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Urban Active Modes Plan

Report prepared for

Far North District Council

December 2023

Cover photo: *Rangitahi from Kaitaia on scooters and bikes on a Sunday afternoon. 'No scooters allowed' signs are frequent around Central Kaitaia.*

Quality Assurance Statement		
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Executive Summary

Manaaki whenua, Manaaki tangata, Haere whakamua

Care for the land, care for the people, Go forward

The built environment and taiao (natural environment) affects our collective wellbeing, community health and equity. There is tremendous opportunity to improve public health outcomes for our tāngata (people) by providing choices for people to walk, wheel and cycle for their everyday transport.

Whilst the Far North District is largely rural, there are about a dozen key urban areas where people could use active transport for many daily needs. These towns are generally compact, so the distance between destinations is suitable for walking and biking.

Providing transport choices for people to walk, scoot or bike improves public health, accessibility, social equity, liveability / vibrancy of neighbourhoods, and the environment. It is especially important for rangatahi/children/teenagers, kaumātua/older adults, people with disabilities and others who cannot drive. It is also key to meeting FNDC's zero carbon goal for all communities by 2050.

This Urban Active Modes Plan analyses the current and recommended levels of service to inform walking network investment decisions across the rohe (district). Maps of each town show prioritised streets, although local knowledge will be required to confirm these priorities.

Footpath network coverage in each of the FNDC towns as a percentage of the total urban street length of each town is shown in the following graph. The distance (in kilometres) of coverage in each town are added as data labels. Three towns of comparable populations are also shown as benchmarks.

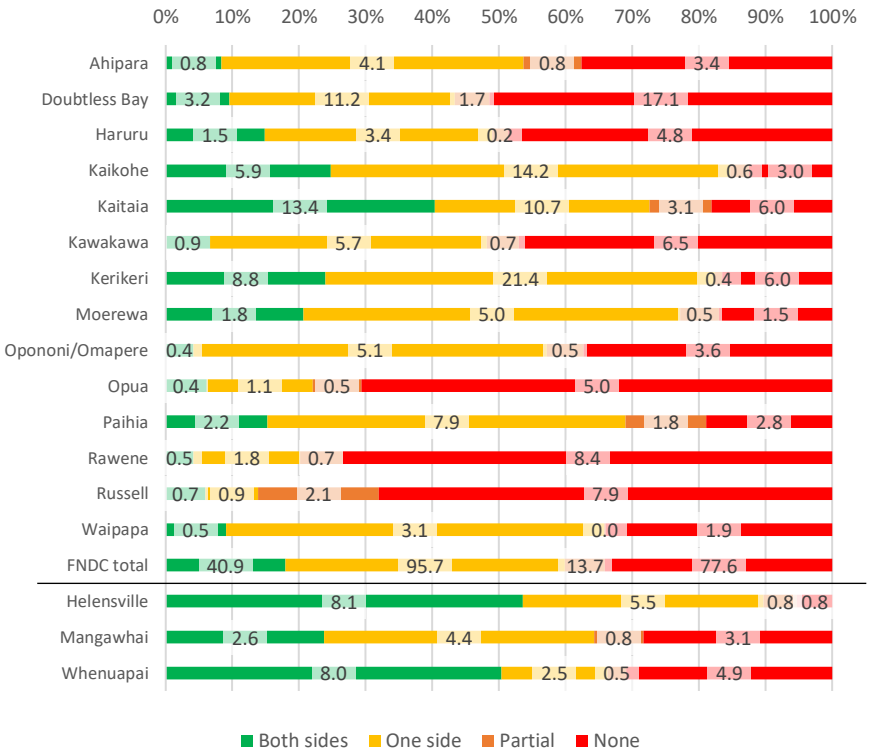


Figure ES-1 footpath network coverage and benchmark towns

Investment scenarios for the level of annual funding required to meet various levels of service are provided in the following table.

Table ES 1: investment scenarios based on return period (10, 20, 40 years)

Intervention	Investment outcome	Total cost to complete	Current BAU investment	Delivery years at BAU level	Annual investment (multiple of BAU years)		
					40 years	20 years	10 years
New footpaths to complete urban network	**75% of footpath network complete**	$47,800,000	$462,000	103	$1,195,000 (3x)	$2,390,000 (5x)	$4,780,000 (10x)
	100% of footpath network complete	$80,000,000	$462,000	173	$2,000,000 (4x)	$4,000,000 (9x)	$8,000,000 (17x)
Upgrade existing footpaths	**Widen to current PNG standards**	$109,600,000			$2,740,000	$5,480,000	$10,960,000
Upgraded or new crossings	**50% of network – low cost materials**	$162,000,000			$2,025,000	$4,050,000	$8,100,000
	50% of network – high cost materials	$415,900,000			$5,200,000	$10,400,000	$20,800,000

Figure ES 2: existing walking and cycling environment in Kerikeri. Greater investment may allow more safe system aligned infrastructure, such as raised crossings and (or) speed platforms

Table of Contents

Acronyms list

BAU	Business as Usual (investment level)
ITS	Far North Integrated Transport Strategy
LCLR	Low Cost Low Risk (funding stream within NLTP)
LTP	Long Term Plan
MCA	Multi-Criteria Analysis
NLTP	National Land Transport Programme (fund)
PLoS	Pedestrian Level of Service
PNG	Pedestrian Network Guidance
RAMM	Road Asset and Maintenance Management
RSP	Raised Safety Platform
TDM	Travel Demand Management
UAMP	Urban Active Modes Plan (this document)

1 Introduction

1.1 Purpose of this study

Far North District Council (FNDC) and Northland Transportation Alliance (NTA) have commissioned this Urban Active Modes Plan (UAMP) to investigate the existing and desired levels of service for active modes (primarily walking) in the urban areas of the district.

This plan recommends the required levels of funding to reach the desired level of service for active modes.

The UAMP focuses on the largest urban areas (generally more than 1,000 residents). The audience is council staff, Northland Transport Alliance and partnering organisations such as Waka Kotahi NZ Transport Agency. The overall aims of this project are to:

a) analyse the current and desired active mode levels of service,
b) conduct a gap analysis for project identification, and
c) propose investment scenarios for the level of annual funding required to meet the desired level of service

The Ngā kaupapa haupū rawa - Capital works programme has regular allocated funding for walking improvements (Table 1-1).

Table 1-1: Existing funding for walking and cycling

Ngā rori me ngā ara hikoi: roads & paths	LTP 2022/23 $000
Footpaths (per community board)	155
Low cost/low risk improvements	12,556
Footpath renewals (per community board)	172

The Low Cost Low Risk (LCLR) budget may be used to provide improved crossing facilities and safety improvements such as Raised Safety Platforms that benefit people walking and cycling.

This study focuses primarily on infrastructure within the street corridor (crossings, footpaths, other physical infrastructure). This means that trails and shared paths are largely excluded (unless they run alongside or within a road corridor).

1.2 Context

As the Far North rapidly grows in population and responds to the acknowledgment of climate change as one of the top risks it faces, the district is aiming to get more people walking and biking. This goal aligns with FNDC's zero carbon goal for all communities by 2050. Cyclone Gabrielle hit the Far North in February 2023 and showed the intensifying need to prioritise climate change adaptation and mitigation through reducing emissions.

Providing transport choices for people to walk, scoot or bike improves public health, accessibility, social equity, liveability / vibrancy of neighbourhoods, and the environment. It is especially important for rangatahi/children/teenagers, kaumātua/older adults, people with disabilities and others who cannot drive.

The district is largely rural, with three urban centres with more than 5,000 residents, five other towns with 1,000 – 2,000 residents, and many towns with fewer than 1,000 residents. Whilst the district is spread in landmass, there are many urban towns with a need for investing and implementing infrastructure to provide transport choices for residents' everyday trips. The key towns included in this urban plan are shown in Figure 1-1.

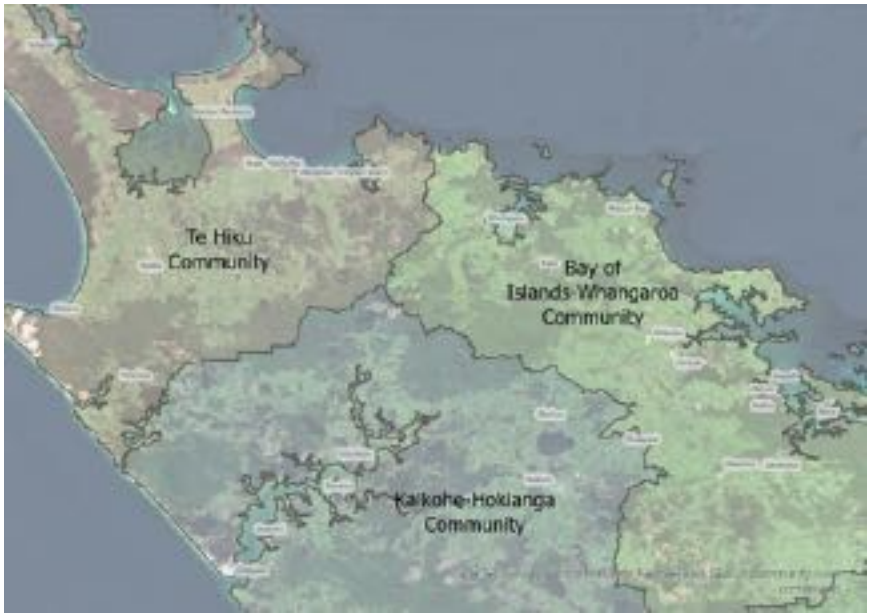


Figure 1-1: Far North District, with Far North community board areas

The Far North continues to rapidly urbanise as well as grow in population, with a substantial proportion of residents living in an urban area. The three key urban areas of the Far North are Kerikeri, Kaitāia and Kaikohe with respective populations of 7,164 people, 5871 people, 4,437 people at the 2018 Census[1]. Table 1-2 shows the walking and cycling mode share for these three largest towns. Table 1-3 shows the other ten towns included with their populations.

Given the project budget, selection was based on population. With the exception of state highways, smaller towns will have less traffic and therefore less need relative to larger towns. The methods could be applied to additional towns with future planning budgets.

Table 1-2: Urban vs district wide mode share (Census 2018)

	Work (%)		Education (%)	
Area	**Walk/jog**	**Bike**	**Walk/jog**	**Bike**
Kerikeri (avg. central and south)	8.9	0.7	23.5	4.8
Kaitāia (avg. west and east)	8.3	0.8	22.2	0.3
Kaikohe	9.6	0.4	31.0	0.0
Kerikeri, Kaitāia, Kaikohe avg.	8.9	0.6	25.6	1.7
Far North District (urban & rural)	4.6	0.4	11.5	1.0

Table 1-3: Towns included in the Urban Active Modes plan

Town	Community Board	Pop.
Ahipara (Ahiparapara)	Te Hiku	1,230
Doubtless Bay: Mangōnui – Coopers Beach – Cable Bay – Taipā	Te Hiku	2,036
Kaitāia	Te Hiku	5,871
Kaikohe (Kaikohekohe)	Kaikohe - Hokianga	4,437
Opononi / Ōmāpere	Kaikohe - Hokianga	546
Rawene	Kaikohe - Hokianga	498
Kawakawa	Bay of Island / Whangaroa	1,464
Moerewa	Bay of Island / Whangaroa	1,632
Kerikeri	Bay of Island / Whangaroa	7,164
Opua	Bay of Island / Whangaroa	1,137
Haruru	Bay of Island / Whangaroa	1,077
Paihia	Bay of Island / Whangaroa	1,512
Russell (Kororāreka)	Bay of Island / Whangaroa	762
Waipapa	Bay of Island / Whangaroa	870
	Total population of these 13 towns	30,236
	Total across the whole Far North District	65,250

[1] Note: the 2023 Census will provide a more accurate picture of the growing population and the extent to which people walk and cycle for everyday trips.

