



# Kaipara District Council

## Mangawhai Network Operating Framework (NOF)

KAIPARA DISTRICT COUNCIL

NORTHLAND TRANSPORTATION ALLIANCE

COMMUTE TRANSPORTATION CONSULTANTS

12 MARCH 2021

V1.0 FINAL

# CONTENTS

1. INTRODUCTION.....	4
1.1. Network Operating Framework Purpose and Objectives .....	4
1.2. Stakeholder Involvement .....	5
1.3. Purpose of this report .....	5
2. NETWORK OPERATING FRAMEWORK DEVELOPMENT PROCESS.....	6
2.1. Process Overview.....	6
2.2. Phase 1 Development .....	7
Strategic Objectives and Principles .....	7
Network Links and Places.....	7
Modal Priorities.....	7
3. NETWORK CONTEXT .....	8
3.1. Geographic area.....	8
4. STRATEGIC POLICY AND PLANNING .....	10
4.1. Whangarei to Auckland Programme Business Case (PBC).....	10
4.2. Mangawhai Spatial Plan (2020).....	12
Mangawhai Community Plan (2018).....	13
4.3. Mangawhai Transport Study (2018) .....	13
4.4. Mangawhai Shared Path Connections Options Report (2018).....	14
4.5. Mangawhai and Mangawhai Heads Infrastructure Plan Transportation (2016)	14
4.6. Kaipara Walking and Cycling Strategy (2017) .....	15
4.7. Infrastructure Strategy 2015 – 2045 KDC (2017).....	15
4.8. Mangawhai & Mangawhai Heads – Review of Speed Limit Provisions (2017)..	15
5. LAND USE AND GROWTH.....	16
5.1. Land use planning and development in Mangawhai.....	16
5.2. Operative District Plan .....	16
5.3. Mangawhai Structure Plan.....	17
5.4. Mangawhai Spatial Plan (2020) .....	19
5.5. Key Land Use Sensitivities.....	21
6. NETWORK OPERATING FRAMEWORK DEVELOPMENT .....	22
6.1. Operating Framework Horizon .....	22
7. STRATEGIC OBJECTIVES AND PRINCIPLES .....	23
7.1. Pedestrians.....	25
Strategic Objective: .....	25
Principles:.....	25
7.2. Cyclists.....	26
Strategic Objective: .....	26
Principles:.....	26

7.3. Public Transport.....	27
Strategic Objective: .....	27
Principles:.....	27
7.4. Freight .....	28
Strategic Objective: .....	28
Principles:.....	28
7.5. General Traffic.....	29
Strategic Objective: .....	29
Principles:.....	29
<b>8. MULTI-MODAL NETWORK PRIORITISATION .....</b>	<b>30</b>
<b>9. MODAL PRIORITY CONFLICTS AND CRITICAL NETWORK CAPABILITIES.....</b>	<b>36</b>
9.1. Wood Street.....	38
9.2. Mangawhai Boat Ramp .....	38
9.3. Molesworth Drive.....	38
9.4. Mangawhai Village (Molesworth Drive / Moir Street / Insley Street area).....	39
9.5. Kaiwaka Mangawhai Road and Cove Road.....	39
9.6. Tomarata Bridge/Carnes Road .....	40
9.7. Summary.....	40
<b>10. APPLICATION OF NETWORK OPERATING FRAMEWORK.....</b>	<b>42</b>
10.1. Business Case Development.....	42
10.2. Network Operating Framework lifecycle.....	42
10.3. Network Operating Plans .....	42
<b>11. APPENDIX A .....</b>	<b>43</b>
<b>12. APPENDIX B.....</b>	<b>45</b>

# 1. INTRODUCTION

Kaipara District Council (KDC) has commissioned Commute Transportation Consultants to develop a Network Operating Framework (NOF) for Mangawhai area (noting that Mangawhai encompasses the Village, Central and Mangawhai Heads). The NOF seeks to develop a consistent set of transport priorities for Mangawhai which integrates with land use decisions including the Spatial Plan process. This NOF will be used to prioritise investment in the Mangawhai area, supporting wider outcomes for the Kaipara District.

## 1.1. Network Operating Framework Purpose and Objectives

A Network Operating Framework (NOF) assists in guiding the network planning process to manage the transport system. The framework provides an integrated approach that recognises all road users and the inter-relationship with land use, transport networks, and transport infrastructure and services.

The NOF considers all road users and their various needs on the transport network. The framework is developed through a strategic and collaborative process, with active involvement from key stakeholders and road user groups and aims to provide a consistent set of transport priorities to ensure future investment schemes focus on the needs and demands of its users.

The NOF also provides strategic guidance to support the development of Network Operating Plans and various transport investment decisions / schemes and enables road agencies to respond effectively to interactions between road users, land use and the transport network and. The NOF will:

- Undertake a collaborative process to determine planning outcomes
- Take a holistic view of the transport network
- Be transparent in decision-making
- Support decisions as part of a wider decision-making framework
- Complement Business Case development and land use planning
- Assist with understanding effective network interventions
- Form an iterative process that supports an integrated transport network

The NOF aims to address the network needs of pedestrians, cyclists, public transport users, freight, and general traffic. The framework will provide guidance on network operations planning, specifically relating to the inter-relationship of these road user groups with land use.

This NOF is a 'live' framework which is expected to progressively evolve to cater for the changing strategic environment, development and implementation of new transport initiatives, further analysis and new data becoming available and new technologies.



## 1.2. Stakeholder Involvement

The NOF has been developed through a collaborative process with active involvement from representatives from key stakeholder groups. Two workshops were held:

- Workshop 1: Strategic Setting and Key Links and Places (19 May 2020)
- Workshop 2: Modal Priorities (19 June 2020)

Key stakeholder groups involved are as follows:

- Kaipara District Council
- Waka Kotahi NZ Transport Agency
- Northland Transportation Alliance (NTA)
- Northland Regional Council
- Whangarei District Council
- Campbell Brown Planning
- National Road Carriers

## 1.3. Purpose of this report

This report seeks to outline the development process of the NOF and document the discussions. This report has been prepared by Commute Transportation Consultants for Kaipara District Council.

## 2. NETWORK OPERATING FRAMEWORK DEVELOPMENT PROCESS

The Austroads Network Operations Planning Framework and Part 4: Network Management guidelines were used to guide the NOF development process. This included two workshop sessions with key stakeholders and road user groups to develop the strategic objectives and network principles, and the networks and places roles of each transport corridor. A collaborative exercise was undertaken to determine mode priorities for each of the five modes on maps of the Mangawhai area.

### 2.1. Process Overview

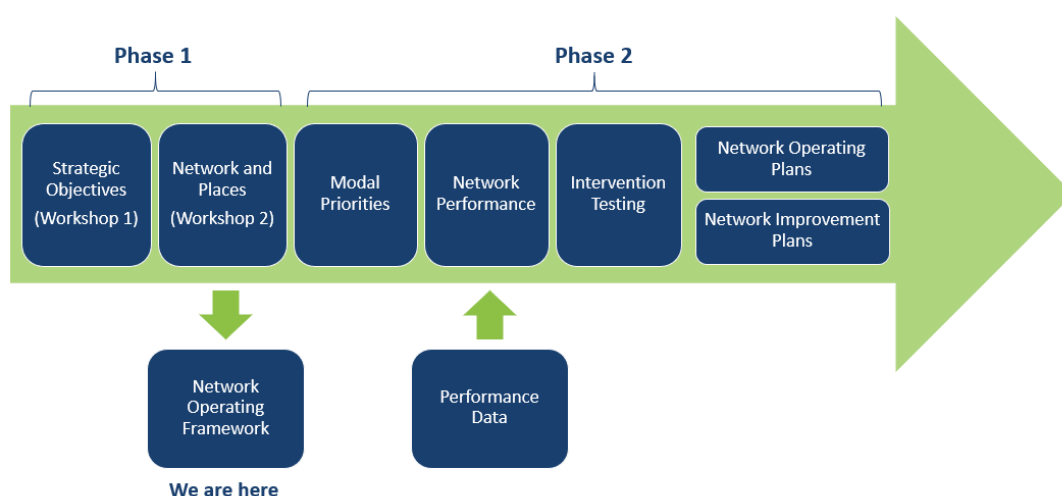
A NOF generally has two phases. The first phase involves the development of the strategic setting, where strategic objectives and network prioritisation maps are produced for each mode. Phase 1 aims to provide a strong foundation and supports transport network planning processes including Strategic and Programme Business Cases / Land use Planning.

Phase 2 undertakes both a quantitative and qualitative assessment of the transport network and network interventions to further understand network prioritisation and current network performance in detail. This phase typically requires multi-modal performance and volume data.

This document outlines Phase 1 of the Network Operating Framework, including consideration of modal priorities.

Figure 1 below summarises the NOF development process. The NOF development has now been completed and is finalised for adoption by council. The next stages involve developing the network operating plans and the network improvement plans which will include the outcomes from the developed spatial plans and Council's infrastructure strategy. Business cases will be developed that Waka Kotahi can consider for local road improvement subsidised investments.

Figure 1: Network Operating Framework process



## 2.2. Phase 1 Development

### Strategic Objectives and Principles

Strategic Objectives and Principles are the high-level goals or aspirations for the operation of each mode in the future network. These set the strategic context and guide the development of the Strategic Network and the overall NOF. Principles for the Primary and Secondary routes are typically developed to identify priority routes for each mode, and also identify any supplementary routes for each mode.

The five modes considered are as follows:

- Pedestrians – Walking, motorised scooters, mobility impaired users
- Cyclists – Commuter and recreational
- Public Transport – Publicly available transport including tourist coaches and school buses
- Freight Traffic – Heavy commercial vehicles
- General Traffic – Private vehicles, taxis and small commercial vehicles i.e. couriers

An example of a Strategic Objective and Principle for Cycling is provided below:

**Strategic Objective:** A prioritised network that supports cycling trips as the preferred mode of travel for trips within the wider Mangawhai area.

**Primary Routes:** Provide direct, safe and prioritised routes between the three village centres.

**Secondary Routes:** Provide linkages to primary routes from residential and community areas and community recreational facilities.

The Strategic Objectives and Principles are developed and refined through a collaborative process with key stakeholders and road user groups, and further tested through the development of the NOF.

### Network Links and Places

Identifying key origins and destinations is an important part of the NOF process as this determines the key movements that should be supported by transport infrastructure and services. The Principles developed are used to determine mode-based priority routes that connect these key land uses identified.

The key land uses, and mode-based priority routes were reviewed in Workshop 1 and modified and agreed upon during Workshop 2.

### Modal Priorities

The modal priority maps developed as part of Workshop 2 identified areas where several modes may be competing for priority and thus considers the level of priority for each mode relative to other modes on the identified route. These maps provide a framework for making trade-off decisions and identifying opportunities to minimise or reduce modal conflicts. Key modal conflicts and modal priority networks were identified through discussions and an interactive stakeholder workshop session held on 19th June 2020.

### 3. NETWORK CONTEXT

The Mangawhai area has a current total population of approximately 5,000 permanent residents. The area has experienced significant growth in the past few years, with a population increase of 60% between 2013 and 2018. This is double the rate of growth experienced between 2006 and 2013 (36.2%).

Under a medium growth projection, the population is expected to grow up to 15,000 people by 2043. These growth projections are based on permanent residents. The Mangawhai community also has a significant number of part time residents, which in the summer months swells the population by 200%, placing further stress on an already constrained network.

There are several development proposals including Mangawhai Central which will provide a new centre, industrial land and a residential development. These are either under construction at the time of preparing this NOF or due to commence within the next few years, which will further increase pressure on existing infrastructure in Mangawhai.

The existing transport network in Mangawhai is predominately rural with limited facilities for pedestrians or cyclists, this leaves very little opportunity for people to choose modes that are not car based.

There is an urgent need to understand the network that will be needed to support this projected growth, and prioritise the key interventions identified to create a transport system that encourages active mode choices and integrates transport with land use projections.

#### 3.1. Geographic area

The Mangawhai area is made up of three smaller geographical areas: Mangawhai Rural, Mangawhai Heads and Mangawhai Village. For this NOF, we also considered the wider strategic transport connections to the Mangawhai area from the State Highway and Whangarei District.

Mangawhai has a key interrelationship with the State Highway network as a key piece of the State Highway Detour and Resilience requirements as identified in the Whangarei to Auckland State Highway Programme Business Case (PBC), with the State Highway 1 corridor relying on Mangawhai for alternative north and south bound travel options and therefore having a critical influence on the network in Mangawhai.

