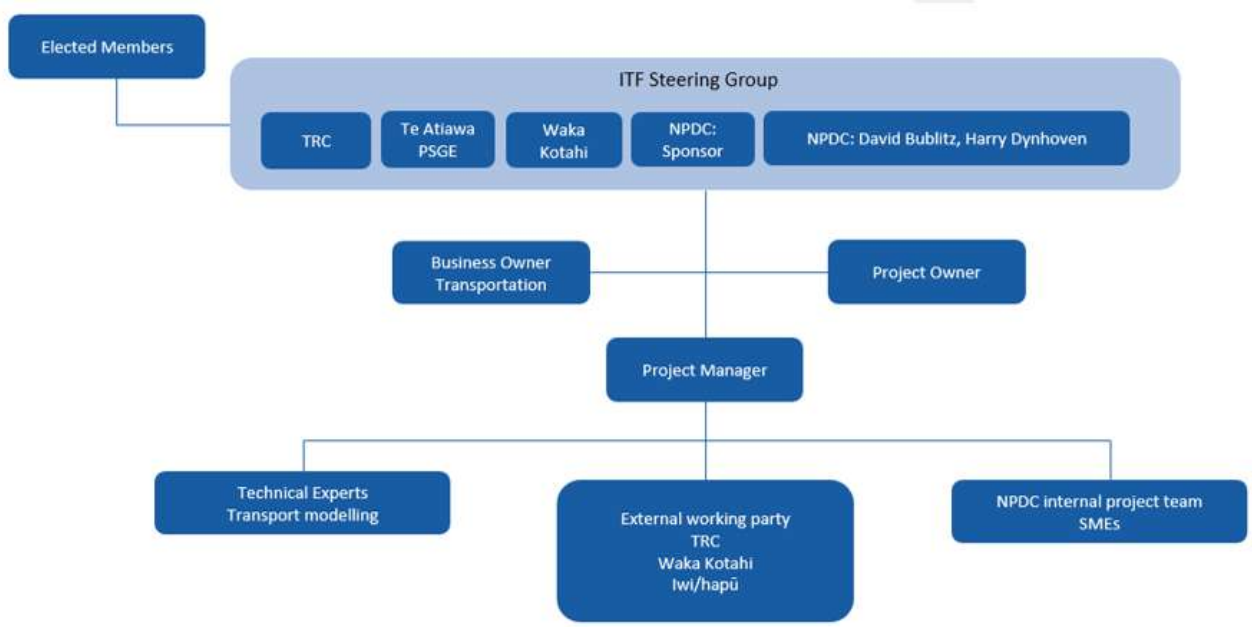


Figure 10-1: Existing ITF governance

The programme client is NPDC, with a member of the executive leadership team as the project sponsor. The Chief Executive Officer (the CEO) is currently the undertaking this role. The ITF Project Manager (PM) has guided the project on a day-to-day basis. They have reported to the ITF Steering Group which includes representative from TRC, Te Atiawa PSGE, NZTA and NPDC. The steering group has required updates on the programme schedule, finances, milestones and has made go/no go decisions on each stage of the project. The ITF PM has identified when further stakeholder consultation was required led the engagement plan (approved by the ITF steering group).

Future governance

Once the ITF is approved the governance structure will change. The terms of reference for the NPDC Transport Steering Committee will be extended to include the oversight of the delivery of the ITF. Representatives from the Project Management team at NPDC are on the steering committee. Therefore, this team will continue to deliver the packages of work from the ITF, with technical guidance provided by the Transport Planner at NPDC.

The Transport Steering Committee will include oversight of monitoring the KPIs (including benefit realisation), scheduling alignment of packages of work (such as studies to be completed to support infrastructure changes) and budget management. Risks, issues, and project reporting will be addressed on a project basis. We recommend the establishment of the terms of reference to include the ITF.

Internally, the transportation team will raise “demands” to create a Point of Entry Business Case (an internal document) and subsequently funding is added to the LTP. Once approved, a detailed business case is prepared with a series of recommendations of which those that align closest to the ITF would proceed.

NPDC currently participate on the Regional Public Transport committee and the regional land transport committee. Both these committees work with the TRC and NZTA to discuss operational and strategic matters. However, given the preferred programme has several projects that directly impact NZTA and TRC it is recommended that a specific ITF committee is formed to provide the project governance. This provides the opportunity for the ITF to be flexible and reflect technological changes that may come to be in the future.

10.1.2 Decision-making

Overarching funding decisions for this programme on local roads lie with the elected members from NPDC through standard decision-making processes. This process is consultation, reporting and recommendation by Council Officers and approval by elected members. In relation to State Highway projects NZTA will decide funding through the national funding prioritisation. NPDC will work closely with the TRC on Public Transport projects and the organisation to lead each project will be determined on a project-by-project basis dependent on the scope of work.