1.3 Concurrent and related projects

The Urban Active Modes Plan both is informed by, and informs other concurrent projects in the Far North. These include:

- **Kerikeri Transport Choices walking and cycling improvements** (Climate Emergency Relief Funded) aim to enhance the walking and cycling environment. Given the pre-requisite that only urban areas >10,000 residents were eligible, Kerikeri was the only project applied for in the Far North district. In contrast, the UAMP aims to equitably investigate FNDC communities.
- **Te Mahere o te ara tawhiti ki te Raki: The Far North Trails Plan** prioritises ten walking and cycling trails to connect communities with safe walking and cycling infrastructure and to provide more tourist routes as outlined by the Northland Walking and Cycling Strategy: '*Northland as one of the world's best coastal walking and cycling destinations where the journeys and stories are as impressive and memorable as the scenery.'*
- **Far North's Slow Streets Assessment** helps to inform Speed Management changes in the Far North through a geospatial lens. The UAMP used this data to prioritise locations for investment in crossing point interventions and footpaths in the Far North towns.
- **Urban Trails and Shared Paths:** aside from the data-driven prioritisation included in this plan, further prioritisation is planned to incorporate community views

Other recent related ViaStrada projects include:

- Hōne Heke / Cobham Road intersection investigation and scheme (September 2022 – March 2023)
- Kaikohe Local Area Traffic Management (LATM) investigation and options (May - December 2022)
- Moerewa LATM investigation and options (March 2022; part II November 2022)
- Kerikeri Road pedestrian median refuges (Jan 2022)
- Far North walking and cycling network StoryMap and web map (August 2020 – September 2021)
- Pou Herenga Tai TCCT Safety and Network Functionality Audit (May 2021) with associated webmap
- Pou Herenga Tai TCCT Trust Policy Manual review (June 2021)
- Pou Herenga Tai TCCT Performance Plan and Warrant of Fitness (August 2021)
- Far North District Plan Chapter 15 Transport review based on best-practices and benchmarking

Note: All ViaStrada projects use the NTA/ViaStrada points and lines that have been developed for FNDC, Whangarei District Council and NTA. The base points and lines layers were initiated for work undertaken in 2020 on creating a Northland Walking and Cycling Webmap and StoryMap.

Figure 1-2: Far North Trails Plan highest priority projects

1.4 Strategic Alignment

This section assesses the alignment between urban walking and cycling and strategies at all levels of government. This streamlines any future business cases and maximises the likelihood of Low-Cost Low-Risk (LCLR) programme approval.

Enhancing walking and cycling in the district aligns with Government direction for climate change mitigation with the Emissions Reduction Plan, the Government Policy Statement on Land Transport, the Transport Outcomes Framework, as well as the National Policy Statement for Urban Development (NPS-UD). The UAMP aligns with Te Ara ki te Ora – Road to Zero and Speed Management plans for safe and appropriate speeds. There are regional and district plans such as the Northland Walking and Cycling Strategy and Far North Integrated Transport Strategy. All relevant national, regional and district plans, with their alignment to this plan are presented in Table 1-4.

Table 1-4: National, regional and local strategic alignment of the Far North Urban Active Modes Plan

Document	Alignment to the Urban Active Modes Plan	Alignment
National		
Transport Outcomes Framework (2020)	The Transport Outcomes Framework sets out the five core outcomes that Aotearoa's transport system contributes to improving people's wellbeing and liveability of places. These outcomes are: • **Inclusive access**: Enabling all people to participate in society through access to social and economic opportunities, such as work, education, and healthcare. • **Economic prosperity:** Supporting economic activity via local, regional, and international connections, with efficient movements of people and products. • **Healthy and safe people:** Protecting people from transport-related injuries and harmful pollution and making active travel an attractive option. • **Environmental sustainability:** Transitioning to net zero carbon emissions, and maintaining or improving biodiversity, water quality, and air quality. • **Resilience and security:** minimising and managing the risks from natural and human-made hazards, anticipating, and adapting to emerging threats, and recovering effectively from disruptive events. The benefits of investing to improve walking and cycling and encourage uptake of these modes will contribute to each of these outcomes.	Strong
Government Policy Statement (GPS) on Land Transport (2021)	The Government Policy Statement (GPS) on Land Transport 2021 outlines the Government's priorities for land transport, providing direction and guidance to those who are planning, assessing, and making decisions on transport investment for the next 10 years. The GPS 2021 builds on the strategic direction of	Very Strong

Document	Alignment to the Urban Active Modes Plan	Alignment
	the previous GPS, and identifies four strategic priorities for investment: safety, better travel options, improving freight connections and climate change. Improving walking and cycling throughout the Far North will contribute to providing better travel options, improve safety and provide action towards climate change targets.	
Road to Zero (2020–2030), Waka Kotahi	Waka Kotahi's Road to Zero strategy articulates how the road network is designed and how road safety decisions are made to accomplish the vision where no one is killed or seriously injured in road crashes in New Zealand. As improving pedestrian and cycling safety is integral to FNDC and NTA's work plan, there is a very strong alignment with the 'Infrastructure Improvements and Speed' and 'Road user choices' focus areas of the strategy.	Very Strong
Emissions Reduction Plan (2022), Ministry for the Environment	The Emissions Reduction Plan (ERP) identifies how Aotearoa New Zealand can support the global efforts to achieve long term emissions targets. It recognises the need to improve affordable, sustainable transport options to transition to a low-emissions economy, as transport is one of New Zealand's largest sources of greenhouse gas emissions. An area of focus is to reduce reliance on cars and support people to walk, cycle and use public transport. It aims to do this through "improved urban form and providing better travel options, particularly in our largest cities". The outcomes of this urban active modes plan are to improve walking and cycling, which strongly aligns with the ERP.	Very Strong
Cycling Action Plan (2023), Waka Kotahi	The Waka Kotahi Cycling Action Plan (CAP) outlines the strategic direction to achieve a transformational increase in cycling in Aotearoa. The Plan seeks to accelerate changes to enable local councils to plan safe and connected active transport networks, which strongly aligns with the direction and outputs of this plan.	Very strong
National Policy Statement on Urban Development (2020), Ministry for the Environment	The National Policy Statement on Urban Development (NPS-UD) aims to ensure New Zealand's towns and cities are well-functioning urban environments that meet the changing needs of the country's diverse communities. It removes overly restrictive barriers to development to allow growth 'up and out' in locations that have good access to existing services, public transport networks and infrastructure.	Moderate
Regional		
Northland RLTP 2021–2027	The Regional Land Transport Plan provide a programme of works for the relevant RCA's (NRC, FNDC, WDC, KDC and Waka Kotahi NZTA) to bid for funding assistance from the National Land Transport Fund. The RLTP outlines the importance of funding urban walking and cycling infrastructure in Northland and the effects of 'contributing to healthy and vibrant communities and a growing economy'.	Strong

Document	Alignment to the Urban Active Modes Plan	Alignment
Northland Walking and Cycling Strategy (2018)	The strategy aims to provide a strong tactical framework to support the development and implementation of district council walking and cycling strategies. It has the vision for '*Northland to be one of the world's best coastal walking and cycling destinations where the journeys and stories are as impressive and memorable as the scenery*.' The strategy supports the development of local and urban networks.	Strong
Twin Coast Discovery Route and Northland Journeys Northland Integrated Cycling Implementation Plan (2019)	The Northland Integrated Cycling Implementation Plan gives a programme for building these trails to deliver a wider network of walking and cycling trails. The plan particularly focuses on inter-town regional trails and developing a network from as far south as Langs Beach to Kerikeri in the North, and the Hokianga in the west. The relevance to the urban active modes plan is that trails begin and end in towns, so providing for urban walking/cycling has co-benefits for inter-town trails.	Moderate
Northland Visitor Strategy 2008	Developed by Northland Inc, this strategy outlines the aim for tourism in Northland to '*contribute to a vibrant economy that provides choices and opportunities for people to live, work and in Northland*'.	Moderate
Local		
Far North District Council Long Term Plan 2021-2031	The long term plan outlines the a number of community outcomes such as '*Communities that are healthy, safe, connected and sustainable.*' This Urban Plan will help to achieve this goal, through directly contributing toward creating '*well planned, safe and integrated networks for walking and cycling that contributes to our communities' quality of life*.'	Strong
Far North District Plan	The District Plan section 15 Transportation notes that most footpaths and cycleways are provided at the time subdivision of land is approved but also aims to encourage sustainable transportation. It notes that "People with disabilities often have difficulty navigating safe and efficient access routes due to fragmented footpaths…" (15.1 p.1)	Moderate
Far North Integrated Transport Strategy	The strategy identifies that the major (60% weight) problem is that changing demographics and land uses increase pressure to provide a better, safer transport system with more travel choices. The evidence for this includes ageing populations and a lack of footpaths and safe crossing points. The recommended programme includes the development of a plan to improve pedestrian access in urban areas (p.107) – this plan.	Very Strong
Far North Activity Management Plan	The Transport Activity Management Plan (AMP) includes data on walking, cycling and public transport, as well as measures of community satisfaction and the quality/condition of key assets such as footpaths.	Moderate

2 Existing conditions and Pedestrian Level of Service (PLoS)

2.1 Footpath network coverage

Utilising RAMM data for footpath attributes and footpath condition surveys, the footpath coverage and quality was summarised for each street segment (using the most recent MegaMaps corridor geometry, published in March 2023). These were classified and displayed by coverage depending on footpath length compared to corridor length as shown in Table 2-1.

The footpath network coverage maps can be found in two forms:

- **Static maps** – attached as an appendix to this Urban Active Modes Plan report.
- **Online maps** – interactive ArcGIS online WebMap (view only), and interactive ArcGIS StoryMap

The WebMap enables toggling on and off the following:

- Footpath extents (both sides, one-side, partial, or none)
- Footpath width (adequate or inadequate per PNG)
- Existing conditions (bad, poor, acceptable, fair and good).

Table 2-1: footpath classification

Outcome	Colour	Criteria
Both sides	Green	If both sides have footpath length **>** 90% segment length
One side	Yellow	If one side has footpath length > 90% of segment length
Partial	Orange	Partial if one side has footpath length > 25% of segment length
None	Red	Otherwise

The thresholds chosen for categorising each corridor length in Table 2-1 were adjusted based on an iterative process of manually checking. Footpaths were analysed for the fourteen studied towns in the Far North, as well as Mangawhai (Kaipara District Council), Helensville and Whenuapai (Auckland Transport). An example is given in Figure 2-1.