The Twin Coast Discovery Highway, including Tomarata Road, Kaiwaka Mangawhai Road, Molesworth Drive and Cove Roads all currently serve as the main detour and diversion routes in the case of crashes on the highway network and planned road closures for maintenance on the Brynderwyn Hill. In emergency and planned maintenance situations, traffic can also be rerouted south of Wellsford via Wayby Valley Road, Waiteitei Road and then on to the Twin Coast Discovery Highway through Mangawhai, Langs Beach and Waipu to connect with SH1 further north at Ruakaka.

Utilising these routes, Wellsford is approximately 24mins from Mangawhai, and 29 minutes via State Highway 1. In terms of connectivity to the north, connections to Whangarei can be made via Kaiwaka-Mangawhai Road and State Highway1 in approximately an hour.



As shown the role of the state highway plays a key role in influencing the trips made through Mangawhai, and to and from Mangawhai to other urban centres, and as such cause's modal conflicts and significant congestion in and around the towns.

Figure 2 below shows the extent of the Mangawhai area. The key links into Mangawhai include Mangawhai Road, Cove Road and Kaiwaka-Mangawhai Road.

Figure 2: Mangawhai area



## 4. STRATEGIC POLICY AND PLANNING

The following sections outline key strategy and planning documents that exist for the Mangawhai area over the past five years. Further detail on planning and policy at a national, regional and local level are summarised in [Appendix A](#).

### 4.1. Whangarei to Auckland Programme Business Case (PBC)

The Whangarei to Auckland PBC was published in August 2017. This PBC considered a corridor strategy to improve transport access within a multi modal environment.

The PBC identified a long-term goal of providing a divided carriageway on a good alignment between Auckland and Whangarei. To implement this, four key infrastructure projects have been identified

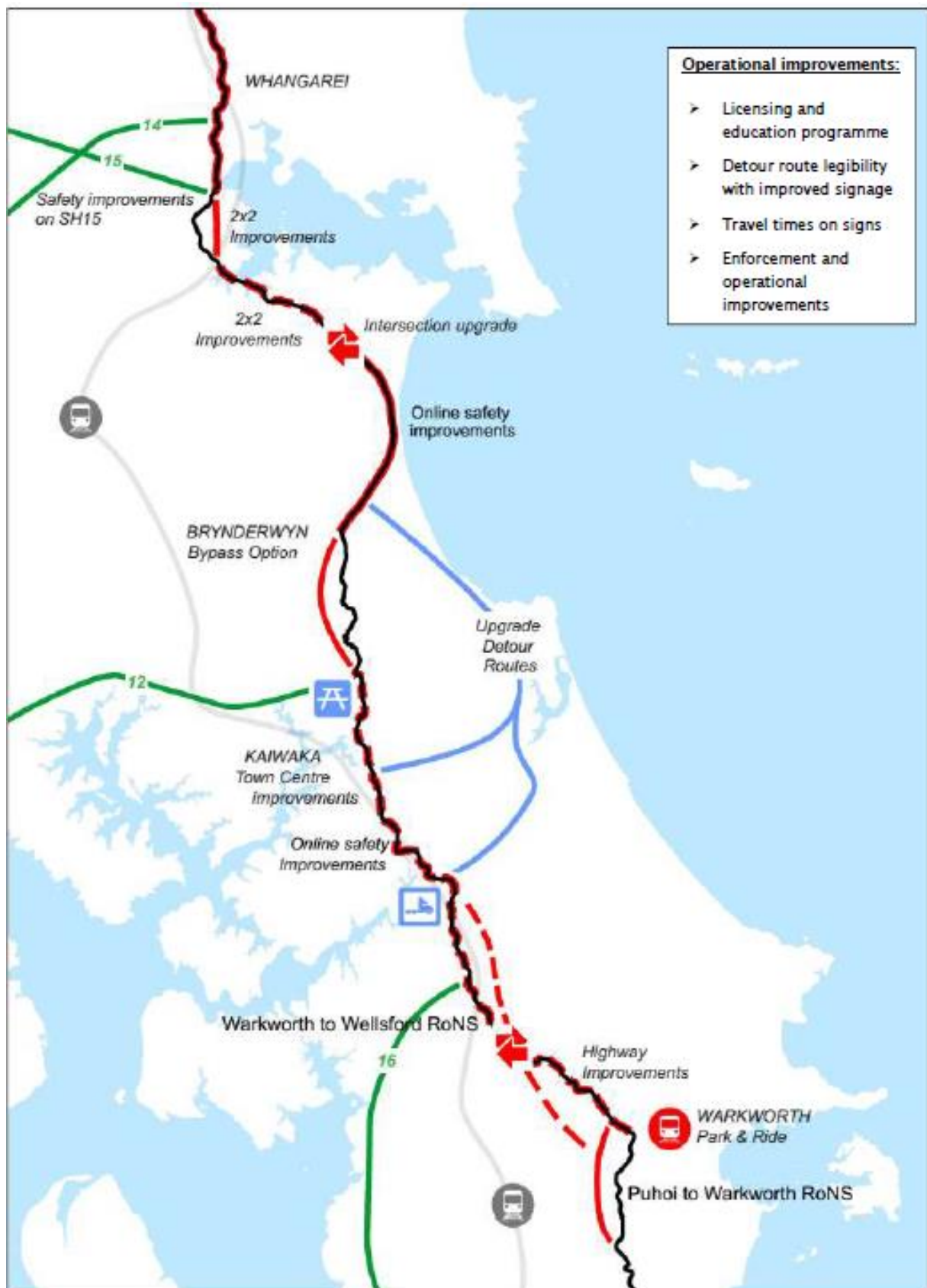
- A dual carriageway between Whangarei (SH14) and Port Marsden Highway
- A Brynderwyn Hill bypass
- Warkworth to Wellsford (currently working through designations)
- Puhoi to Warkworth (current under construction)

Safety improvements on the remaining sections will be progressed as well as reducing the impact of traffic on townships and upgrading existing detour routes.

The recommended programme is shown below in Figure 3

As can be seen these identified detour routes (shown in blue), include Kaiwaka-Mangawhai Road, Molesworth Drive and Mangawhai Heads Road. These roads are all within the study area of this NOF.

Figure 3: Whangarei to Auckland PBC Recommended Programme



## 4.2. Mangawhai Spatial Plan (2020)

A Spatial Plan for Mangawhai is being developed which aims to guide the town's growth and development over the next 20 to 25 years. Planners anticipate Mangawhai's current population of about 5,000 will reach more than 15,000 by 2043.

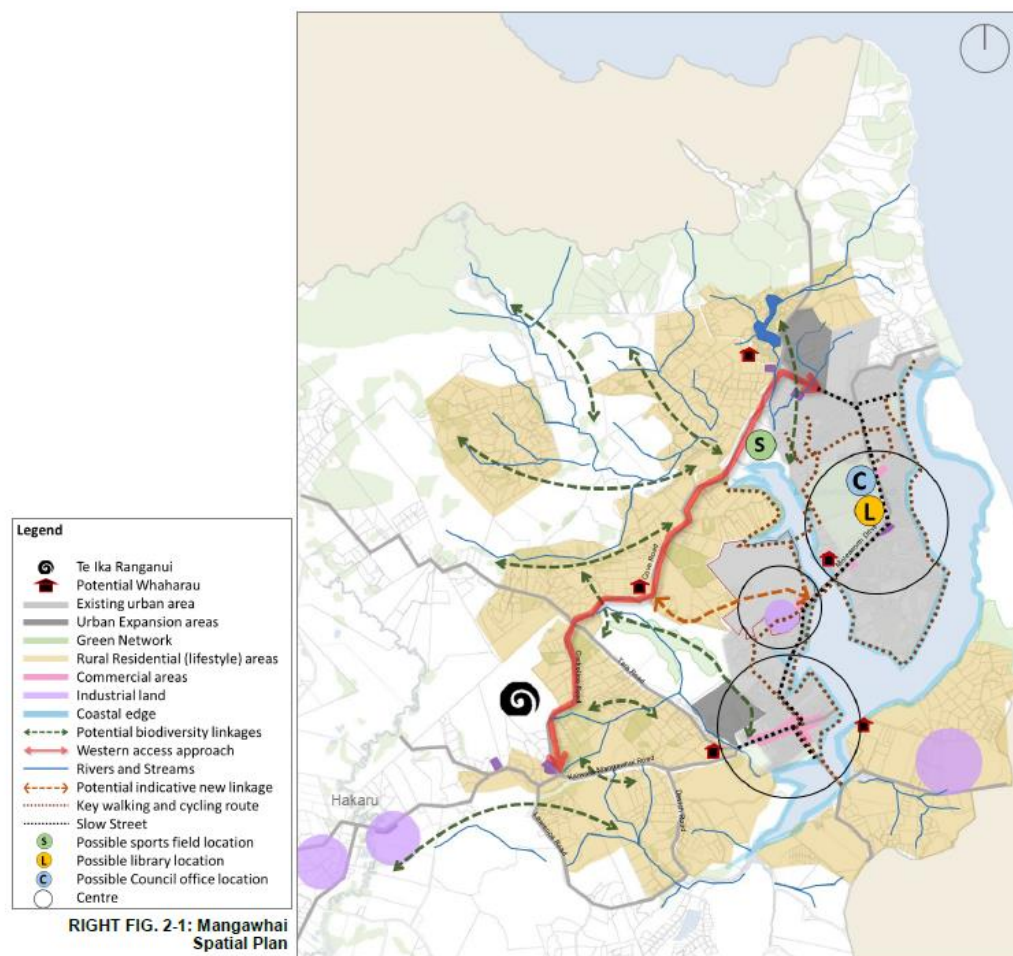
To successfully meet the demands of a growing population, planners have identified key challenges the town will have to overcome.

These included:

- Lack of public transport
- Lack of cycling and pedestrian networks
- Limited community facilities
- Lack of business-zoned land
- Limited information on stormwater catchments
- Traffic congestion
- Low visibility of Maori and early settlers' history and culture

The following sets out the proposed plan.

Figure 4: Proposed Spatial Plan for Mangawhai area



## Mangawhai Community Plan (2018)

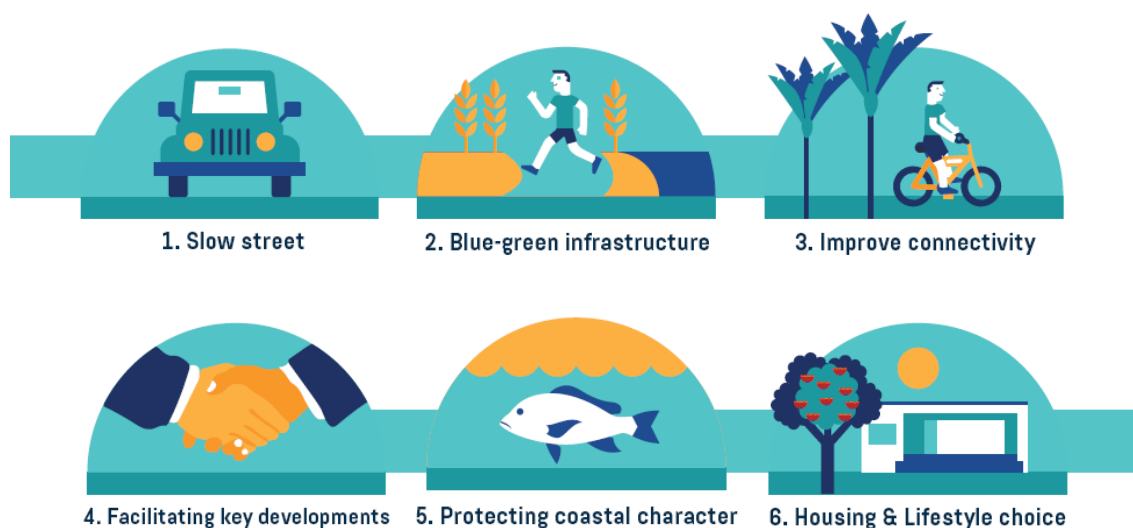
The Mangawhai Community Plan (MCP) is a document to provide guidance to Kaipara District Council in the management of growth in Mangawhai.