The Council Officers will make recommendations with respect to next steps and recommendations.

10.2 Risk and cost management

The entire programme risk (Corporate Risk register) and cost management will be overseen by the Manger of Transportation (as the business owner in the NPDC P3M structure). On a project-by-project basis the individual Project Managers will be responsible for managing project risk and will maintain the risk register based on the NPDC Risk Management Framework. Each risk register is a living document of the respective projects, where all risks are reviewed and updated at each phase of the project. The extreme and high risks and opportunities are then focused on to enable the project to spend time and resource wisely.

The current project risk register is available in **Appendix J**.

The NPDC process for managing risk is as follows:

- The specific project manager reviews project risk on a monthly basis
- The project risks are reviewed at the monthly Project Governance meeting. Any risks of significance are discussed in detail at this governance meeting.
- The risks that are high or extreme are also reviewed by the NPDC corporate risk manager and this person is accountable to the NPDC finance audit and risk committee. This committee includes several councillors and an independent co-chair.

10.3 Partner and Stakeholder engagement

The partner engagement undertaken to date, has been described in **Section 2** and the stakeholder engagement is described throughout **Part B – Developing the programme**.

As outlined in **Section 10.1.2**, partnering will continue throughout the lifecycle of the project with NZTA and TRC. A detailed Communications and Engagement (C&E) plan should be developed to support implementation through the programme lifecycle. It will be the responsibility of NPDC and NZTA to develop the plan, with support from communications specialists.

The partners will share ownership of the plan. To enhance engagement and communication for the program, messaging and a logo will need to be implemented that prioritise simplicity and consistency, aiming to

prevent any potential confusion, particularly given the variety of transport projects that are included in the PBC. The C&E Plan should be linked to and include regular monitoring and reporting, so a public feedback loop can clearly see if the project benefits are being achieved.

The engagement plan will be based on the International Association of Public Participation (IAP2) public participation spectrum. This is shown in **Figure 10-2** below with the varying levels of involvement that stakeholders can have in a project.