Figure 2-1: footpath network coverage in Central Kaitāia

Note on manual checking: The criterion threshold for footpath length appears quite low as there tended to be gaps between adjacent footpath lines (across accessways etc). Additionally, the footpath length for each side of the road was capped to be no more than the corridor length as some RAMM footpath polygons had duplicates/overlapping polygons.

Built environments that are easy to walk and wheel (in the case of people with physical disabilities) are often referred to as walkable places and these have high 'walkability'. As per the Waka Kotahi NZTA

Pedestrian Network Guidance, there are seven key characteristics of walkable pedestrian network characteristics: safe, inclusive, comfortable, direct, legible, connected and attractive. As of 2023, there are no 'perfect' walkable small towns in Aotearoa New Zealand, but some that have some of these walkable network characteristics. Four towns (listed in Table 2-2) were identified and these may include some or all of the following:

- more comprehensive footpath network
- more safe crossings (including raised crossings)
- speed management such as traffic calming devices

Table 2-2: benchmarking comparison towns, with populations and local authorities

Town	Local Authority	Population (2018 Census)
Helensville	Auckland Transport	2,787
Mangawhai	Kaipara District Council	936
Whenuapai	Auckland Transport	3,888

Figure 2-2: mobility scooter rider, Broadway, Kaikohe. A substantial number of people walking, wheeling and biking for everyday trips were observed in UAMP fieldwork

2.2 District wide LoS assessment

Figure 2-3 shows the percentage of each town's footpath network coverage from green (footpaths on both sides) to red (no footpaths). The kilometres of footpath in each category is provided as a data label, and three benchmark towns are shown for reference.

Figure 2-3: footpath network coverage

2.3 Suitable crossing types

The most suitable crossing type for each street section was analysed using the most recent MegaMaps corridor geometry, published in March 2023. Corridors were split at intersections to assess each block separately, and only corridors within urban areas were analysed. Following the Waka Kotahi crossing selection flow chart process as per the Pedestrian Network Guidance, each street segment was given a score for the appropriate crossing types on that segment of street. These are categorised into six groups. Posted speed limits, traffic volume and road stereotype/lane count were some of the variables used in the crossing selection flow chart.

The lower the group number, the more safety risk there is crossing a road and therefore the higher level of provision required. An example of the assignment for a sample town is shown in Figure 2-4.

2.4 Barriers to walking and cycling

Public engagement undertaken for the Trails Plan included an online survey answered by 228 people from most of the towns. The map-based engagement included 126 comment pins, with many of these located in urban areas. The most significant barriers included “no paths or safe cycleways where I want to go”, “speed of cars”, and “path surfaces in poor condition” as shown in Figure 2-5.

Another barrier to people walking and cycling is land-use decision-making. For example, two major large format retailers relocated their high trip generating businesses from the centre of Kaitāia to the northern urban periphery, substantially reducing the ease of access to these amenities by walking and cycling and town centre vitality.

Figure 2-4: suitable crossing types for each street segment in Central Kaitāia

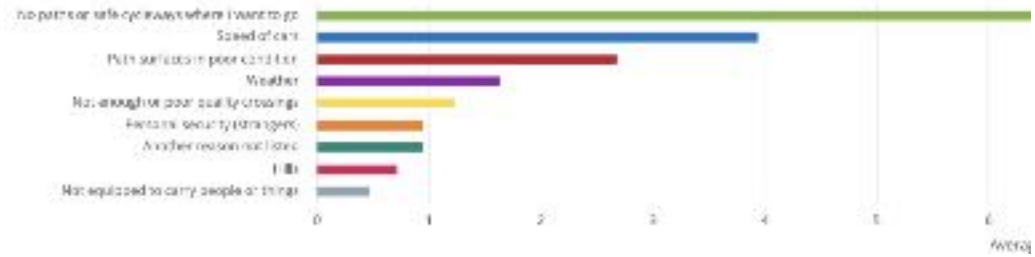


Figure 2-5: main barriers to walking or cycling

3 Recommended projects

3.1 District wide assessment

Existing budgets (from the 2023/24 annual plan) are $470,000 per ward per year of new works (level of service improvement) footpaths (approx. $156,000 per community board) and $501,000 for footpath renewals (approx. 167,000 per community board). Table 3-1 provides potential investment scenarios to achieve various outcomes for footpaths and crossings. At current levels of investment it will take many decades to complete 60%, 75% or 100% of the footpath network to the pedestrian network guidance standard.

3.2 Assumptions and limitations

There are a variety of assumptions and limitations to this investigation and listed in Table 3-2. The analysis process and data dictionary are outlined in Appendix A.

Table 3-1: investment scenarios based on return period (10, 20, 40 years)

Intervention	Investment outcome	Total cost to complete	Current BAU investment	Delivery years at BAU level	Annual investment (multiple of BAU years)		
					40 years	20 years	10 years
New footpaths to complete urban network	**60% of footpath network complete**	$28,400,000	$470,000	60	$710,000 (1.5x)	1,420,000 (3x)	2,840,000 (6x)
	75% of footpath network complete	$47,800,000	$470,000	102	$1,195,000 (3x)	$2,390,000 (5x)	$4,780,000 (10x)
	100% of footpath network complete	$80,000,000	$470,000	170	$2,000,000 (4x)	$4,000,000 (9x)	$8,000,000 (17x)
Upgrade existing footpaths	**Widen to current PNG standards**	$109,600,000			$2,740,000	$5,480,000	$10,960,000
Upgraded or new crossings	**50% of network – low cost materials**	$81,000			$2,025,000	$4,050,000	$8,100,000
	50% of network – high cost materials	$208,000			$5,200,000	$10,400,000	$20,800,000
Non infrastructure actions	Non-infrastructure actions have been excluded as these have not been quantified. Non infrastructure actions may include education, encouragement, engagement and other funding sources.						

Table 3-2: limitations of methodology

Limitation	Detail
Analysis of street segment vs. locations	Appropriate crossing types are for each street segment, rather than each location. The location and spacing of crossings should be provided every 80 to 100 m in urban areas. The provided maps may support assessment of existing crossings and demand generators.
Crossing groupings with unspecified crossing types	Groupings do not specify a particular crossing treatment (e.g. group 3 has raised signalised crossing or raised zebra crossing or pedestrian/median refuge). The costings for each crossing grouping included a highest cost (treatment type).
Footpath scoring	The analysis compared corridors with existing footpaths but these may be in poor condition or incomplete. Segments were categorised into four groups based on the coverage and then scored and ranked within each group, meaning that every segment in group 1 had a greater priority than every segment in group 2. Refer to Appendix A for more detail.

3.3 Maps

For each town, three maps are included at the end of this report (before the appendix on methodology).

3.3.1 Appropriate crossing types

Every street segment in the urban network is given a categorisation of the types of crossings that would be appropriate.

- Greater priority (need for investment) is shown by thicker lines.
- Components that make up the prioritisation include: appropriate crossing type, AADT, slow streets scores and ONF. Further explanation is given in Appendix A.

For each crossing grouping one or more of the following treatments (Figure 3-1) could be used.

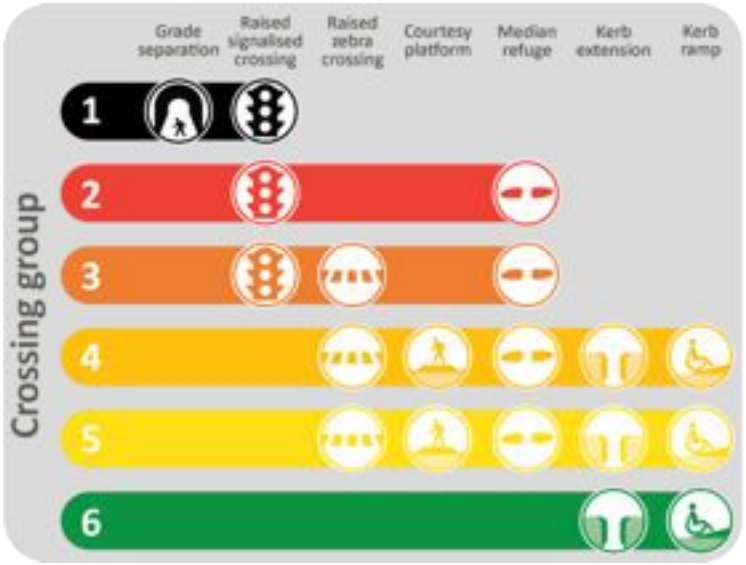


Figure 3-1: appropriate crossing groups

3.3.2 Existing footpaths

Existing footpath provision is shown by absence, partially on one side, fully present on one side, or both sides. These maps exclude the condition assessment ratings.

3.3.3 Footpath improvement investigation priority

Every street segment in the urban network has an ideal footpath coverage (either both sides or one side). This is based on Waka Kotahi NZ Transport Agency's Pedestrian Network Guidance, shown in Table A-7. The footpaths were broken into four groups based on the existing and intended coverage:

1. Group 1: No footpath
2. Group 2: Incomplete footpath
3. Group 3: Footpath on one side (but should be on both)
4. Group 4: Ideal footpath coverage

A higher score means a higher priority (need for investment) and shown by thicker lines. Components that make up the prioritisation include:

- **Length gap** *(only for partial existing footpaths – groups 2 and 3)*: Greater the extent of the gap, the higher priority
- **Existing condition from field surveys** *(only for existing footpaths – groups 2,3,4):* Poorer condition = higher priority
- **Extra width required** (*average if footpaths on both sides (only for full length existing footpaths – groups 3 and 4)):* Greater width needed = higher priority
- **One Network Framework** *(groups 1-4):* Streets with greater place value (Main Streets, Activity streets and urban connectors) are given higher priority
- **AADT** *(groups 1-4):* Greater volumes of vehicles = higher priority

Display filters

Where the existing footpath provision (e.g. two sides) equalled the ideal footpath provision (as per the Pedestrian Network Guidance), these lines were excluded by a display filter.

Selection of towns for assessment

Table 3-3: towns included in the UAMP

Community Board	Towns
Te Hiku	Ahipara, Kaitāia, Taipa – Cable Bay, Māngonui – Coopers Beach
Kaikohe / Hokianga	Ōmāpere, Rawene, Kaikohe
Bay of Islands / Whangaroa	Moerewa, Kawakawa, Russell, Opua, Paihia, Haruru, Kerikeri, Waipapa

The selection of towns was based purely on population and within the constraints of the project budget. With the exception of state highways (not under FNDC control), the smallest towns will have less traffic and typically less need relative to the busier traffic environments in larger towns.

However, the methods described in this assessment could be repeated for additional towns subject to future budget allocation for planning work.

4 Non-infrastructure actions and funding

4.1 Education and encouragement

The FNDC Integrated Transport Strategy includes various non-infrastructure actions:

- Ride share services
- school and workplace travel plans; Bikes in Schools; walking school buses
- culture change through time specific events like a summer of active travel, Biketober or Aotearoa Bike Challenge
- on demand total mobility services and the NDHB daily shuttle service from Kaitāia to Whangārei.