This plan is confined to the roles of Council, these being planning and regulation, and investment in services and infrastructure for transport, water supply, stormwater, wastewater, and parks and reserves. It does not include services provided by central government or the private sector.

In mid-2016, Council set up a panel of community representatives to make recommendations for this plan. The recommendations were received by Council in July 2017 and this draft Community Plan is consistent with these recommendations.

Six key Moves were identified as outlined in the figure below. The draft MCP also integrates the Council's vision through each key move.

Figure 5: Six key moves



### 4.3. Mangawhai Transport Study (2018)

The WSP Opus Mangawhai Transport Study is predominately a traditional traffic study considering predicted traffic growth and junction capacity. It considers three problem statements.

1. Parts of the urban road network lack capacity to support the current or projected volume of traffic on the arterial road network over the next 10 years (40% of the problem).
2. The existing road network provides limited alternative routes in the event of disruptions on the State Highway network, increasing pressure on arterial network capacity during closure periods (20%).
3. Provisions on the arterial road network for pedestrians and cyclists are poor, resulting in a lack of connected and cohesive links for these modes between urban centres (40%).



The road network was assessed in a 2017 base year, a 2027 future year condition for two growth scenarios – medium (3%) and high (7%). Analysis indicated that mid-block sections of road had sufficient capacity under future growth scenarios, but some junctions would experience congestion which would need improvements to provide acceptable levels of service.

It recommends improvements are carried out to the following intersections with the indicated time periods.

- Insley Street / Moir Street intersection is upgraded within the next 4 years.
- Moir Street intersection with Molesworth Drive upgrade within the next 6 years,
- Old Waipu Road intersection with Molesworth Drive upgrade within the next 9 years or earlier in conjunction with Mangawhai Central development and/or connection with Old Waipu Road North; and
- Thelma intersection with Estuary and Molesworth Drive upgrade within the next 10 years (or in conjunction with a Thelma Road link connection).

The Study develops an infrastructure implementation plan for the above intersection improvements along with a programme to upgrade and implement shared paths mainly along Molesworth Drive linking Mangawhai Village with Mangawhai Heads.

The Study does not recommend a bypass to resolve the State Highway lack of resilience issues within a 10-year programme but indicates that an improved diversion route via Cove Road would alleviate the need to travel through Mangawhai and Mangawhai Heads.

#### **4.4. Mangawhai Shared Path Connections Options Report (2018)**

Kaipara District Council commissioned WSP to undertake The Mangawhai Shared Path Connections Options Report. The report is a detailed evaluation of options for the shared path routes identified in the MCP for the greater Mangawhai area, connecting Mangawhai Village to Mangawhai Heads Town Centre and Mangawhai Heads Beach, (School to Beach). The report delivers quite specific detail around the various options considered for each section of the complete shared path and provides specific recommendations for the final option for each stage and for design and implementation of these options.

#### **4.5. Mangawhai and Mangawhai Heads Infrastructure Plan Transportation (2016)**

Kaipara District Council commissioned MWH to undertake the Transportation section of the Mangawhai Town Infrastructure Plan.

Issues considered included arterial road function, road safety including traffic speeds, Wood Street function as a village centre, Mangawhai Village including junction capacity and alternate junction design, pedestrian facilities (lack of), cycling facilities, shared paths and parking facilities. The infrastructure plan considered deficiencies to these transport facilities and recommended improvements such as;

- A shared path from Mangawhai to Mangawhai Heads Beach via Wood Street
- Transition speed limits

- Safety improvements to roadsides
- Footpath improvements
- Intersection improvements at Molesworth Drive / Wood Street potentially a roundabout
- Roundabouts at Estuary Estate, Moir Point Road and Thelma Road with Molesworth Drive
- Feasibility drawings of different junction arrangements at Insley / Moir and Moir / Molesworth
- Parking improvements to Wood Street - Fagan Place car park and Mangawhai Heads Beach car park.

## 4.6. Kaipara Walking and Cycling Strategy (2017)

Kaipara Walking and Cycling Strategy is a district wide strategy which considers national, regional and local cycling and walking frameworks that walking and cycling initiatives in Kaipara District seek to align with.

The guidance is generally high level, advising on priorities for the district to join in with larger walking and cycling networks. However, the Implementation Plan proposes several cycleways and footpath improvements in Mangawhai.

## 4.7. Infrastructure Strategy 2015 – 2045 KDC (2017)

The Infrastructure Strategy considers roads, water, wastewater, stormwater, and flood protection at a district wide level.

Many of the issues in Mangawhai, are related to a growing population and increasing levels of congestion are not issues for the rest of Kaipara, and consequently the strategy provides limited advice on the specific transport issues in Mangawhai.

## 4.8. Mangawhai & Mangawhai Heads – Review of Speed Limit Provisions (2017)

This is a technical report which considers speed limits in accordance with NZTA's "Guidelines for setting speed limits and procedures for calculating speed limits". It recommends changes to speed limits (in many cases the recommended speed limit is lower than the current speed) and suggests that there may be the ability to reduce the speed limits further if road infrastructure was altered to encourage such lower speeds.

## 5. LAND USE AND GROWTH

The NOF aims to integrate land use with the transport network. This is a key part to the NOF and therefore land use planning and growth was emphasized in stakeholder discussions during the workshops.

Stakeholder discussions included existing and future land use and key activity areas in the Mangawhai area, which informed the strategic networking mapping process. Key land use types identified include:

- Schools and community facilities
- Tourism, recreation and leisure
- Retail and commercial areas
- Residential
- Industrial

### 5.1. Land use planning and development in Mangawhai

Kaipara District Council (KDC) are currently in the process of updating the District Plan. The Mangawhai Spatial Plan (2020) provides direction and will inform the review and preparation of the Operative District Plan and KDC Long Term Plan.

### 5.2. Operative District Plan

The Operative District Plan is the current District Plan for zoning and land use. The District Plan outlines several objectives under its Land Use and Development Strategy<sup>1</sup>, which are as follows:

1. To encourage and establish an effective and sustainable supply of residential and business land to meet the current and future demands of the Kaipara District and enable the community to provide for their social and economic well-being.
2. To minimise the ad hoc expansion of residential and business activities in the rural heartland, where such activities have the potential to give rise to adverse environmental effects and issues of reverse sensitivity.
3. To restrict growth of residential and business activities in inappropriate locations where such activities have the potential to give rise to adverse effects on sensitive receiving environments.
4. To ensure emissions, discharges and effects of residential and business development are managed so that adverse effects on the surrounding environment, including existing settlement areas, are comprehensively addressed.
5. To provide appropriate infrastructure and servicing in advance of or alongside future residential and business development.
6. To provide clear direction on the information, planning and management requirements considered to be required to enable future changes in land use within the identified development areas.
7. To minimise potential conflicts between natural and physical limitations, including hazards and future residential and business areas

---

<sup>1</sup> Operative Kaipara District Plan – Chapter 3: Land Use and Development Strategy

8. To provide adequate areas to accommodate future residential development which maximise the use of existing infrastructure.

### 5.3. Mangawhai Structure Plan

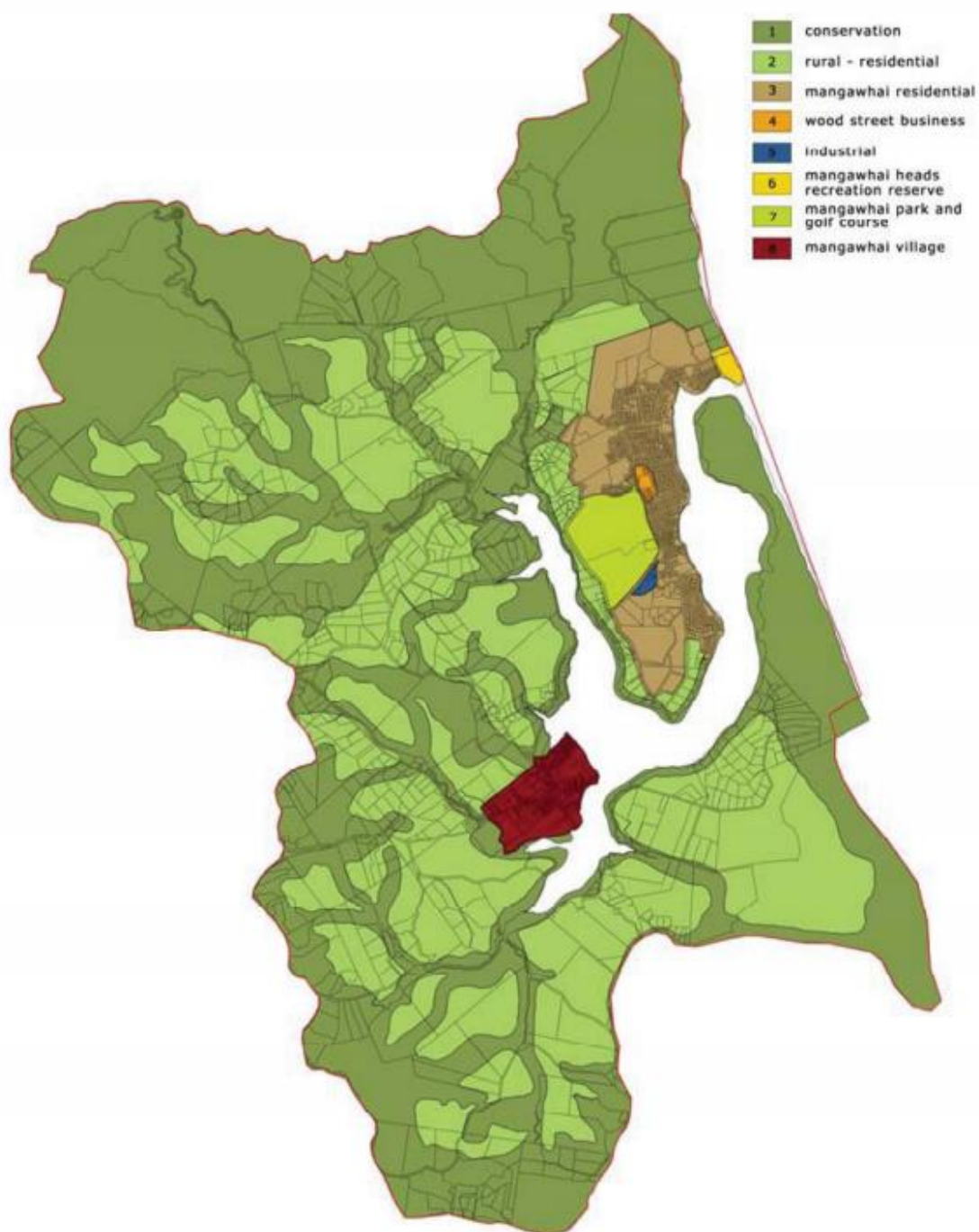
Kaipara District Council have previously undertaken structure planning for Mangawhai. The Mangawhai Structure Plan provides a means for the Kaipara District Council and Mangawhai communities to manage the effects of growth. This strategic framework provides guidance on development decisions, infrastructural management and environmental matters for Mangawhai over the next 20 years.

The Structure Plan identifies a series of growth management and development principles which are represented as eight Policy Areas. These Policy Areas suggest the character of any future development and provide recommended design principles for properties and wider areas within the Policy Area.

An overview map of the Policy Areas in Mangawhai from the Structure Plan is shown in Figure 6. It is noted that the Structure Plan was developed in 2005 and Policy Areas / growth areas have been reflected in the KDC Operative District Plan (2013).

Figure 6: Mangawhai Structure Plan Policy Areas<sup>2</sup>

**Figure 3A-1: Mangawhai Structure Plan - Policy Areas**



(Source: Mangawhai Structure Plan)

**Note 1:** While the District Plan Maps reflect the Policy Areas in Figure 3A-1, the Policy Areas are not different zones under the District Plan.

<sup>2</sup> Mangawhai Structure Plan – Kaipara District Council (January 2005)



The following summarises the key potential future growth or development areas identified in the Mangawhai Structure Plan:

- **Policy Area 2: Rural – Residential (potential subdivision growth pressure areas)**
  - Cove Road – Mangawhai Heads Road
  - Estuary Edge and Waterfront
  - Lower Tara Road and Waipu Cove Road
  - Kaiwaka – Mangawhai Road and Upper Tara Road
  - Upper catchment
- **Policy Area 3: Mangawhai Residential**
  - Steady residential growth anticipated. Control residential infill through a carefully framed development process that seeks to maximise amenity
- **Policy Area 4: Wood Street**
  - To consolidate and enhance the identity of Wood Street as a commercial centre for Mangawhai
  - Enable flexible land use options to encourage a mixed-use development environment focussing on commercial, community services, residential, recreational, entertainment, retirement housing

## 5.4. Mangawhai Spatial Plan (2020)

A Spatial Plan for Mangawhai has been developed and adopted by Council which aims to guide the town's growth and development over the next 20 to 25 years. The Spatial Plan will provide a high-level 'spatial picture' of how Mangawhai could grow and will address the community's social, economic, and environmental needs, while responding to its local context.