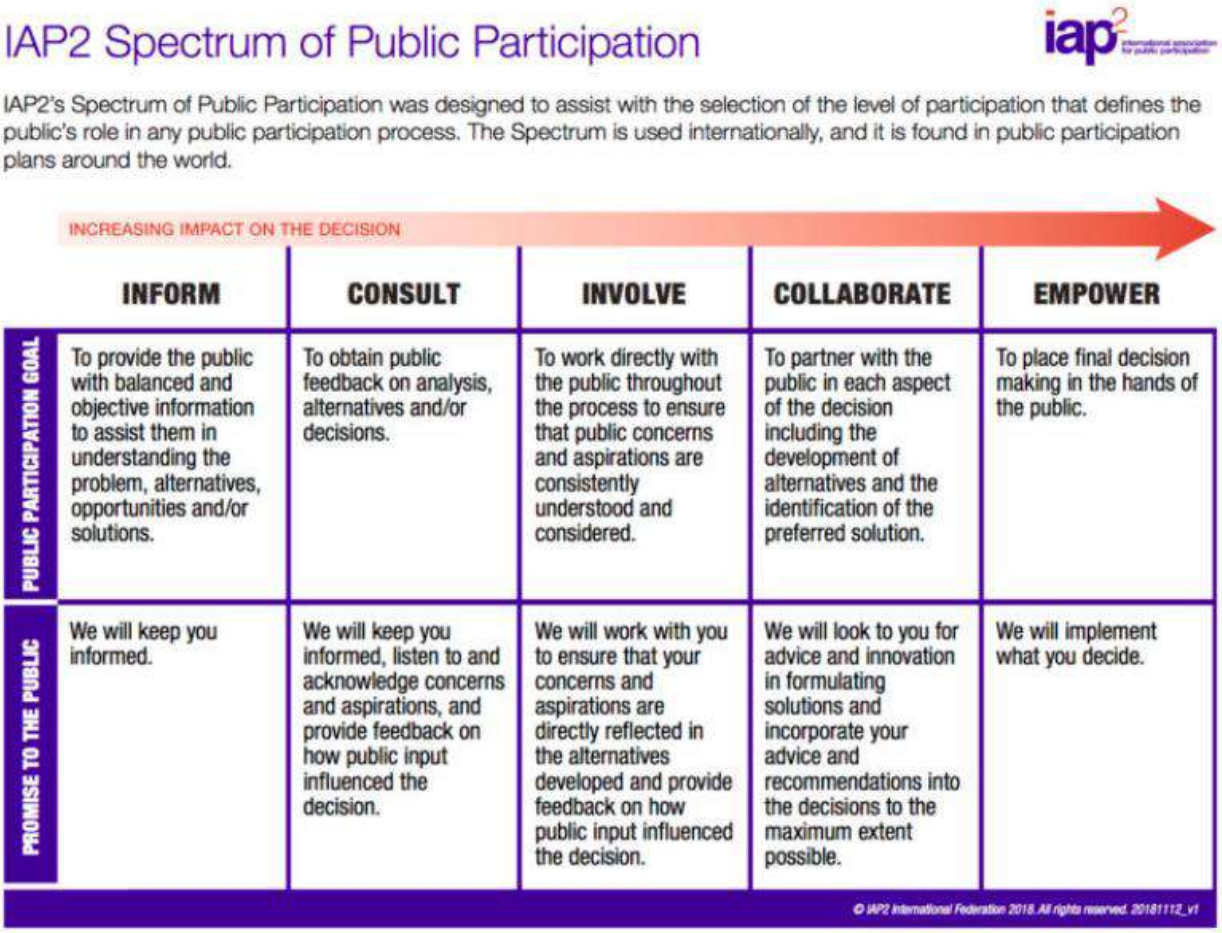


Figure 10-2: IAP^2 Spectrum of Public Participation

Following PBC approval, the focus of engagement will shift to the individual work streams.

Each of the lead agencies will be responsible for developing individual projects, and reporting progress back to show how the outcomes align with this PBC. Although projects have been recognized within the program, their impact on the overall program results have not been measured for several reasons. This is mainly because these projects are usually separate from one another and are still in their initial stages of progress.

10.4 Cost and programme management

10.4.1 Cost management

Throughout the lifecycle of this PBC it is highly likely that costs will change through the later phases and be further refined for pre-implementation and the implementation phases of projects. The responsibility of costs ultimately sits with the lead agency of the respective projects. The Project Manager of individual projects will take on the responsibility of cost management. They will be guided by the Transportation Manager at NPDC, this ensures TIO is up to date with forecasted costs and inflation adjustments.

10.4.2 Programme management

The implementation of the entire programme is required to address the problems fully realise the benefits and outcomes. While each intervention category can be worked through to deliver the benefits, the KPI target will not be fully achieved without the full programme. It is recommended that the ITF PM prioritises identifying a realistic schedule, that acknowledges the interdependency of projects, funding timelines, and minimises rework.

The programme has been scheduled into short (0-5 years), medium (6-15 years) and long term (16 years+) time periods, by intervention category, which is shown in **Appendix E**.

10.5 Benefits Realisation Plan

The investment objectives, developed around the key problem statements and benefits, are to be measured through the identified Key Performance Indicators (KPI's). The realisation of the KPI's through public transport interventions, a decreased reliance on cars as the primary mode of transport, improved access to amenities and employment, and a reduction in deaths and serious injury crashes is outlined in **Table 10-1**. If benefits are not likely to be realised, this should be raised as a risk with the ITF steering group or the lead agency for the work stream.

Table 10-1: Benefits realisation plan

Investment Objective	Measure	Data Collection Method	Owner
Public transport is accessible, convenient and the preferred mode of transport for many (30%).	**KPI 1:** Public transport travel times (average, variability).	Review travel times between key New Plymouth District destinations as improvements are made on a 1–3-year basis.	TRC
	KPI 2: Public transport user surveys and annual satisfaction surveys.	Survey public transport users as improvements are made on a 1–3-year basis.	TRC
	KPI 3: Percentage of population within 400 and 800 metre walking catchments of public transport.	Review using GIS software as development areas are constructed on a 3-5-year basis.	NPDC
	KPI 4a: Public transport mode share for journey to work trips.	Review using Census data as it becomes available.	NPDC
	KPI 4b: Public transport mode share for journey to school trips.	Review using Census data as it becomes available.	NPDC
Decreased reliance on cars as the primary mode of transport and increased walking, cycling and PT use (35%).	**KPI 5:** CO2 transport related emissions.	Review using the NZTA vehicle emission mapping tool or the Ngāmotu transport model outputs as they are updated.	NPDC
	KPI 6: Journey to work by single occupancy vehicle and vehicle kilometres travelled.	Review using the Ngāmotu transport model outputs as it is updated.	NPDC
	KPI 7: Proportions of public transport, walking and cycling for journey to work trips.	Review using Census data as it becomes available.	NPDC