Far North REAP (Rural Education Activities Programme) staff are ideally suited to help with prioritisation of projects or lead programmes in schools like Feet First.

Monitoring of these investments could be aligned with the '*healthier community'* key performance indicator, by measuring perceptions of safety and wellbeing using FNDC customer surveys.

4.2 Engagement

FNDC may continue to harness whakawhanaungatanga (relationship building) between council and schools with in-school workshops as exemplified by the Kerikeri Primary School[2]. For example, school students could identify all the crossing points in their town while travelling to and from school.

[2] https://www.fndc.govt.nz/Whats-new/Latest-news/%E2%80%98Design-jam%E2%80%99-encourages-kids-to-improve-Hone-Heke-Road (May 2023)

Engaging with older adults and creating age friendly environments is of high value and use, having co-benefits for other groups of people (people with disabilities, tamariki and the wider public). With an aging population, the needs of older adults will continue to increase in importance. Examples of physical infrastructure that can help older adults includes: step free crossings (at height of kerb), footpaths free of tripping hazards and street furniture such as seating. Engagement with local people to hear their needs for physical infrastructure will result in the best overall outcomes.

4.3 Funding

Funding may be available from the following NLTP (21-24 investment here) work categories or other sources.

Table 4-1: funding sources

NLTF WC 911	TDM in activity management planning
NLTF WC 421	TDM and behaviour change
NLTF WC 432	Safety promotion education and advertising
Community groups	Rotary, Lions
Trusts	JR McKenzie Trust, ASB & TSB Trusts
Sport NZ funds	Supporting people to be more active
MBIE	If project is part of the NZ Cycle Trail
DIA grants	Gaming funds help build strong communities
Community Matters	The key dates page is a useful listing of deadlines

Infrastructure funding may not be exclusively through NLTP walking and cycling work categories. Also, projects that improve walking and cycling infrastructure often fulfil other priorities such as road safety, resilience and maintenance or vice versa:

- Crossing improvements support reduced speeds identified in speed management plans
- Kerb and channel renewals should improve crossings
- River stopbanks may include walking and cycling paths

4.4 FNDC Engineering Standards and District Plan

This table provides suggested updates to the FNDC Engineering Standards (version 0.6 last updated 2023) and District Plan.

Table 4-2: recommended design aspects that may influence the FNDC Engineering Standards and District Plan and vice versa

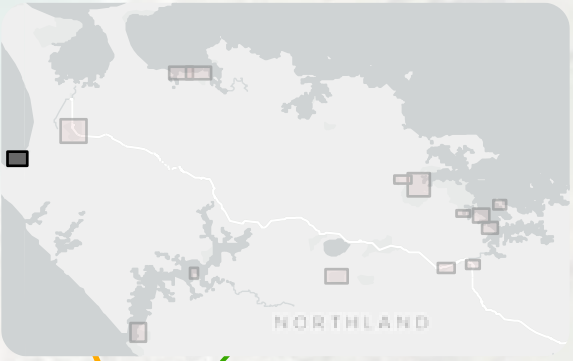
Design aspect	Recommendations
Recommended crossing types	Appropriate crossing types vary by a number of factors including vehicle volumes, speeds and One Network Framework category. Crossings should include primary safe system interventions such as providing vertical deflection (e.g. raised safety platform) to reinforce the appropriate speeds for locations where pedestrians or people on bikes may interact with drivers.
Spacing / frequency of crossings	Research suggests that at grade crossings should be provided every 80 to 100m in urban environments (Global Street Design Guide). The frequency and spacing of crossings directly affects the pedestrian network characteristics as discussed in Waka Kotahi NZTA's Pedestrian Network Guidance.
Footpath provision	Guidance on the provision of footpaths (both sides or one side) for new roads and existing roads is given in Waka Kotahi NZTA's Pedestrian Network Guidance.
Footpath types / widths	Guidance on the type and width footpaths for each One Network Framework location is given in Waka Kotahi NZTA's Pedestrian Network Guidance.

Ahipara
Appropriate crossing types

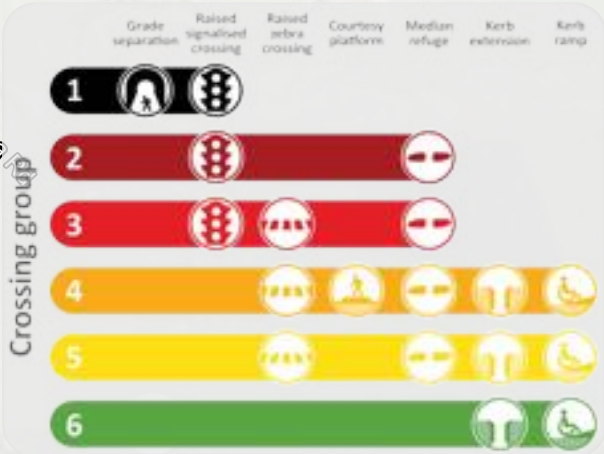
Higher priority is shown by thicker lines

Kura / school

Marae



Kaka St
Kotare St
Kakapo St
Weka St
Takahe Rd
Moa St
Tui St
Sandhills Rd
Kokopu St
Ahipara Rd
Foreshore Rd
Tasman Hts
Roma



0 0.25 0.5 1 Kilometers

Ahipara
Existing footpath network

Ahipara

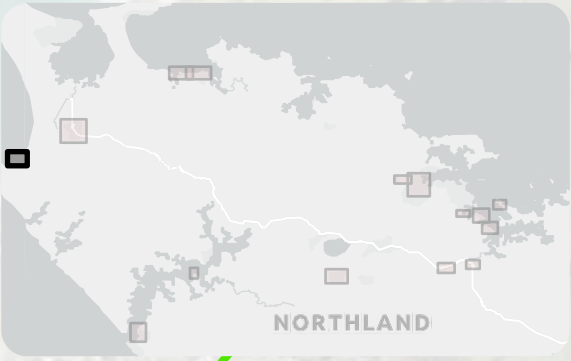
Kura / school

Marae

Priority for investigation

Lower priority

Higher priority



Kaka St

Kakapo St

Weka St

Kotare St

Takahe Rd

Moa St

Sandhills Rd

Tui St

Kokopu St

Ahipara Rd

Foreshore Rd

Tasman Hts

Roma Rd

0 0.25 0.5 1 Kilometers

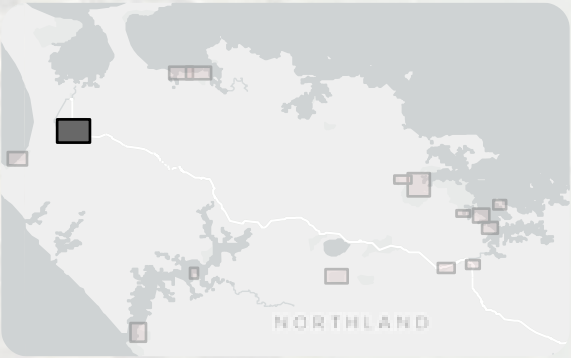
Where the existing footpath provision matches the ideal, these footpaths have been excluded