The Spatial Plan envisages a cohesive Mangawhai community that:

- Respects its natural setting,
- Offers diverse and affordable living and working choices, and
- Celebrates its iwi culture, its heritage, and embraces the future.

This vision supports the overall vision for Mangawhai set out in the Mangawhai Community Plan 2017 (MCP).

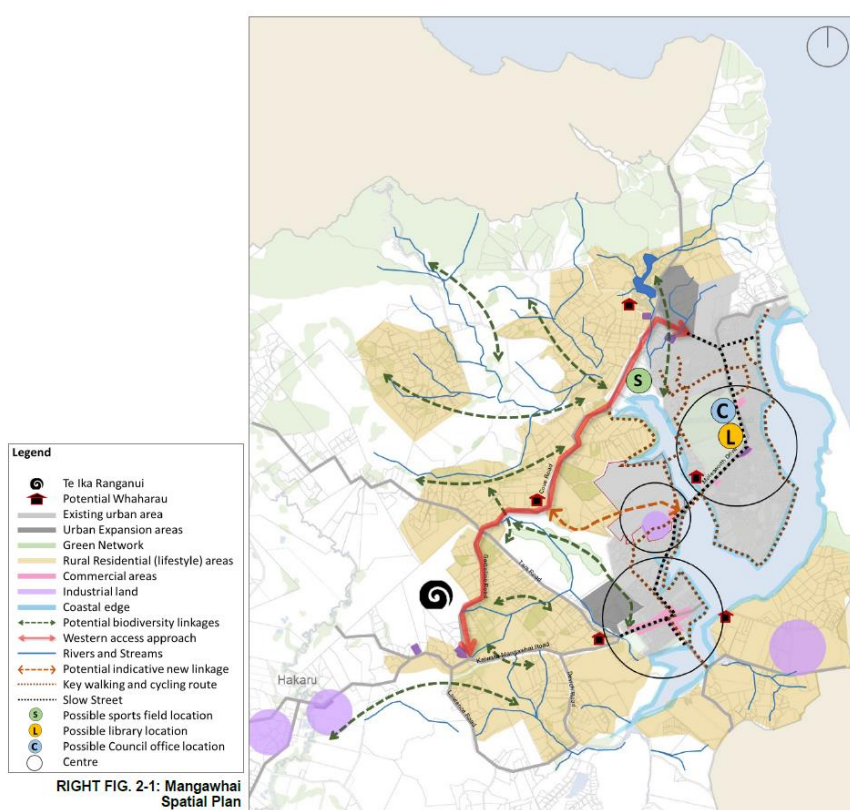
To achieve the vision and respond to the opportunities identified through the process, the Spatial Plan has developed seven themes, each with a clear objective. The themes are shown in the Figure 7.

Figure 7: Spatial Plan Themes

Natural environment	• Protect and enhance biodiversity links, waterways, and the coastal area.
Iwi and cultural	• Celebrate Māori culture and make local history visible.
Three Waters	• Provide efficient, clean infrastructure that will serve the community well into the future.
Living environment	• Direct growth outcomes which support community needs and housing choices.
Community	• Strengthen, enable and connect the local community through facilities and programmes.
Employment	• Support the local economy, and attract more visitors, entrepreneurs, and employment uses.
Transport	• Improve safe walking and cycling options, and manage vehicular traffic.

The Mangawhai Spatial Plan is shown in Figure 8. It aims to achieve the key vision considering the seven themes identified.

Figure 8: Mangawhai Spatial Plan<sup>3</sup>



<sup>3</sup> Mangawhai Spatial Plan, Kaipara District Council (Draft 15 May 2020)

The opportunities identified through the Spatial Plan process are shown in Figure 9, which are based on the seven themes identified.

Figure 9: Mangawhai Spatial Plan opportunities<sup>4</sup>



## 5.5. Key Land Use Sensitivities

Based on the above the following areas have been identified as key areas adjacent to the transport network that will need careful consideration.

These include

- Mangawhai Village including the area around Moir Street and Molesworth Drive
- Mangawhai Heads town centre including the area around Wood Street
- Future centres around Mangawhai Centre

<sup>4</sup> Mangawhai Spatial Plan, Kaipara District Council (Draft 15 May 2020)

## 6. NETWORK OPERATING FRAMEWORK DEVELOPMENT

A balanced transport network approach effectively caters for the needs of different road user groups and considers how each group will use the network. The Mangawhai area encompasses both permanent residential dwellings and non-permanent dwellings, either through holiday homes or tourist visitors. These areas generate high demands for pedestrian and cyclist movements as well as having many camper vans and tourist vehicles on the road network, in addition to the usual resident travel patterns.

This NOF takes a balanced and integrated approach to support Master Planning, land use and mode prioritisation in Mangawhai.

### 6.1. Operating Framework Horizon

The Network Operating Framework horizon considers a future aspirational transport network based on population and land use growth assumptions. This acknowledges potential changes in land use and growth in the future and thus promotes forward thinking for network planning, not limiting the transport network to current challenges only. This horizon was considered when developing the strategic transport networks to understand how stakeholders aspire to operate the network. The time horizon reflects a step towards achieving Mangawhai's long-term aspirations for its transport network.

Stakeholders agreed a **short-term aspiration (5 – 10years)** for the transport network and a **final aspiration (10+ years)** for land use was appropriate given the expected increase in population, development, and pressures on the network.

The short-term timeframe ensures that we are capturing the existing modal conflicts.

The 20-year consideration allows the NOF to consider the longer-term growth possibilities and resulting changes in land use and rate of development (for residential and commercial) and any planned future development.

## 7. STRATEGIC OBJECTIVES AND PRINCIPLES

The Strategic Objectives and Principles set the strategic context and guide the development of the Strategic Network and the overall NOF. These were established based on existing policy and planning goals and visions and stakeholder knowledge.

The Strategic Objectives and Principles were developed and refined for each mode through a collaborative process with key stakeholders during Workshop 1. From workshop discussions, the overarching objectives, and principles for the overall Mangawhai transport system were agreed, which aspired for a transport system that:

- Integrates with the growth aspirations of the area
- Improves connectivity to and through Mangawhai
- Provides a safe and resilient detour route for State Highway 1
- Provides a safe slow speed environment within Mangawhai that creates attractive environment for pedestrians and cyclists
- Enables active modes to be the mode of choice within Mangawhai area

Objective	How this objective is relevant to Mangawhai
<b>Integrates with the growth aspirations of the area</b>	<p>Mangawhai is expected to experience significant levels of growth in the future years. Careful and sensitive consideration of how the road network interfaces and relates to the surrounding road network will need to be part of network planning in the area.</p> <p>Consideration of the existing town centres in Mangawhai Heads, Wood Street and Mangawhai Village will be needed, and also how these centres integrate with new centres such as Mangawhai Central.</p>
<b>Improves connectivity to and through Mangawhai</b>	<p>The network needs to deliver a network that enables connections to Mangawhai and through the urban extents, connecting Mangawhai Heads with Mangawhai, key land uses including recreational spaces such as the beach, schools and employment opportunities and residential areas.</p>
<b>Provides a safe and resilient detour route for State Highway 1</b>	<p>The network needs to provide safe and resilient routes that support detours from the State Highway, however these routes need to also acknowledge the existing and future urban environment in Mangawhai and recognise the slower speed environment desired on the corridors within Mangawhai.</p>
<b>Provides a safe slow speed environment within Mangawhai that creates attractive environment for pedestrians and cyclists</b>	<p>Part of the existing and future aspirations for the Mangawhai area include fostering an environment that encourages residents and visitors to travel by foot and by bike. To support this, the network needs to provide a safe and slow environment along key corridors connecting land use activities.</p>



**Enables active modes to be the mode of choice within Mangawhai area**

Connected to the above objective, to enable active modes to be the mode of choice, walking and cycling needs to be seen as easy, safe and along routes that provide direct connections to the desired destinations.

---

With these transport system objectives in mind, Waka Kotahi's One Network Road Classification (ONRC) and One Network Framework (ONF) were used to consider people, place and function of roads for each transport mode, and a strategic objective and network principle was identified for each mode.

In addition to this, the future land use outcomes are considered in conjunction with these objectives, integrating land use and transport objectives.

The Strategic Objectives and Principles support the outcomes of the Mangawhai Spatial Plan, the Mangawhai Community Plan, and regional documents such as the Kaipara Walking and Cycling Strategy and thus frame the transport aspirations of Kaipara District Council, Communities, and key Stakeholders for Mangawhai.

The following sections summarise the key outputs from stakeholder discussions and the resulting Strategic Objectives and Principles for each mode.

## 7.1. Pedestrians

Key considerations from stakeholder discussions include:

- Safe and secure pedestrian network that is accessible for all users
- Pedestrian prioritisation within village centres
- Importance of connectivity between source and key destinations and between village centres, schools, community facilities and recreational and residential areas
- Coastal walkway and track network provide range of options for less direct routes mainly for recreational purposes
- Linkage to existing walking tracks / trails
- Considerations for a shared path

### Strategic Objective:

A safe network that ensures walking for all short local trips is easy and preferable to private vehicle travel within Mangawhai Heads, Mangawhai Village, Mangawhai Beach and Mangawhai Beach School.



### Principles:

#### Primary Network

Provide safe and secure connections prioritising pedestrians between Mangawhai Beach School, three main village centres, Mangawhai Beach and Mangawhai Community Centre

#### Secondary Network

Provide linkages to primary routes from residential and community areas and community recreational facilities whilst making the most of the coastal and natural amenity.

## 7.2. Cyclists

The themes discussed were similar to the pedestrian modes. Key considerations from stakeholder discussions include:

- Safe and secure cycling network that is accessible for all users
- Cyclist prioritisation and direct links to encourage both commuting and tourist movement
- Importance of connectivity between source and destination and between village centres, schools, community facilities and residential areas as well as connecting to the wider Mangawhai area
- Coastal track network provides a range of options for less direct routes mainly for recreational purposes
- Catering for tourism and recreation with links to key destinations and attractions as well as connections to the existing cycling strategic network
- Emphasis on the need for safe crossing infrastructure for cyclists

### Strategic Objective:

A prioritised network that supports cycling trips as the preferred mode of travel for trips within the wider Mangawhai area



### Principles:

#### Primary Network

Provide direct, safe and prioritised routes between the three village centres.

#### Secondary pedestrian routes

Provide linkages to primary routes from residential and community areas and community recreational facilities

## 7.3. Public Transport

Key considerations from stakeholder discussions include:

- Summer bus services to support tourist activities
- Weekly bus services (such as weekly shopper type services) to support communities
- Connection between Mangawhai Village and Mangawhai Heads and to the wider Mangawhai area
- Bus routes / bus infrastructure linked into walking and cycling networks
- School buses and routes
- Link to Kaiwaka Train Station

### Strategic Objective:

Provide a network that connects well with the wider region (and beyond) and to the key village centres.



### Principles:

#### Primary Network

Routes that provide connection between village centres and the wider region.

#### Secondary pedestrian routes

Local routes that enable movement of people from residential areas to village centres and summer peak requirements.

## 7.4. Freight

Key considerations from stakeholder discussions include:

- Viable alternative routes that are safe and resilient and avoid going through village centres (additional commentary on this is provided in Section 7.3 General Traffic)
- Minimise disruption on active modes and general traffic within village centres
- Village centre serviced by smaller commercial vehicles

### Strategic Objective:

Promote freight movement that provides access to village centres but that does not degrade the amenity of these villages.