Investment Objective	Measure	Data Collection Method	Owner
	KPI 8: Proportions of public transport, walking and cycling for journey to school trips.	Review using Census data as it becomes available.	NPDC
Improved access to amenities (coast, schools, and services) and employment along engaging and enjoyable transport corridors (15%).	**KPI 9:** Level of Service for pedestrians and cyclists on key routes (to schools, amenities, services, and employment).	Review using the NOF document as it is updated.	NPDC
	KPI 10: Comparative travel times between transport modes between key locations.	Review using the Ngāmotu transport model outputs as it is updated.	NPDC
	KPI 11: Percentage of residents living within 400 and 800 metre walking catchments of local centres.	Review using GIS software as development areas are constructed on a 3-5-year basis.	NPDC
	KPI 12: Foot traffic in the CBD and town centres and average length of visit.	NPDC to create an annual CBD visitor survey to measure this KPI.	NPDC
	KPI 13: Percentage of freight on appropriate arterial corridors and average freight travel times.	Review heavy vehicle percentages as part of annual traffic data collection activities.	NPDC
A safe and connected city and towns to walk and cycle with active and healthy communities (20%).	**KPI 14:** Deaths and serious injuries for active mode users.	Review using CAS data on a 1-3-year basis.	NPDC
	KPI 15: Percentage of primary cycling network which is safe, separated and continuously connected.	Review using GIS as the urban cycle network is implemented.	NPDC
	KPI 16: Pedestrian wait times and crossing delay in urban/town centres	NPDC to create an annual CBD visitor survey to measure this KPI.	NPDC

10.6 Next Steps

The next steps to take the New Plymouth ITF forward are:

- Confirm the scope and procurement strategy of the follow-up studies in **Table 10-2** to begin their development.
- Confirm the governance structure going forward for the project.
- Progress the stand-alone short-term activities that sit outside of the follow-up studies.
- Plan to deliver the projects in the medium term and long term as part of future LTP development processes.

The program of follow-on studies for the ‘Connected urban centres’ preferred programme are identified in **Table 10-2**. As short-term projects move into implementation, an appropriate governance group with suitable skills should be created with a focus on delivery.

Table 10-2: Follow-on studies for the 'Connected urban centres' preferred programme

Study	Approximate cost	Focus of study	Relevant intervention categories
Public transport services detailed business case	$0.5m	• Improve access to PT. • PT infrastructure to support better services. • Potential new PT digital infrastructure.	• Align PT routes with key destinations and make PT more accessible. • Improve public transport infrastructure and travel time to make PT more attractive and accessible. • Improve PT frequencies and LOS to make PT a more attractive option.
Study on strategic upgrade priorities	$0.4m	• Network resilience relating to safety and capacity. • High level impacts of making long term changes to the New Plymouth state highway network.	• Resilient connections at network pinch points for all modes.
District-wide ONF study	$0.6m	• Alignment of current district network to ONF and the interventions needed to improve alignment based on the small number completed to date.	• Reconfigure streets to align with One Network Framework outcomes and provide facilities for all modes.
Update Network Operating Framework	$0.3m	• Update the 2019 NOF to review any changes to the identified Network deficiencies relating to capacity and safety. • Investigate the necessary upgrades.	• Resilient connections at network pinch points for all modes. • Travel demand and travel behaviour management • Safe road connections at network pinch points • Safety improvements for existing active mode facilities
District-wide upgrade package investigation	$0.1m	• Assess network gaps in active mode networks in district towns (around schools, etc) • Identify the deficiencies and type of upgrades required	• Safety improvements for existing active mode facilities.

Study	Approximate cost	Focus of study	Relevant intervention categories
Study to identify Land use changes to support higher density residential areas	$0.2m	• Reviewing the District Plan and identifying opportunities for higher residential density around the urban centres.	• Increase population density in areas near key urban centres and destinations.
Separated cycleway indicative business case, then any follow-on detailed business cases	$1.5m	• Accessibility, coverage, and effectiveness of the cycle network. • Improving supporting facilities such as lighting.	• Complete the urban cycle network. • Improve attractiveness and accessibility of active mode facilities.
Parking strategy update	$0.1m	• Refresh of plan pricing zones, on-road space hierarchy, management tools, and residential parking schemes. • Engagement with stakeholders on strategy.	• Travel demand and travel behaviour management
Study on regional active mode connections	$0.2m	• Development of recreational/tourist routes and connections. • Connections across high-speed State Highway areas.	• Improve lower cost multi-modal access, especially for communities outside of central New Plymouth.
Study on road pricing strategy	$0.3m	• Approach and implementation. • Impact assessment.	• Travel demand and travel behaviour management.
Western Ring Route indicative business case	$1.7m	• Viability of Western Ring Route • Assessment of options on alignment, scope, and BCR, including alternatives.	• Travel demand and travel behaviour management • Reconfigure streets to align with One Network Framework outcomes and provide facilities for all modes

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Appendix A – Point of Entry

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Appendix B – Key Stakeholders

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Appendix C – ILM Meeting Notes

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Appendix D – PBC Workshop Notes

E

Appendix E – Intervention Categorisation and Scheduling

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Appendix F – MCA Scoring

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Appendix G – Strategic Alignment Diagram

H

Appendix H – BCR Assessment Methodology

Appendix I – Public Consultation and Stakeholder Feedback Summary

J

Appendix J – Risk Register