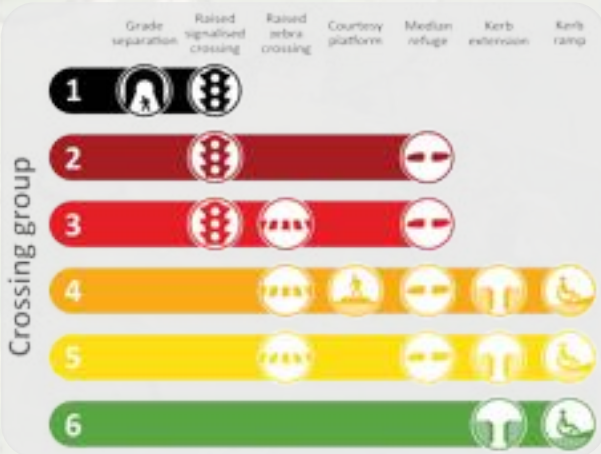
Kaitāia
Appropriate crossing types

Higher priority is shown by thicker lines

Kura / school

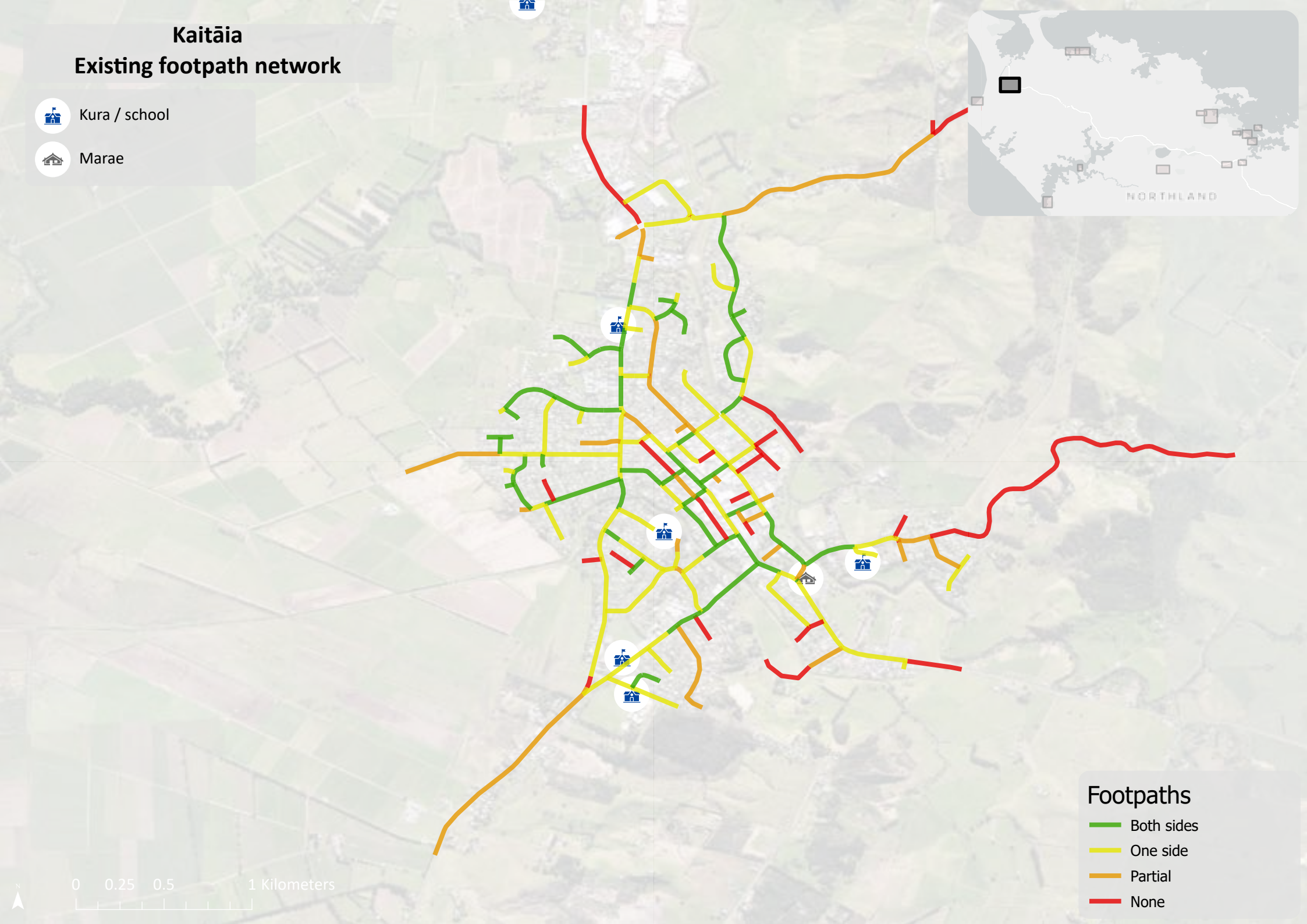
Marae





0 0.25 0.5 1 Kilometers

Kaitāia
Existing footpath network



Kaitāia

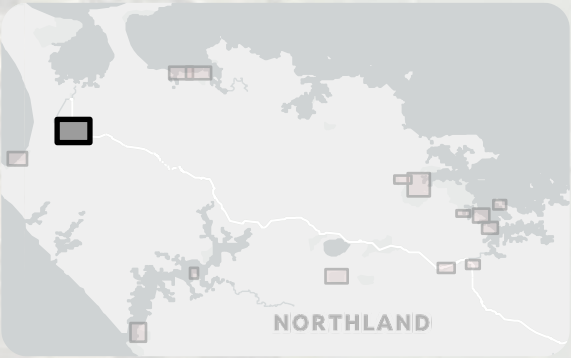
Kura / school

Marae

Priority for investigation

Lower priority

Higher priority



0 0.25 0.5 1 Kilometers

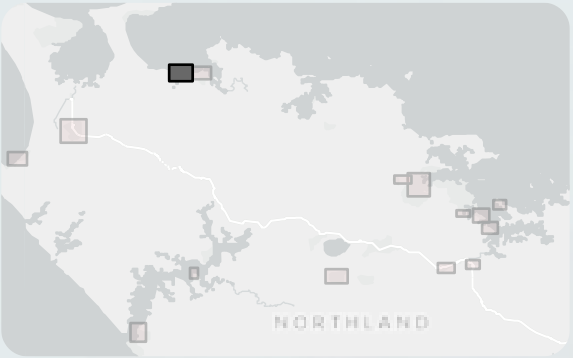
Where the existing footpath provision matches the ideal, these footpaths have been excluded

Taipa - Cable Bay
Appropriate crossing types

Higher priority is shown by thicker lines

Kura / school

Marae



Foreshore Rd
Adamson Rd
SH 10
Stratford Dr
Leslie Rd
Morey Rd
Powells Rd
Eagles Way
Block Rd
Cable Bay
Opoi Lane
Ryder Rd
Packard Rd
Oruru Rd
Olive View Heights Dr
Taipa Heights Dr

0 0.25 1 Kilometers

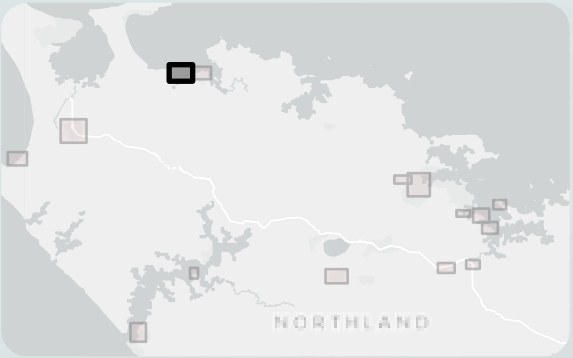
Crossing group

1
2
3
4
5
6

Taipa - Cable Bay
Existing footpath network

Kura / school

Marae



Foreshore Rd
Adamson Rd
SH 10
Stratford Dr
Leslie Rd
Morey Rd
Powells Rd
Eagles Way
Ryder Rd
Packard Rd
Oruru Rd
Olive View Heights Dr
Opoi Lane
Spicer Rd
Cable Bay Block Rd
Taipa Heights Dr

0 0.25 1 Kilometers

Footpaths

- Both sides
- One side
- Partial
- None

Taipa - Cable Bay

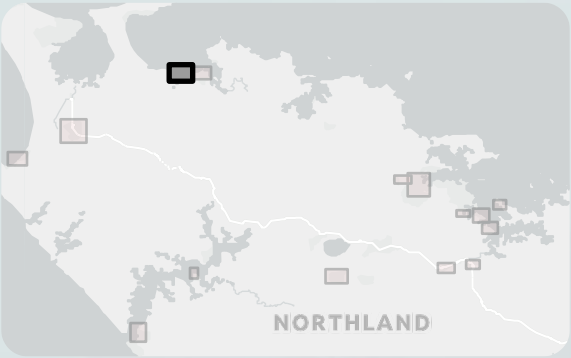
Kura / school

Marae

Priority for investigation

Lower priority

Higher priority



Foreshore Rd
Adamson Rd
SH 10
Stratford Dr
Leslie Rd
Morey Rd
Powells Rd
Eagles Way
Cable Bay Block Rd
Spicer Rd
Opoi Lane
Olive View Heights Dr
Ryder Rd
Packard Rd
Oruru Rd
Taipa Heights Dr

0 0.25 1 Kilometers

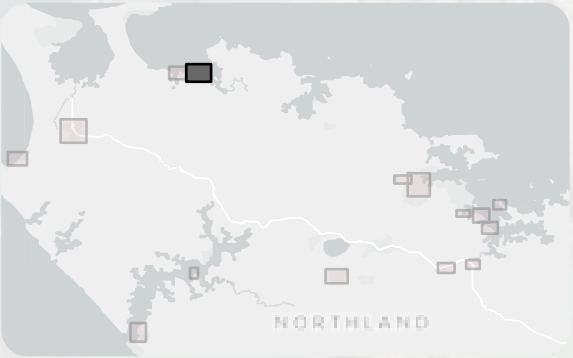
Where the existing footpath provision matches the ideal, these footpaths have been excluded

Mangōnui - Coopers Beach

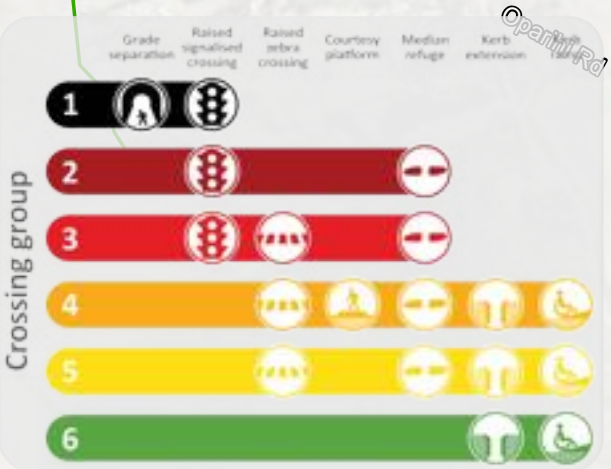
Higher priority is shown by thicker lines

Kura / school

Marae

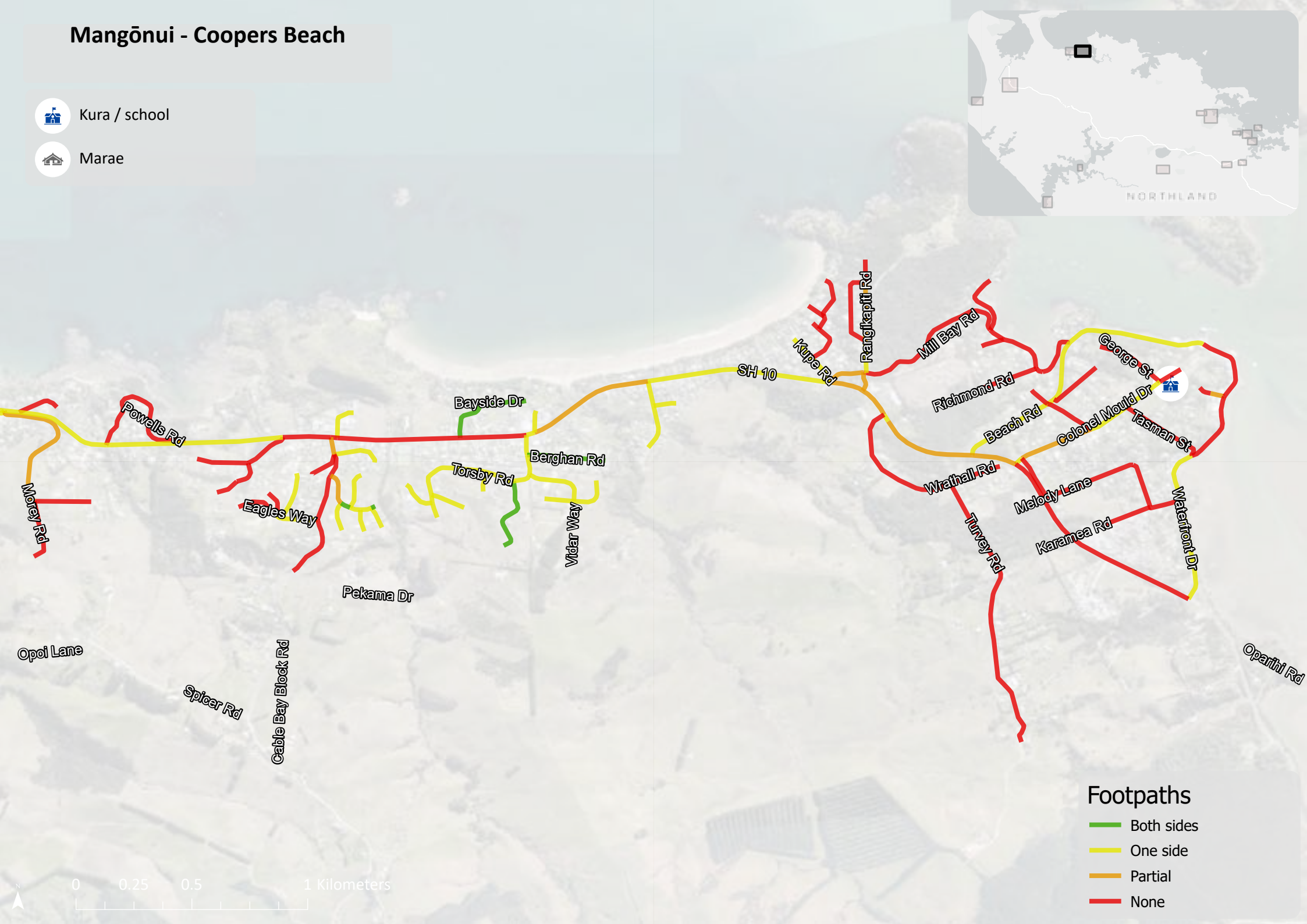


SH 10
Kupe Rd
Rangikapiti Rd
Mill Bay Rd
George St
Richmond Rd
Beach Rd
Colonel Mould Dr
Tasman St
Wrathall Rd
Melody Lane
Karamea Rd
Waterfront Dr
Turvey Rd
Opanuku Rd
Bayside Dr
Powells Rd
Berghan Rd
Torsby Rd
Vidar Way
Eagles Way
Morey Rd
Pekama Dr
Opoi Lane
Spicer Rd
Cable Bay Block Rd