### Principles:

#### Primary Network

Provide routes that avoid key land use areas of high amenity or community value

#### Secondary pedestrian routes

Provide connections linking primary routes and commercial and industrial centres



## 7.5. General Traffic

Key considerations from stakeholder discussions include:

- Current car dominance is not the preferred future for Mangawhai
- Slow speed routes within key village areas
- Viable alternative routes for SH closures that avoid going through key village areas
- Direct and safe routes to destinations
- Urbanised road environment to encourage slow speeds
- Importance of maintaining coastal environment
- Alternative route for State Highway 1

Workshop discussions recognised that the general traffic transport network may be represented as both a current scenario and a future scenario. The current scenario better portrays the existing traffic conflicts on the network and the future scenario conveys the preferred traffic network that we want to achieve. In addition, the general traffic transport network has been developed based on three principles (as opposed to two): Strategic, Primary and Secondary. This reflects the level of granularity required to represent and prioritise the varying types and levels of general traffic movements through a network.

Key discussions with stakeholders acknowledged that the Mangawhai general traffic and freight network plays a key supporting role for the State Highway network providing a detour route during maintenance or unplanned incidents on the state highway network.

This role is expected to increase in the future with planned investment including safety works on the State Highway network. This increased reliance on the detour route is expected to impact on the aspirations for slower, more active mode attractive corridors within Mangawhai and the stakeholders have identified that a more appropriate detour route that minimises these conflicts will be necessary in the future.

### Strategic Objective:

Promote a slow speed general traffic network that compliments other modes and provides safe and predictable access whilst ensuring high community amenity in the three village areas.

### Principles:



#### Strategic Network

Provide inter-regional (and detour) route that avoids key village areas where possible and allows residents to get to their homes safely and efficiently

#### Primary Network

Provide slow speed routes that support key land use areas of high amenity or community value

#### Secondary Network

Provide connections linking primary routes and commercial and industrial centres

## 8. MULTI-MODAL NETWORK PRIORITISATION

A Network Operating Framework recognises the various needs of all transport and road users and the strategic intent for the network. The outcome sought from a Network Operating Framework is an effective multi-modal network, and this is achieved through the development of a strategic transport network that defines user priority by mode, place, and time of day.

The following tables summarise the aspirational strategic transport network for each road user group, which were developed based the Strategic Objectives and Principles defined in Section 7.

Figure 10 below is the combined map showing the strategic transport network for all modes. Individual maps are included in **Appendix B**.

Figure 10: Combined strategic transport network

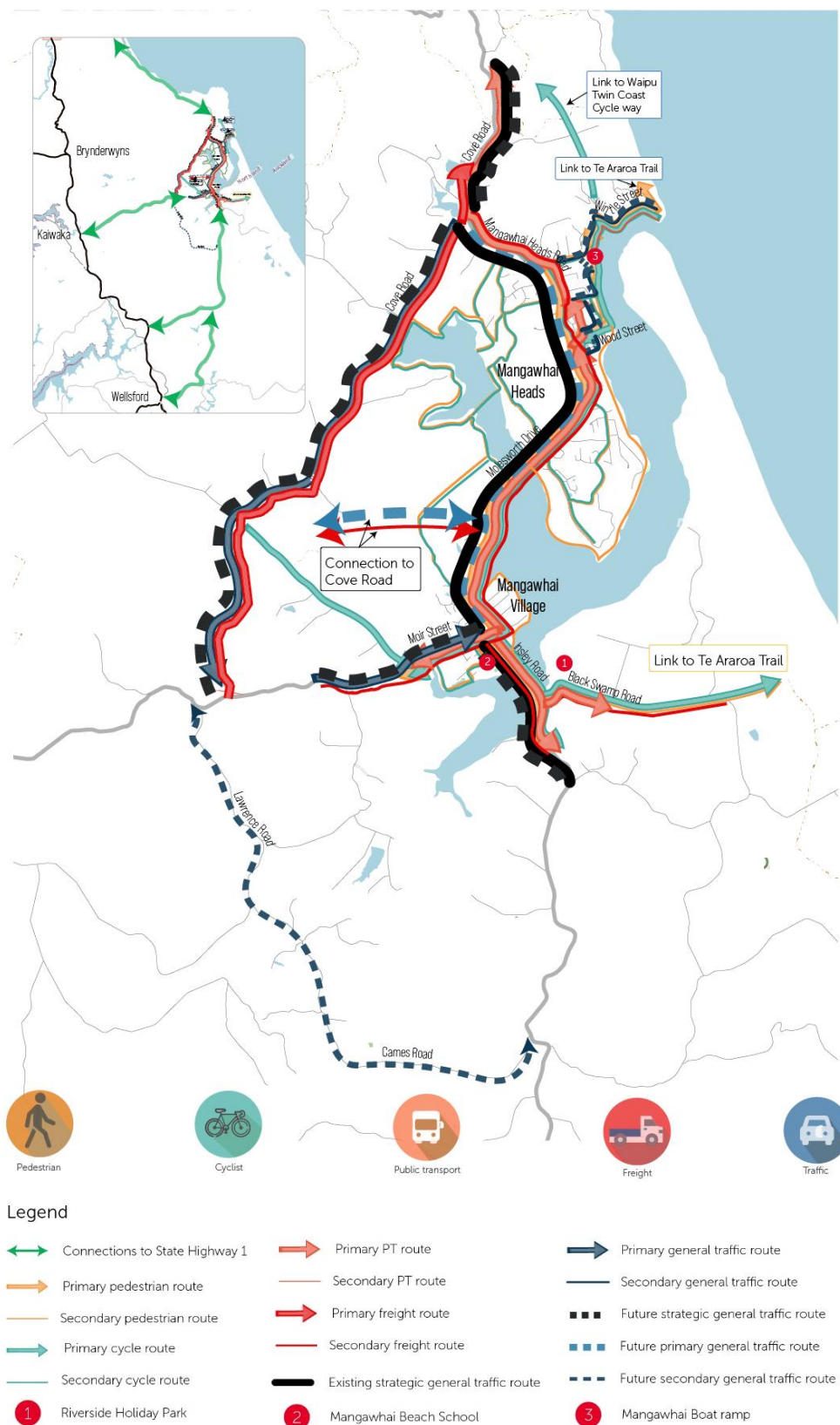


Table 1: Summary of the strategic transport network by road user group

Road user group	Primary Routes	Secondary Routes
<p><b>Pedestrians</b></p> <p><u>Strategic Objective:</u></p> <p>A safe network that ensures walking for all short local trips is easy and preferable to private vehicle travel within Mangawhai Heads, Mangawhai Village, Mangawhai Beach and Mangawhai Beach School.</p>	<p><u>Primary Network:</u></p> <p>Provide safe and secure connections prioritising pedestrians between Mangawhai Beach School, three main village centres, Mangawhai Beach and Mangawhai Community Centre</p> <p><u>Primary routes include:</u></p> <ul style="list-style-type: none"> <li>• Molesworth Drive and Moir Street</li> <li>• Mangawhai Heads Road (from Mangawhai Heads Holiday Park to Jack Boyd Drive)</li> <li>• Insley Street and Tomarata Road</li> <li>• Wood Street</li> <li>• Wintle Street</li> <li>• Link to Te Araroa Trail</li> <li>• New connections / trails along the coast</li> </ul>	<p><u>Secondary Network:</u></p> <p>Provide linkages to primary routes from residential and community areas and community recreational facilities whilst making the most of the coastal and natural amenity.</p> <p><u>Secondary routes include:</u></p> <ul style="list-style-type: none"> <li>• Black Swamp Road</li> <li>• Kedge Drive</li> <li>• North Avenue and Robert Street</li> <li>• Jack Boyd Drive</li> <li>• Thelma Road</li> <li>• Old Waipu Road</li> <li>• Mangawhai Heads Road (between Jack Boyd Road and Cove Road)</li> <li>• Estuary Drive and Moir Point Road</li> <li>• New connections / trails along the coast</li> </ul>
<p><b>Cyclists</b></p> <p><u>Strategic Objective:</u></p> <p>A prioritised network that supports cycling trips as the preferred mode of travel for trips within the wider Mangawhai area</p>	<p><u>Primary Network:</u></p> <p>Provide direct, safe, and prioritised routes between the three village centres and key destinations including school and beach</p> <p><u>Primary routes include:</u></p> <ul style="list-style-type: none"> <li>• Kaiwaka-Mangawhai Road (between Moir Street and Hakaru)</li> <li>• Tara Road</li> <li>• Insley Road and Tomarata Road</li> <li>• Black Swamp Road</li> <li>• Molesworth Drive (between Moir Street and Wood Street) and Moir Street</li> </ul>	<p><u>Secondary Network:</u></p> <p>Provide linkages to primary routes from residential and community areas and community recreational facilities</p> <p><u>Secondary routes include:</u></p> <ul style="list-style-type: none"> <li>• Mangawhai Heads Road</li> <li>• Kedge Drive</li> <li>• Estuary Drive and Moir Point Road</li> <li>• North Avenue and Robert Street</li> <li>• Jack Boyd Drive</li> <li>• Thelma Road</li> <li>• Old Waipu Road</li> </ul>

Road user group	Primary Routes	Secondary Routes
	<ul style="list-style-type: none"> <li>Wood Street</li> <li>Wintle Street</li> <li>Link to Waipu (Twin Coast Cycleway link)</li> <li>Future strategic connection to Maungaturoto</li> <li>New connections / trails along the coast</li> </ul>	<ul style="list-style-type: none"> <li>Mangawhai Heads Road (between Jack Boyd Road and Cove Road)</li> <li>New connections / trails along the coast</li> </ul>
<b>Public Transport</b>	<p><u>Primary Network:</u></p> <p>Routes that provide connection between village centres and the wider region.</p> <p><u>Primary routes include:</u></p> <ul style="list-style-type: none"> <li>Molesworth Drive and Moir Street</li> <li>Loop route to/from Molesworth Drive via Wood Street, Margaret Street, Holiday Crescent and North Avenue</li> <li>Insley Street, Tomarata Road and Black Swamp Road (from Insley Street to Riverside Holiday Park)</li> <li>Kaiwaka-Mangawhai Road</li> <li>Mangawhai Heads Road (from Molesworth Drive to Cove Road) and Cove Road (north of Mangawhai Heads Road)</li> </ul>	<p><u>Secondary Network:</u></p> <p>Local routes that enable movement of people from residential areas to village centres and summer peak requirements.</p> <p><u>Secondary routes include:</u></p> <ul style="list-style-type: none"> <li>Mangawhai Heads Road (east of Molesworth Drive) and Wintle Street</li> <li>State Highway 1 (between Settlement Road and State Highway 12)</li> </ul>
<b>Freight</b>	<p><u>Primary Network:</u></p> <p>Provide routes that avoid key land use areas of high amenity or community value <u>and provide for State Highway detours</u></p> <p><u>Primary routes include:</u></p> <ul style="list-style-type: none"> <li>Kaiwaka-Mangawhai Road (between Kaiwaka and Garbolino Road)</li> <li>Garbolino Road and Cove Road</li> </ul>	<p><u>Secondary Network:</u></p> <p>Provide connections linking primary routes and commercial and industrial centres</p> <p><u>Secondary routes include:</u></p> <ul style="list-style-type: none"> <li>Kaiwaka-Mangawhai Road (east of Garbolino Road)</li> <li>Moir Street, Molesworth Drive and Mangawhai Heads Road (west of Molesworth Drive)</li> <li>Insley Street and Tomarata Road</li> <li>Black Swamp Road</li> </ul>

Road user group	Primary Routes	Secondary Routes
		<ul style="list-style-type: none"> <li>Future connection between Molesworth Drive and Cove Road through Mangawhai Central.</li> </ul>

As noted previously, for the General Traffic road user group, the strategic transport network has been developed for a current scenario and future (preferred) scenario based on three principles: Strategic, Primary and Secondary.

Table 2: Summary of the strategic transport map for General Traffic

Road user group	Strategic Routes	Primary Routes	Secondary Routes
	<u>Strategic routes include:</u> <ul style="list-style-type: none"> <li>Cove Road (north of Mangawhai Heads Road)</li> <li>Mangawhai Heads Road (between Cove Road and Molesworth Drive)</li> <li>Molesworth Drive</li> <li>Insley Road and Tomarata Road</li> </ul>	<u>Primary routes include:</u> <ul style="list-style-type: none"> <li>Kaiwaka-Mangawhai Road and Moir Street</li> <li>Garbolino Road and Cove Road</li> </ul>	<u>Secondary routes include:</u> <ul style="list-style-type: none"> <li>Findlay Street and Ellen Street</li> <li>Wood Street and Robert Street</li> <li>North Avenue</li> <li>Mangawhai Heads Road (between Molesworth Drive and Wintle Street) and Wintle Street</li> </ul>
<b>General Traffic (current situation)</b>	<u>Strategic Network:</u> Provide inter-regional (and detour) route that avoids key village areas where possible and allows residents to get to their homes safely and efficiently	<u>Primary Network:</u> Provide slow speed routes that support key land use areas of high amenity or community value	<u>Secondary Network:</u> Provide connections linking primary routes and commercial and industrial centres
<u>Strategic Objective:</u> Promote a slow speed general traffic network that compliments other modes and provides safe and predictable access whilst	<u>Strategic routes include:</u> <ul style="list-style-type: none"> <li>Kaiwaka-Mangawhai Road and Moir Street</li> <li>Garbolino Road and Cove Road</li> </ul>	<u>Primary routes include:</u> <ul style="list-style-type: none"> <li>Mangawhai Heads Road (between Cove Road and Molesworth Drive)</li> <li>Molesworth Drive</li> </ul>	<u>Secondary routes include:</u> <ul style="list-style-type: none"> <li>Findlay Street and Ellen Street</li> <li>Wood Street and Robert Street</li> <li>North Avenue</li> <li>Cames Road and Lawrence Road</li> </ul>



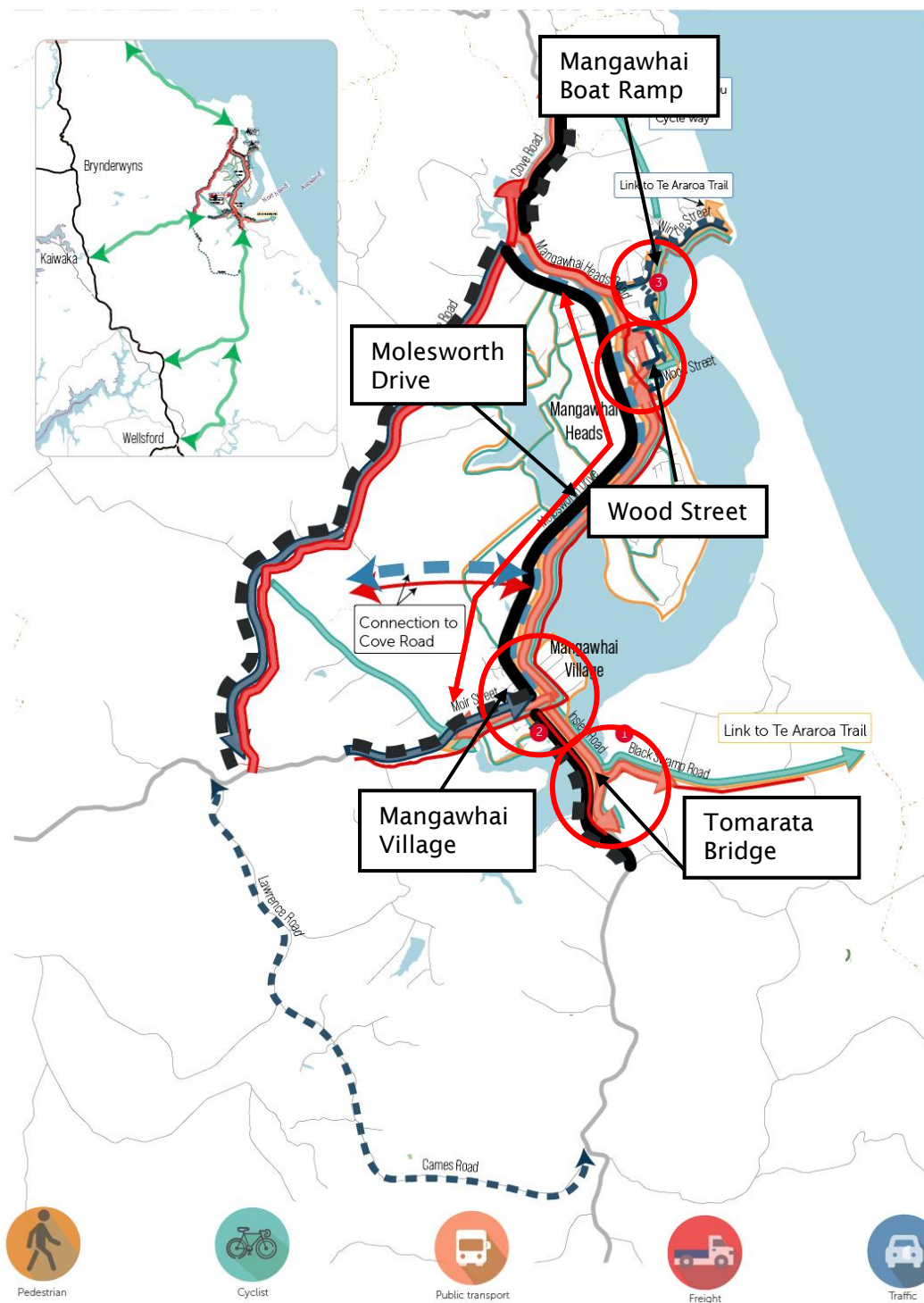
ensuring high community amenity in the three village areas.	<ul style="list-style-type: none"> <li>• Tara Road</li> <li>• Insley Road and Tomarata Road</li> </ul>	<ul style="list-style-type: none"> <li>• New connection between Molesworth Drive and Cove Road</li> </ul>	<ul style="list-style-type: none"> <li>• Mangawhai Heads Road (between Molesworth Drive and Wintle Street) and Wintle Street</li> <li>• New connection between Mangawhai Heads Road and North Avenue (boat ramp access)</li> </ul>
---	--	---	--

## 9. MODAL PRIORITY CONFLICTS AND CRITICAL NETWORK CAPABILITIES

Modal conflicts occur when there are several modes competing for priority at a single location. Using the strategic transport maps created earlier in the process and existing understanding of the unique environments in Mangawhai, stakeholders were able to identify areas where modal conflicts would occur in the future. Figure 11 shows the location of potential future conflict points.

The Network Operating Framework is not expected to resolve modal conflict; however, the following sections discuss potential opportunities to minimise or relieve competing demands and also provides some information on the key interdependencies in the provision of an integrated transport network for Mangawhai.

Figure 11: Potential modal conflict points



## 9.1. Wood Street

Currently, North Avenue is the main link to the Mangawhai boat ramp. However, with a petrol station, four square and fishing supplies located on Wood Street, this has become a regularly frequented route by those travelling to the boat ramp. This is also a primary pedestrian and cycle route, and as such this has generated modal conflict on Wood Street, impacting on the safety of pedestrians and cyclists. Wood Street is also currently congested during peak summer holiday seasons and will continue to attract vehicles without mechanisms to encourage traffic on alternative routes.

The stakeholders identified a desire to relieve traffic congestion and prioritise active modes in the Wood Street village. The innovating streets funding from Waka Kotahi allowed for some interim solutions to be trialled and final long-term outcomes for Wood Street identified. These include a revitalised people friendly area where patrons can dine in open air settings, a one way system to relieve congestion, an extra car parking area behind the shopping complex with connection to this from Wood Street through the old fire station property and upgraded existing as well as new walking and cycling facilities. These are included in the 2021-31 LTP. Additionally, an extra connection between Mangawhai Heads Road and Alamar Crescent that provides for additional parking and easing boat ramp congestion during the busy summer months has been identified and planned in the 2021-31 LTP. These improvements are all aimed to divert traffic from Wood Street, therefore enabling active modes to be prioritised on this road.

## 9.2. Mangawhai Boat Ramp

Mangawhai boat ramp attracts active modes and vehicles that generate competing demands for access, leading to delays especially during peak holiday seasons. There needs to be higher levels of consideration for active modes on sections of road (such as North Avenue and Robert Street) leading to the boat ramp. Constraints such as limited access roads and location of the gas station make future aspirations to satisfactorily provide for both active modes and general traffic challenging. However, as noted previously, the new secondary traffic route between Mangawhai Heads Road and North Avenue is likely to cater for general traffic, therefore enabling active modes to be prioritised on other roads leading to the boat ramp.

## 9.3. Molesworth Drive

Molesworth Drive is the main connection between Mangawhai Village and Mangawhai Heads. It is the only existing route providing a direct north-south link, therefore resulting in conflicting demand between all modes. This route is currently a primary walking and cycling route, primary public transport route, strategic general traffic route and a primary freight route. Given Molesworth Drive is a critical connection, with adjacent land uses being both residential and commercial, modal conflict is unavoidable, however can be relieved to an extent.

The future general traffic strategic transport network indicates Garbolino Road, Tara Road and Cove Road as the Strategic General Traffic Route as such reducing the emphasis placed on the general traffic on Molesworth Drive (which will become the Primary General Traffic Route). Molesworth Drive is intended to become a 'slow street' route and with slow speed interventions vehicles travelling through Mangawhai will be encouraged to utilise Garbolino Road, Tara Road and Cove Road. Further detail on this route is provided in Section 9.5. Slow speed interventions on Molesworth Drive are also likely to divert through freight traffic

onto Cove Road. Further, the stakeholders considered limiting Molesworth Drive to only small commercial freight trucks which could reduce freight traffic and provide a safer environment for active modes.

The Mangawhai Shared Path Connections Options Report proposes a shared walking and cycling path on Molesworth Drive, which will ensure a safe and secure primary walking and cycling route. The 'slow street' environment and shared path infrastructure should promote active mode priority and safety by minimising conflict with vehicles (including buses) in the way of reducing both traffic volumes and speeds along Molesworth Drive.

#### **9.4. Mangawhai Village (Molesworth Drive / Moir Street / Insley Street area)**

Mangawhai Village is a dense residential catchment with community facilities, commercial businesses and schools located at its centre, while Insley Street is the main gateway into Mangawhai for vehicles travelling from the south. In this regard, Mangawhai Village prioritises both movement and access and therefore currently experiences many conflicting movements involving all modes. Molesworth Drive, Moir Street and Insley Street within Mangawhai Village are primary pedestrian and cycling, primary public transport, primary freight and strategic general traffic routes. The conflict is likely to continue or exacerbate with increasing traffic volumes until through traffic is encouraged to travel via Cove Road (future strategic general traffic route). Further, Mangawhai Village is a critical conflict point as all five modes intersect at the Insley Street / Moir Street intersection.

A shared walking and cycling paths are envisaged on Molesworth Drive, Moir Street and Insley Street within Mangawhai Village which minimises conflict between those using active modes and vehicles to help ensure a safe environment for vulnerable users. This is particularly important as Mangawhai Beach School and Mangawhai Kindergarten are accessed off Insley Street. In this regard, stakeholders emphasised the importance of safe crossing points, slow speed interventions and safe bus stop locations near the schools. Further, the primary public transport route through Mangawhai promotes travel via modes other than vehicular and assists school bus operations which specifically benefits this area.

The stakeholders agreed that the preferred outcome for Mangawhai Village is an environment that is less car-centric and the future strategic general traffic route (Garbolino Road, Cove Road and Tara Road) achieves this aspiration. However, it is not likely that all private vehicle use can be removed from Mangawhai Village given the land use and location. Notwithstanding this, the implementation of the strategic general traffic route is likely to reduce general traffic and freight traffic volumes, therefore relieving the modal conflict to some extent.

#### **9.5. Kaiwaka Mangawhai Road and Cove Road**

As identified in this NOF the general traffic and freight route in Mangawhai has a key interrelationship with the State Highway network. The ability to achieve the outcomes for roads internal to Mangawhai such as those mentioned above is contingent on the ability of Kaiwaka Mangawhai Road and Cove Road to provide a detour function for the State Highway.

In order to achieve this there are some key functional improvements that would be required to Kaiwaka Mangawhai Road and Cove Road including upgrades/strengthening to one-way bridges, Road Safety Improvements and Road Alignment/Geometry improvements.

This link is critical to achieving active mode objectives within the internal road network in Mangawhai – with the removal of through traffic this creates the opportunity to implement a slower, safer environment for pedestrians and cyclists.

This route provides an appropriate alternative SH1 detour route that links to the strategic direction of the State Highway PBC and, supports the strategic mode shift of the network while not compromising the local outcomes sought.

## 9.6. Tomarata Bridge/Cames Road

The Tomarata Bridge currently provides the main access to and from Mangawhai from the south. Given this the bridge is a key link for all modes entering and exiting the community, there is a degree of modal conflict in this corridor. This is further compounded due to the proximity of the corridor to the Mangawhai Village and the local school.