0 0.25 0.5 1 Kilometers

Mangōnui - Coopers Beach



Mangōnui - Coopers Beach

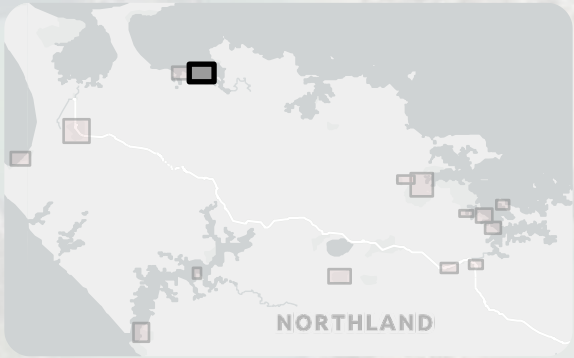
Kura / school

Marae

Priority for investigation

Lower priority

Higher priority



0 0.25 0.5 1 Kilometers

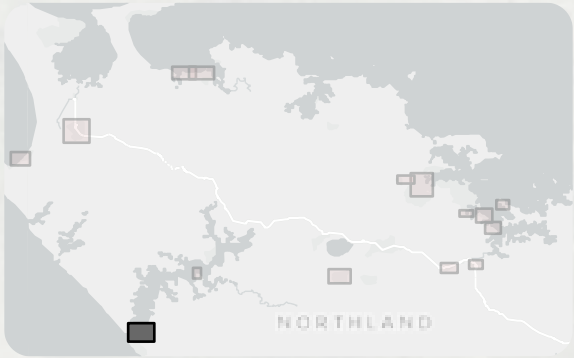
Where the existing footpath provision matches the ideal, these footpaths have been excluded

Ōmāpere

Higher priority is shown by thicker lines

Kura / school

Marae



Fatiile Cres

Baker Dr

SH 12

Arina St

Kokohuia Rd

Martin Rd

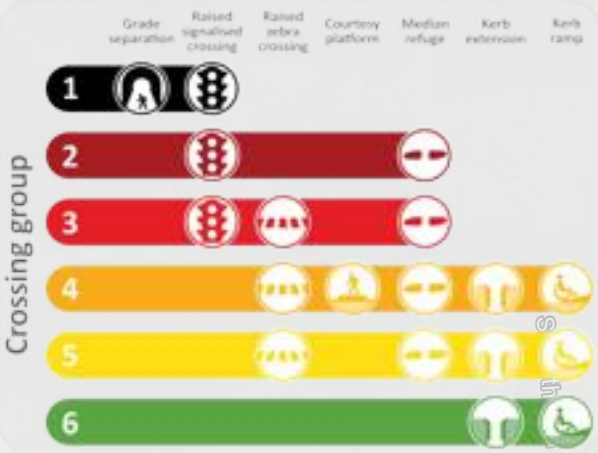
Waihuka Rd

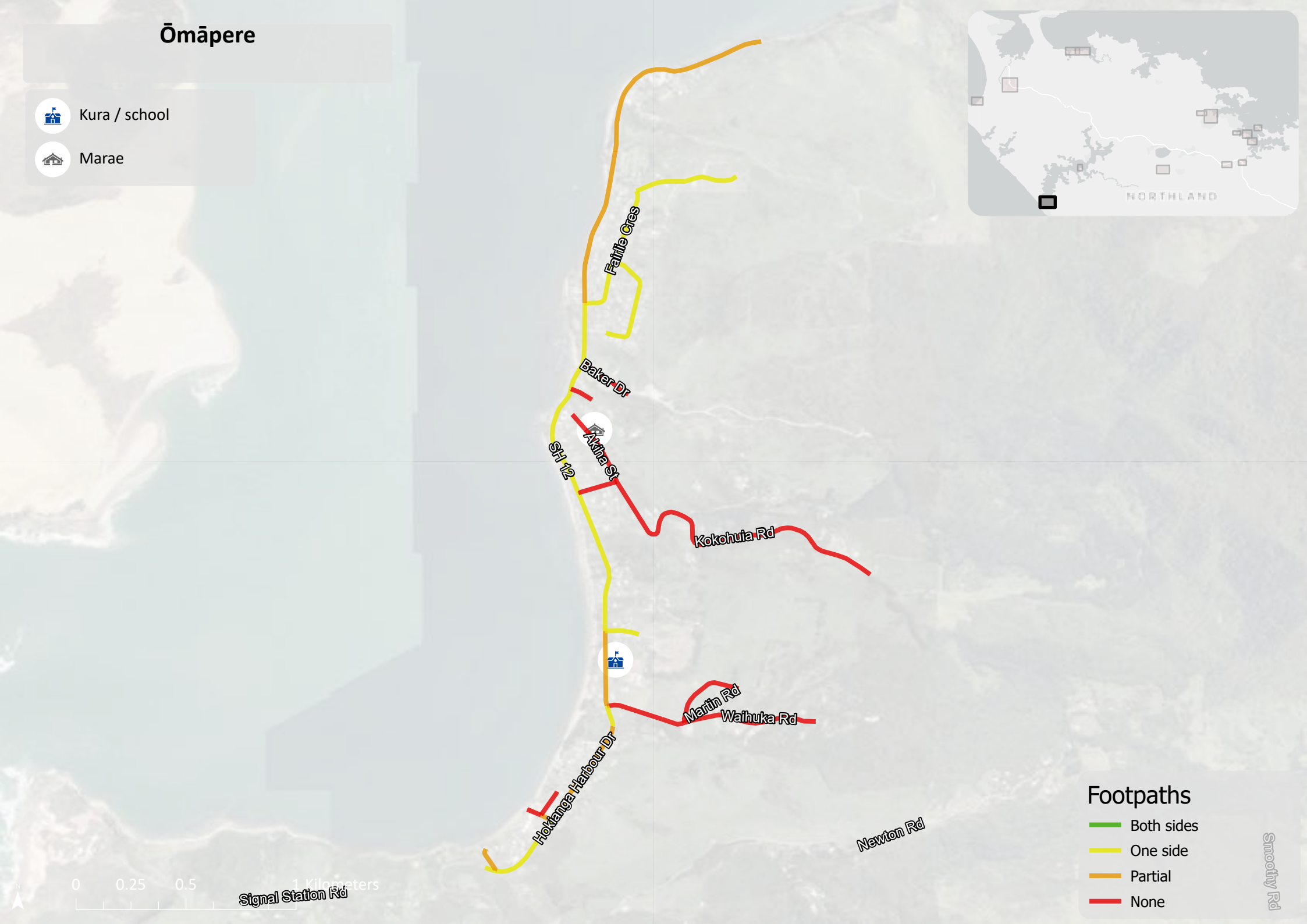
Hokianga Harbour Dr

Newton Rd

Signal Station Rd

0 0.25 0.5 1 Kilometers




Ōmāpere
Kura / school
Marae
Fatilie Cres
Baker Dr
SH 12
Akiha St
Kokohuia Rd
Martin Rd
Waihuka Rd
Hokianga Harbour Dr
Newton Rd
Signal Station Rd
Smoothy Rd
NORTHLAND
0
0.25
0.5
1 Kilometers
Footpaths
Both sides
One side
Partial
None

Ōmāpere

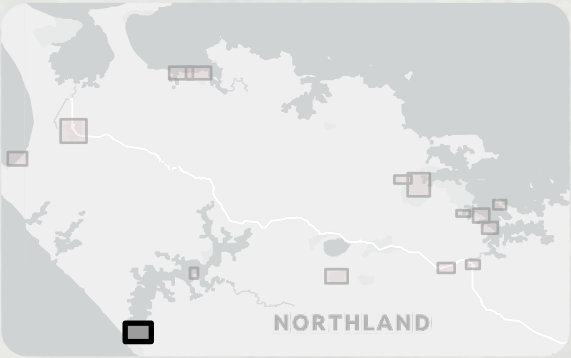
Kura / school

Marae

Priority for investigation

Lower priority

Higher priority



Fatilie Cres

Baker Dr

SH 12

Akiha St

Kokohuia Rd

Martin Rd

Waihuka Rd

Hokianga Harbour Dr

Newton Rd

Signal Station Rd

0 0.25 0.5 1 Kilometers

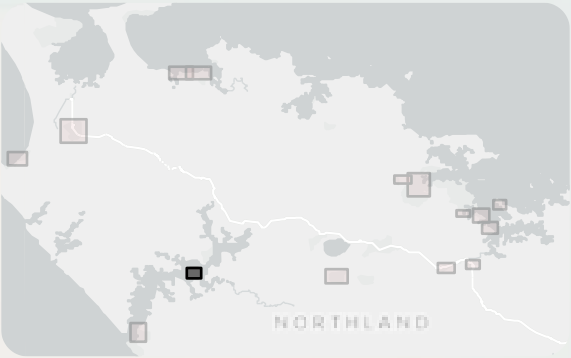
Where the existing footpath provision matches the ideal, these footpaths have been excluded

Rawene
Appropriate crossing types

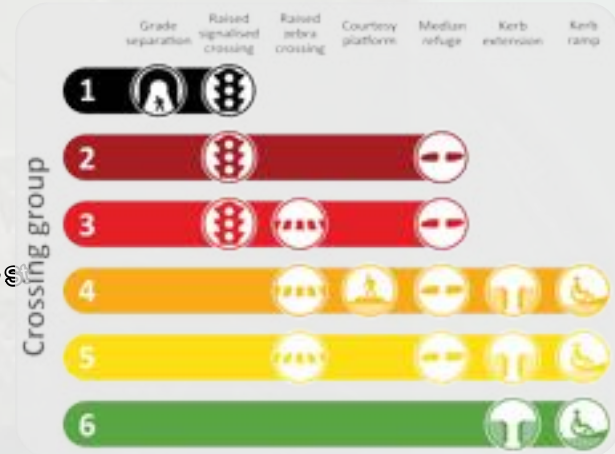
Higher priority is shown by thicker lines

Kura / school

Marae



Russell Esp
Birch St
Gundry St
Clendon Esp
Hamblin St
Mariner St
McDonell St
Parnell St
Nimmo St W
Marmon St E
Webster St
Manning St
Honey St
White St
Cochrane St
Campbell St
De Thierry St
Rawene Rd