The Tomarata Bridge will require replacement within the next 10 to 15 years, as the bridge reaches the end of its lifespan. This replacement will result in significant access implications to Mangawhai from the south and associated detour routes utilised for State Highway 1.

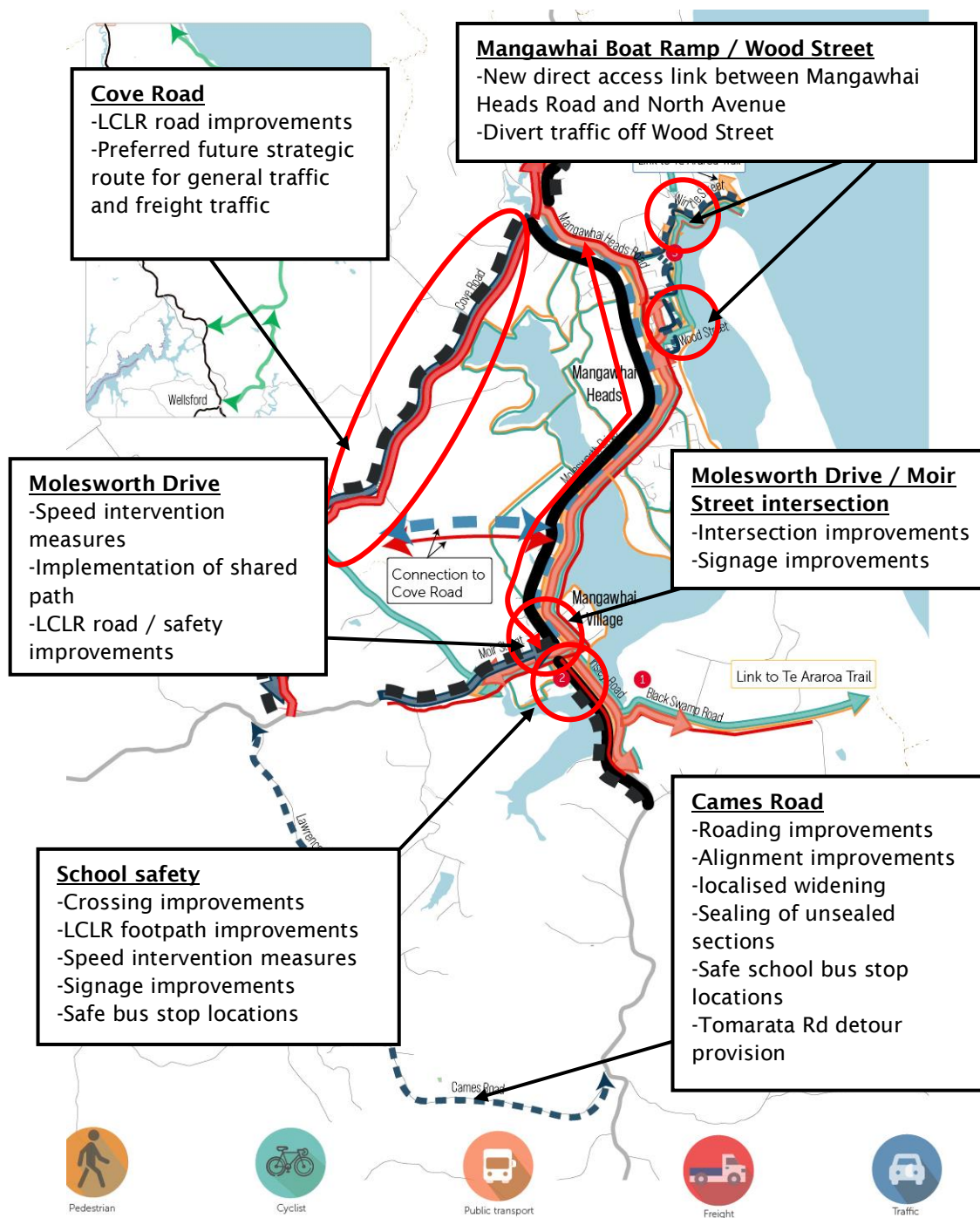
An additional traffic route via Cames Road has been identified from the south to facilitate access to the Mangawhai area. This route provides additional resilience to the network and enables replacement, maintenance or unplanned incidents on this route to be managed.

## 9.7. Summary

Figure 12 below show the potential intervention solutions or opportunities that stakeholders raised to address modal conflict.



Figure 12: Indicative solutions / opportunities to address modal conflict



# 10. APPLICATION OF NETWORK OPERATING FRAMEWORK

## 10.1. Business Case Development

The development of this NOF was predicated on its ability to inform the strategic case and need for transport interventions in Mangawhai at a programme level to allow these projects to go straight to the SSBC phase.

To assist in this, during Workshop 2 several transport interventions were identified to address the conflict areas identified in the NOF. These are shown in Figure 12.

The NOF will form part of the strategic case and POE for these projects as they progress to an SSBC.

## 10.2. Network Operating Framework lifecycle

This NOF is a live document that can be refined to complement and support future changes in relevant policies, land use and the network. The NOF has been developed following collaborative stakeholder workshop sessions and therefore incorporates stakeholder input and workshop outcomes. While informing strategic planning in the future through Master Planning and Business Cases, this live NOF is an iterative approach that can be further refined to encompass the outcomes from Master Planning and Business Cases. The strategic transport network developed for the five modes may need to be altered in future stages, however this would be justified and informed accordingly.

## 10.3. Network Operating Plans

The Network Operating Framework can be used to guide the development of Network Operating Plans. These plans would generally be used for summer peak events, particularly during holiday seasons. The Network Operating Plans will predominantly assist in the development of traffic management plans on such event days for each of the modes, depending on the required closures. The traffic management plans could consider operations such as diverting traffic away from areas affected by summer peak events.

## 11. APPENDIX A

This section summarises the alignment with planning and policy documents at a national, regional and local level.

Planning / Policy Documents	Commentary
<p><b>Government Policy Statement on Land Transport Funding</b></p> <p><b>GPS 2021/2022 – 2030/2031</b></p>	<p>The work completed is directly aligned with the current GPS and will support safety, better travel options, improving freight connections and climate change outcomes. The purpose of the Mangawhai Network Operating Framework is to identify modal priorities for corridors in the Mangawhai transport network. This will enable contributions to:</p> <ul style="list-style-type: none"> <li>• Safety – a significant contribution to safety in particular active modes.</li> <li>• Access (Transport Choice) – capable of making a significant contribution particular in walking and cycling mode choice, which in turn will support climate change objectives.</li> <li>• Freight connections – identification of the key routes to support efficient connections for freight and economic value.</li> </ul>
<p><b>Northland Regional Land Transport Plan (RLTP)</b></p>	<p>The Northland RLTP identifies three key problems:</p> <ul style="list-style-type: none"> <li>• Difficult geology which restricts the development of sustainable, resilient infrastructure which results in lost opportunities for regional economic development (including tourism)</li> <li>• Some communities have poor access to employment education and recreational opportunities. The region better needs to prioritise available investment</li> <li>• Proportion of unsealed road – heavy vehicles are often required to use unsealed roads to access arterial routes which is negatively impacting on the amenity and health of our communities</li> </ul> <p>It also lists its regional priorities as follows:</p> <ol style="list-style-type: none"> <li>1. Regional and national connectivity.</li> <li>2. Economic and tourism development (including addressing perceptions of travel in the region).</li> <li>3. Route resilience and security.</li> <li>4. Addressing constraints due to topography and geography.</li> <li>5. Future proofing and long-term planning.</li> <li>6. Reducing the environmental effects of the transport network.</li> <li>7. Greater alignment between central and local government.</li> <li>8. Considering the needs of the transport disadvantaged (includes addressing social deprivation).</li> <li>9. Improving transport choices in rural communities</li> </ol>

The Mangawhai Network Operating Framework responds to the regional problems identified in the RLTP for Northland. In particular the priorities of connectivity, economic and tourism development, long term planning and improving transport choice.

By improving safety and movements by mode other than private vehicle in Mangawhai, this will support the economic wellbeing for residents of Mangawhai, reducing transport costs. Also progress towards the Te Araroa Trail will encourage tourism and economic opportunities for the Mangawhai community.

---

**Tai Tokerau Northland  
Economic Action Plan  
(NEAP)**

This plan was developed in response to a 2015 Growth Study that identified economic opportunities to grow investment, jobs and incomes in Te Tai Tokerau. Transport was identified as a key enabler for this strategy with a particular focus on connectivity. Connectivity is emerging as one of the key problems within Mangawhai to be further interrogated.

---

**Twin Coast Discovery  
Route (TCDR) PBC and  
DBC**

The seven NZTA TCDR DBCs are currently in development and there are clear overlaps with the location of Mangawhai and addressing problems such as safety and connectivity between communities and using the transport system to enable opportunities.

Mangawhai is a key connector for two cycling routes proposed within the Cycle Implementation plan (as part of the TCDR DBC's).

---

**Kaipara Long Term  
Plan**

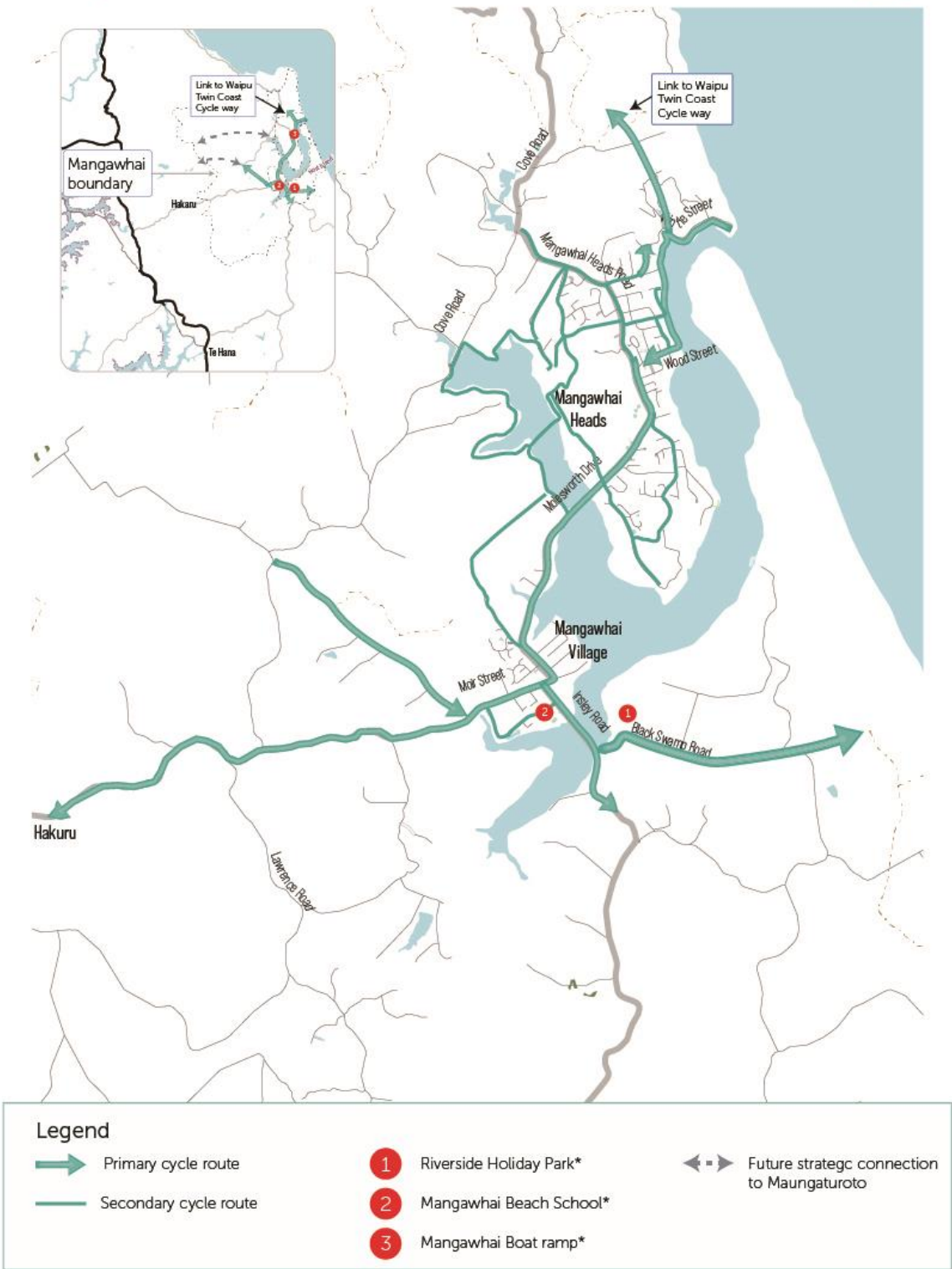
**LTP 2018/2028**

This plan sets out Council's financial strategy and position for the next 10 years for which an update to the plan is required every three years. This prioritisation work will directly inform the next LTP.