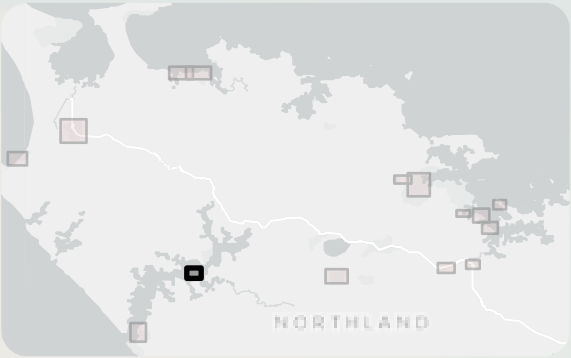


0 0.25 0.5 1 Kilometers

Rawene
Existing footpath network

Kura / school

Marae



Russell Esp
Birch St
Gundry St
Clendon Esp
Hamblin St
Mariner St
McDonell St
Parnell St
Nimmo St W
Marmon St E
Webster St
Manning St
Honey St
White St
Cochrane St
Campbell St
De Thierry St
Rawene Rd

Footpaths
- Both sides
- One side
- Partial
- None

0 0.25 0.5 1 Kilometers

Rawene

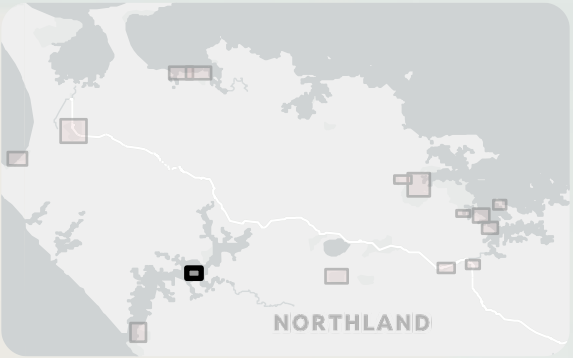
Kura / school

Marae

Priority for investigation

Lower priority

Higher priority



Russell Esp
Birch St
Gundry St
Clendon Esp
Hamblin St
Mariner St
McDonell St
Parnell St
Nimmo St W
Marmon St E
Webster St
Manning St
Honey St
White St
Cochrane St
Campbell St
De Thierry St
Rawene Rd

0 0.25 0.5 1 Kilometers

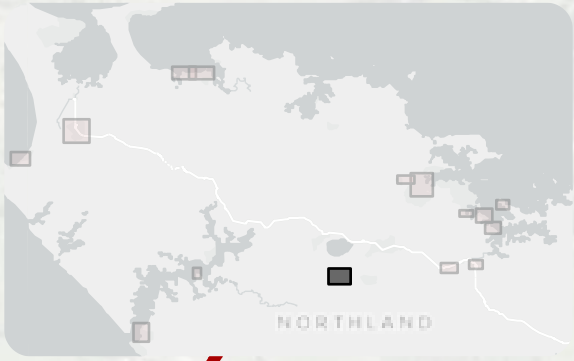
Where the existing footpath provision matches the ideal, these footpaths have been excluded

Kaikohe
Appropriate crossing types

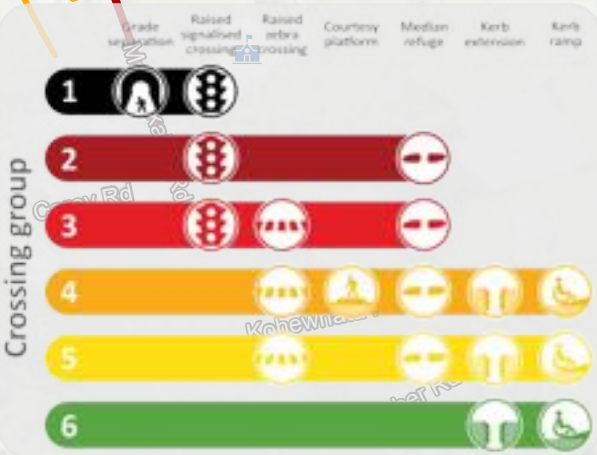
Higher priority is shown by thicker lines

Kura / school

Marae

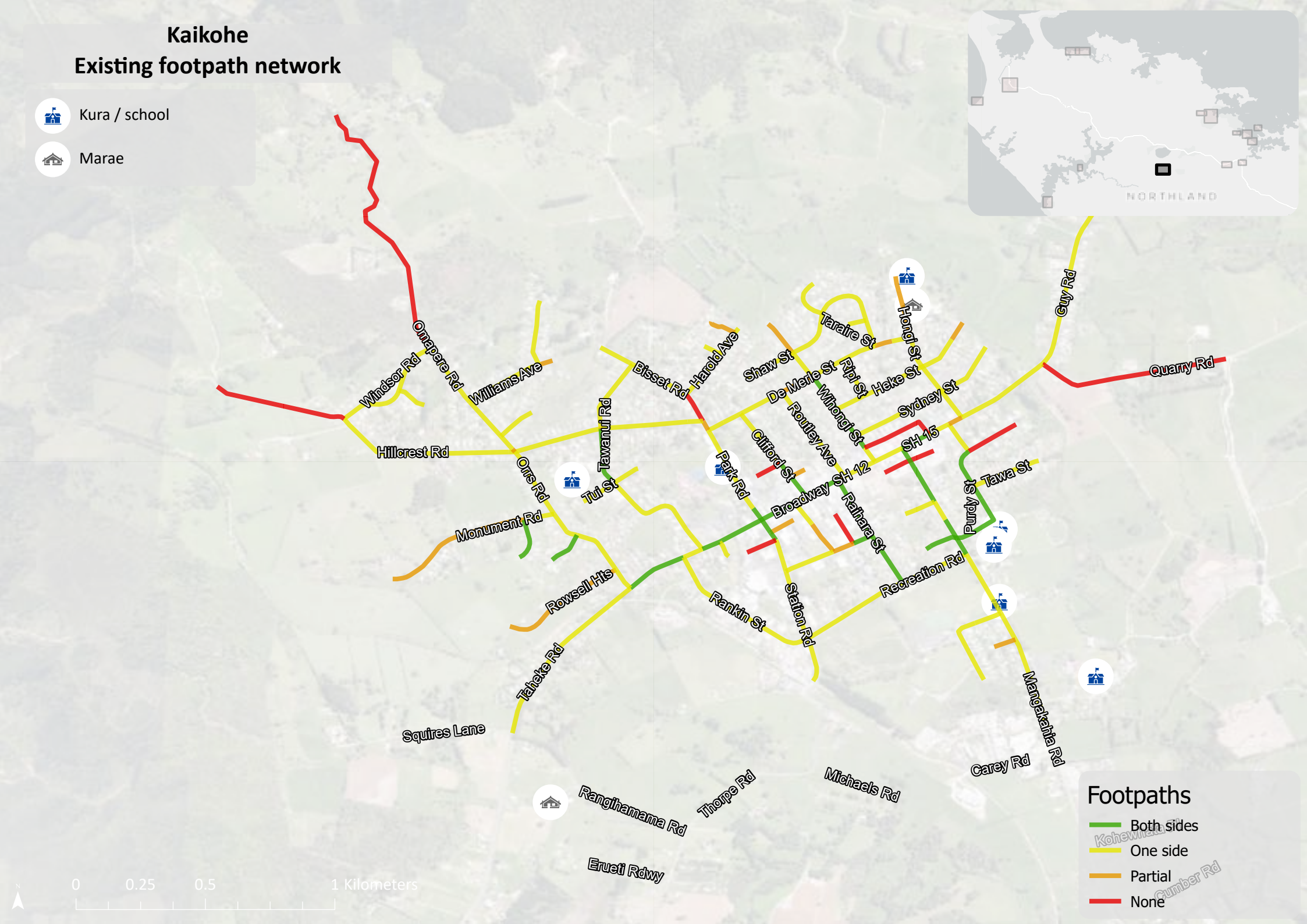


Windsor Rd
Omapere Rd
Williams Ave
Hillcrest Rd
Bisset Rd
Harold Ave
Tawanui Rd
Orris Rd
Tui St
Monument Rd
Rowsell Hts
Taheke Rd
Squires Lane
Park Rd
Clifford St
Shaw St
Taraire St
Hongi St
De Merle St
Ripi St
Heke St
Routley Ave
Wiongi St
Sydney St
SH 15
SH 12
Broadway
Raihara St
Station Rd
Rankin St
Recreation Rd
Purdy St
Tawa St
City Rd
Quarry Rd
Rangihamama Rd
Thorpe Rd
Michaels Rd
Erueti Rdwy



0 0.25 0.5 1 Kilometers

Kaikohe
Existing footpath network



Kaikohe

Kura / school

Marae

Priority for investigation

Lower priority

Higher priority

Windsor Rd
Omapere Rd
Williams Ave
Hillcrest Rd
Orris Rd
Tawanui Rd
Tui St
Monument Rd
Rowsell Hts
Taheke Rd
Squires Lane
Bisset Rd
Harold Ave
Park Rd
Shaw St
De Merle St
Routley Ave
Clifford St
Broadway
Taraire St
Hongi St
Ripi St
Heke St
Wihongi St
Sydney St
SH 12
SH 15
City Rd
Quarry Rd
Purdy St
Tawa St
Raihara St
Station Rd
Rankin St
Recreation Rd
Mangakahia Rd
Carey Rd
Michaels Rd
Thorpe Rd
Rangihamama Rd
Erueti Rdwy
Kohewhata Pl
Carr Rd

0 0.25 0.5 1 Kilometers

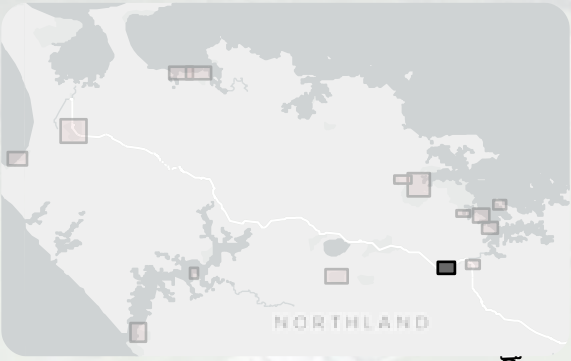
Where the existing footpath provision matches the ideal, these footpaths have been excluded

Moerewa
Appropriate crossing types

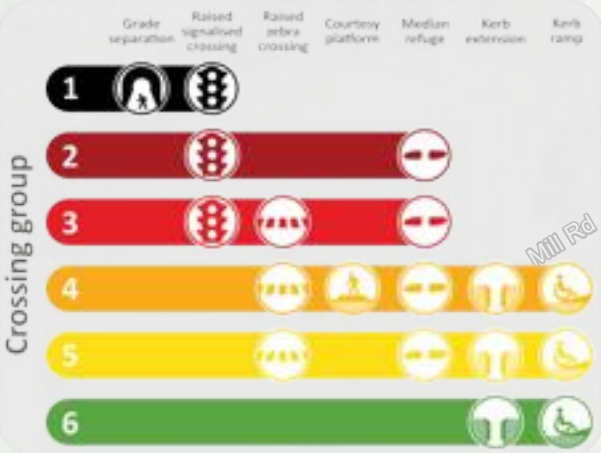
Higher priority is shown by thicker lines