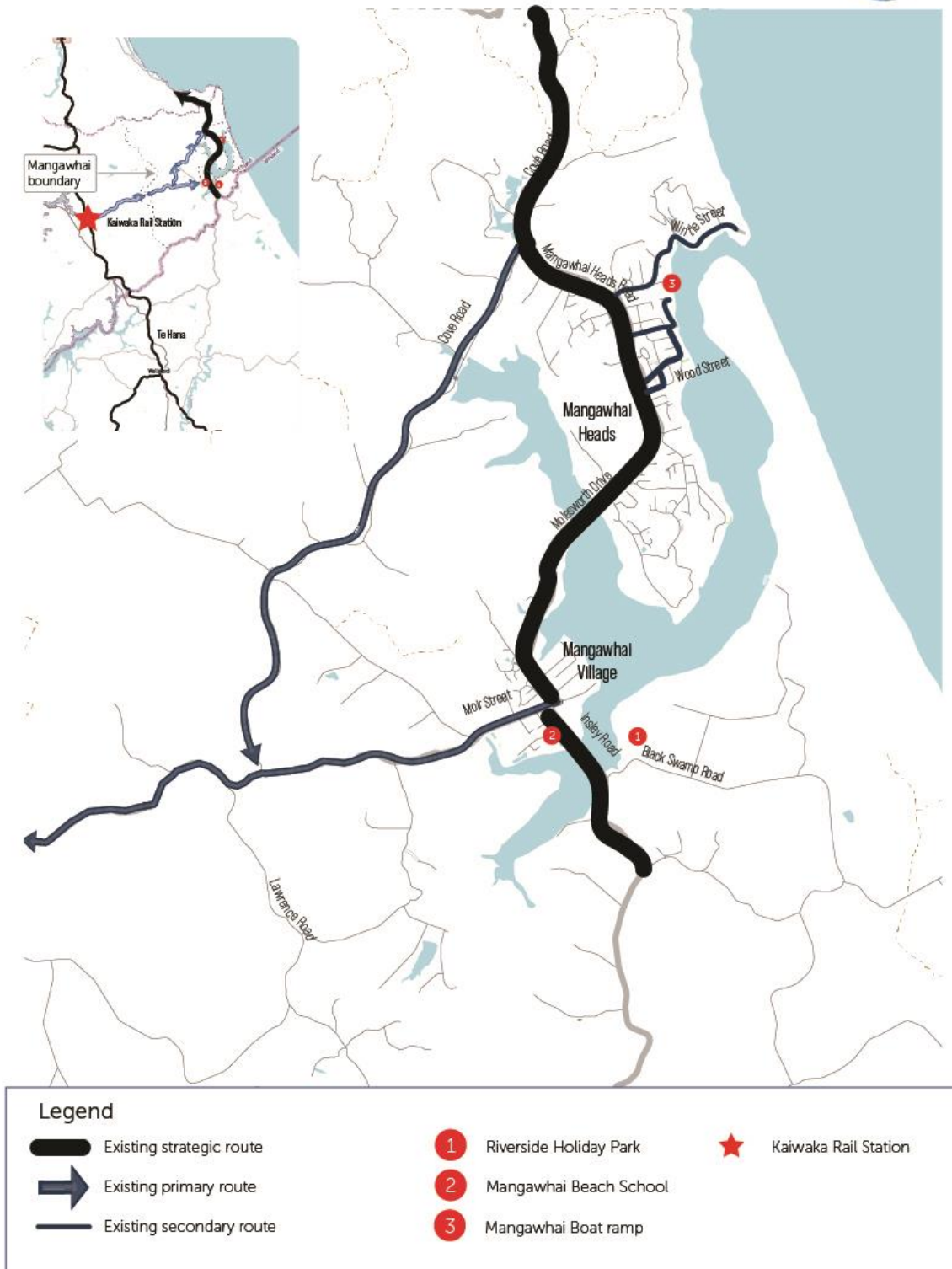
---

12. APPENDIX B

# Cycle Network

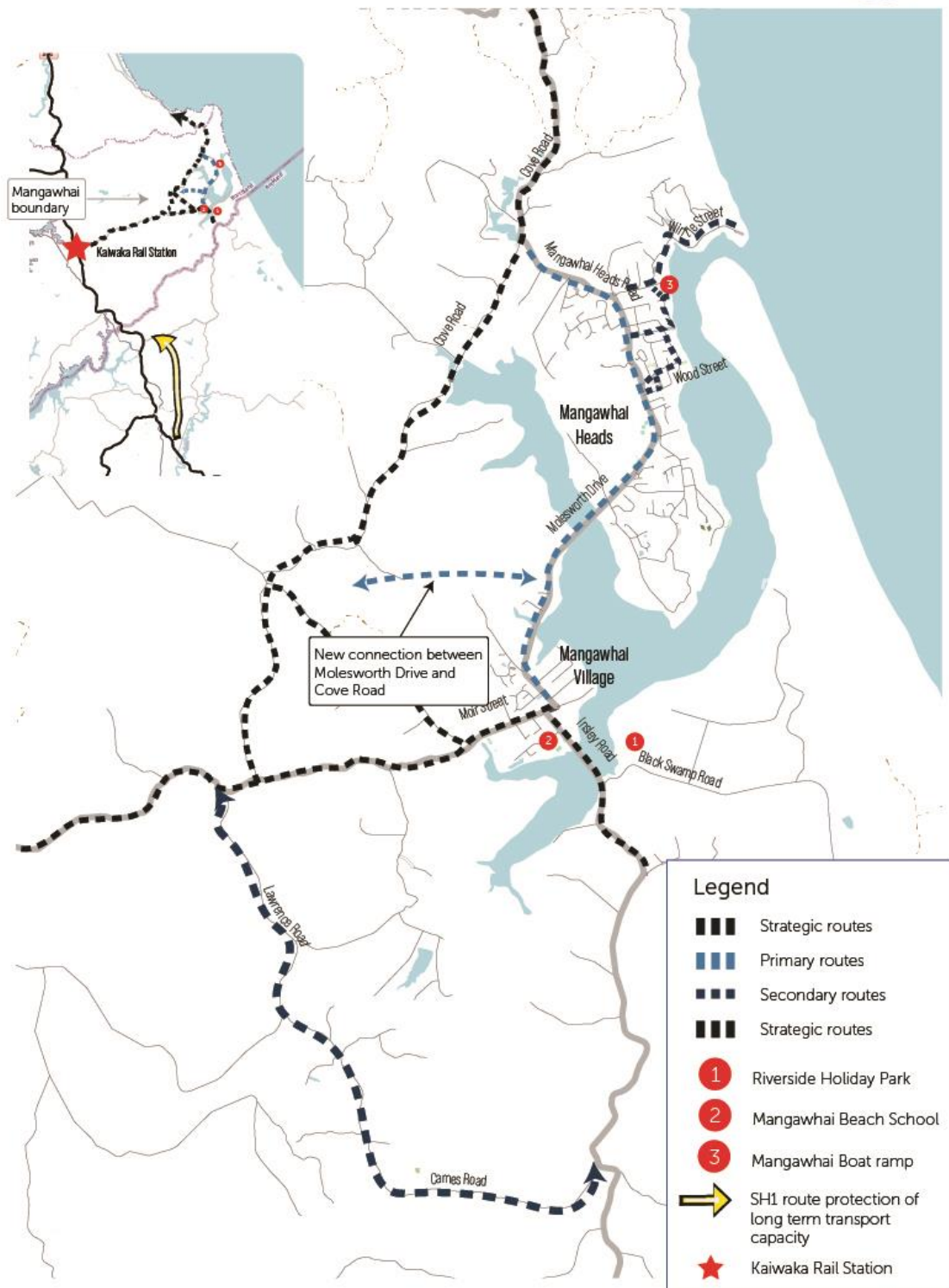


# General Traffic (Current Situation)

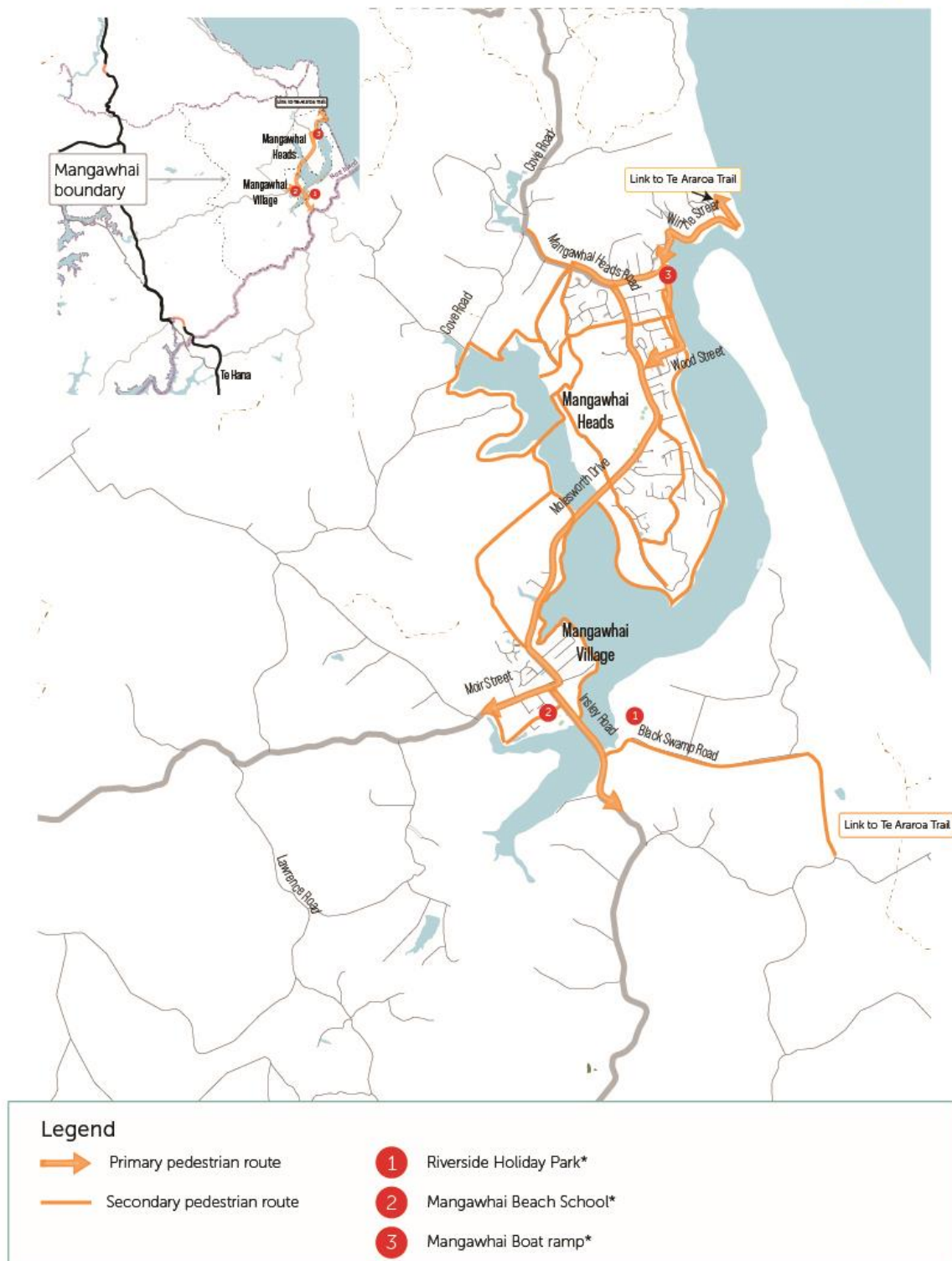




# General Traffic (Future Situation)



# Pedestrian Network



# Public Transport Network