Kura / school

Marae

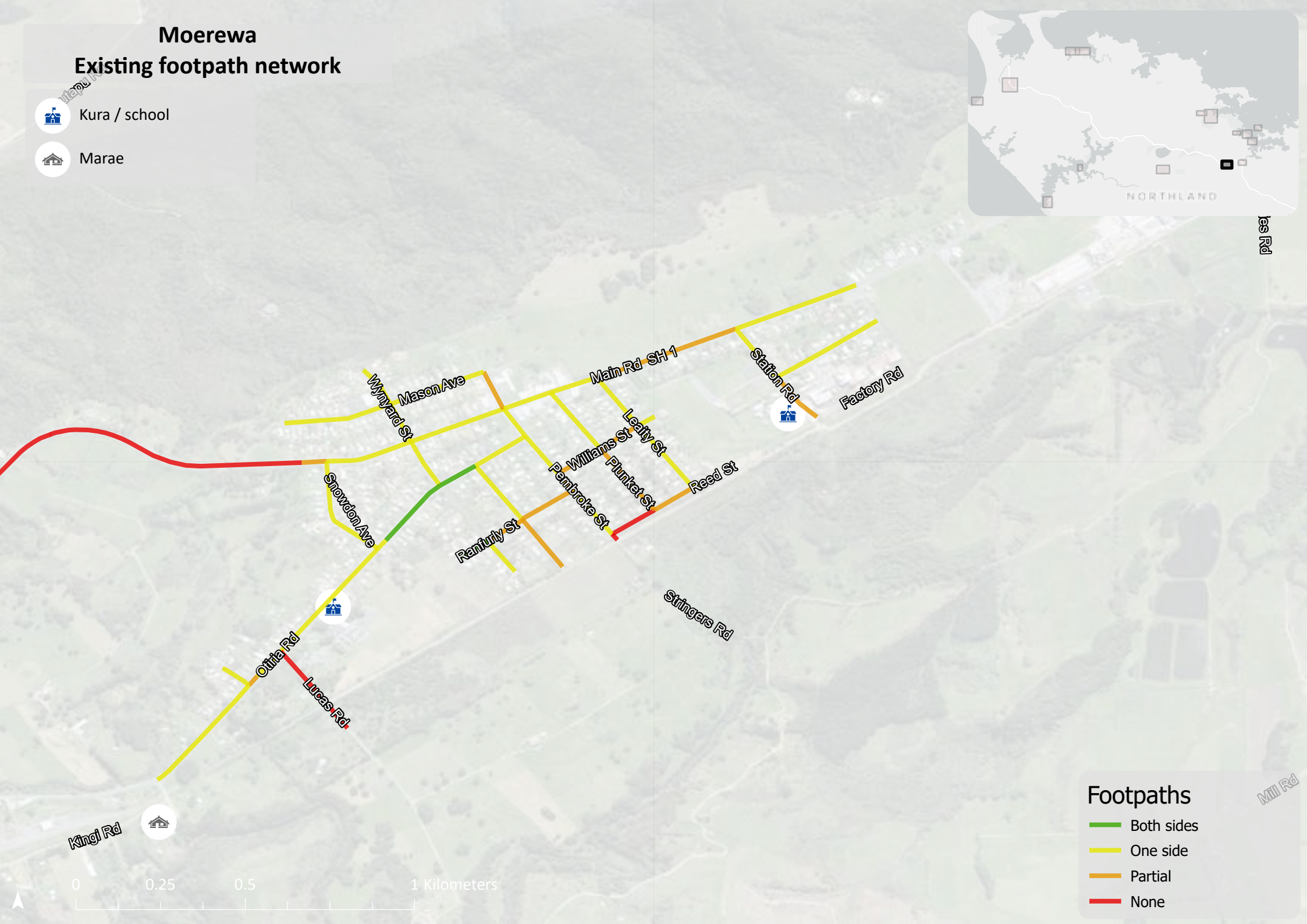


Main Rd SH 1
Mason Ave
Wynyard St
Station Rd
Factory Rd
Leahy St
Williams St
Plunket St
Reed St
Pembroke St
Snowdon Ave
Ranfurly St
Stringers Rd
Otiria Rd
Lucas Rd
Kingi Rd
Mill Rd

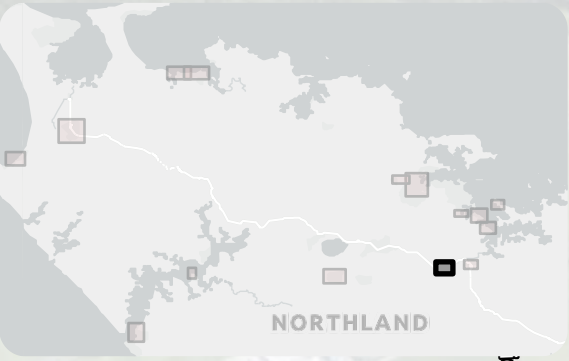


0 0.25 0.5 1 Kilometers

Moerewa
Existing footpath network



Moerewa



Kura / school

Marae

Priority for investigation

Lower priority

Higher priority

Main Rd SH 1

Station Rd

Factory Rd

Mason Ave

Wynyard St

Leahy St

Williams St

Plunket St

Reed St

Pembroke St

Snowdon Ave

Ranfurly St

Stringers Rd

Ottria Rd

Lucas Rd

Kingi Rd

Mill Rd

0 0.25 0.5 1 Kilometers

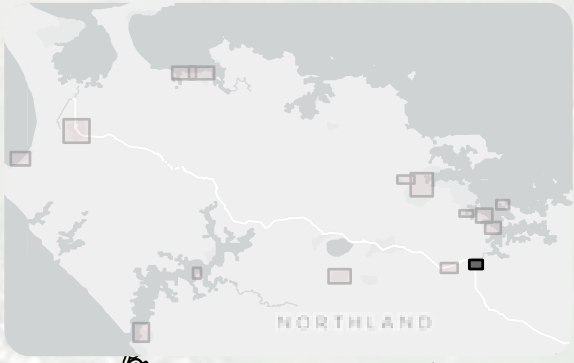
Where the existing footpath provision matches the ideal, these footpaths have been excluded

Kawakawa
Appropriate crossing types

Higher priority is shown by thicker lines

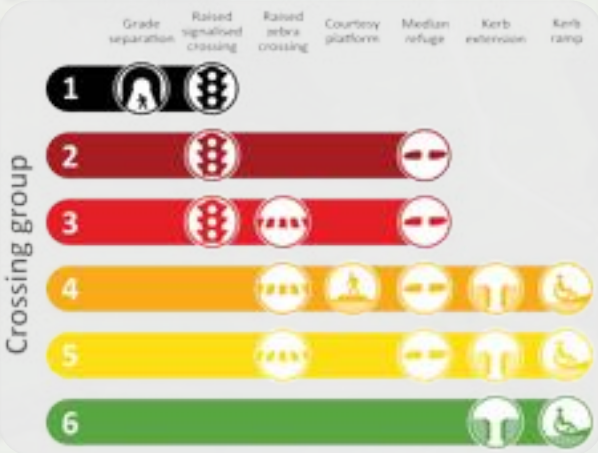
Kura / school

Marae

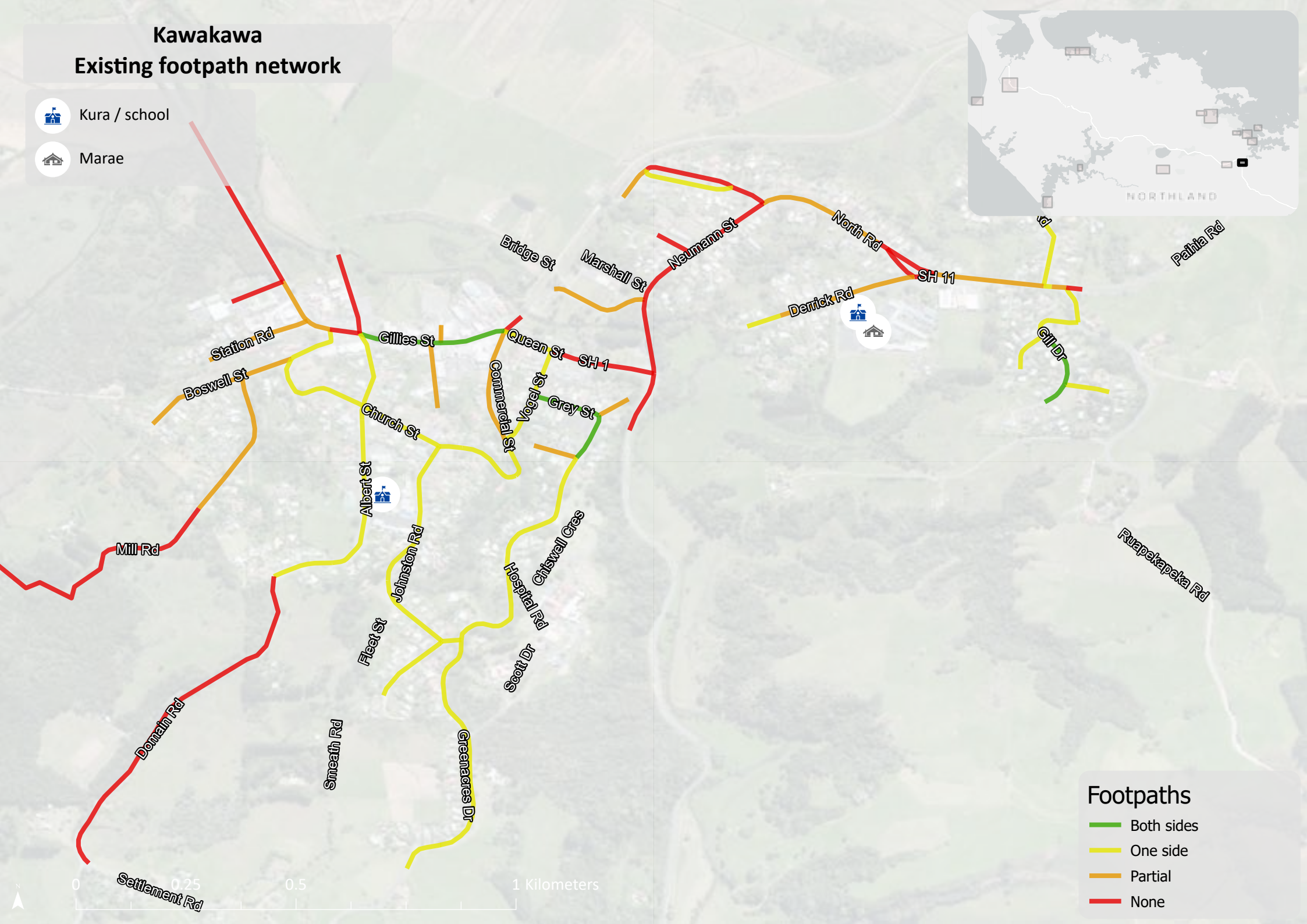


Bridge St
Marshall St
Neumann St
North Rd
SH 11
Derrick Rd
Paihia Rd
Gill Dr
Station Rd
Gillies St
Queen St
SH 1
Boswell St
Church St
Commercial St
Vogel St
Grey St
Albert St
Mill Rd
Johnston Rd
Hospital Rd
Chiswell Cres
Ruapekapeka Rd
Fleet St
Scott Dr
Domain Rd
Smeath Rd
Greenacres Dr
Settlement Rd

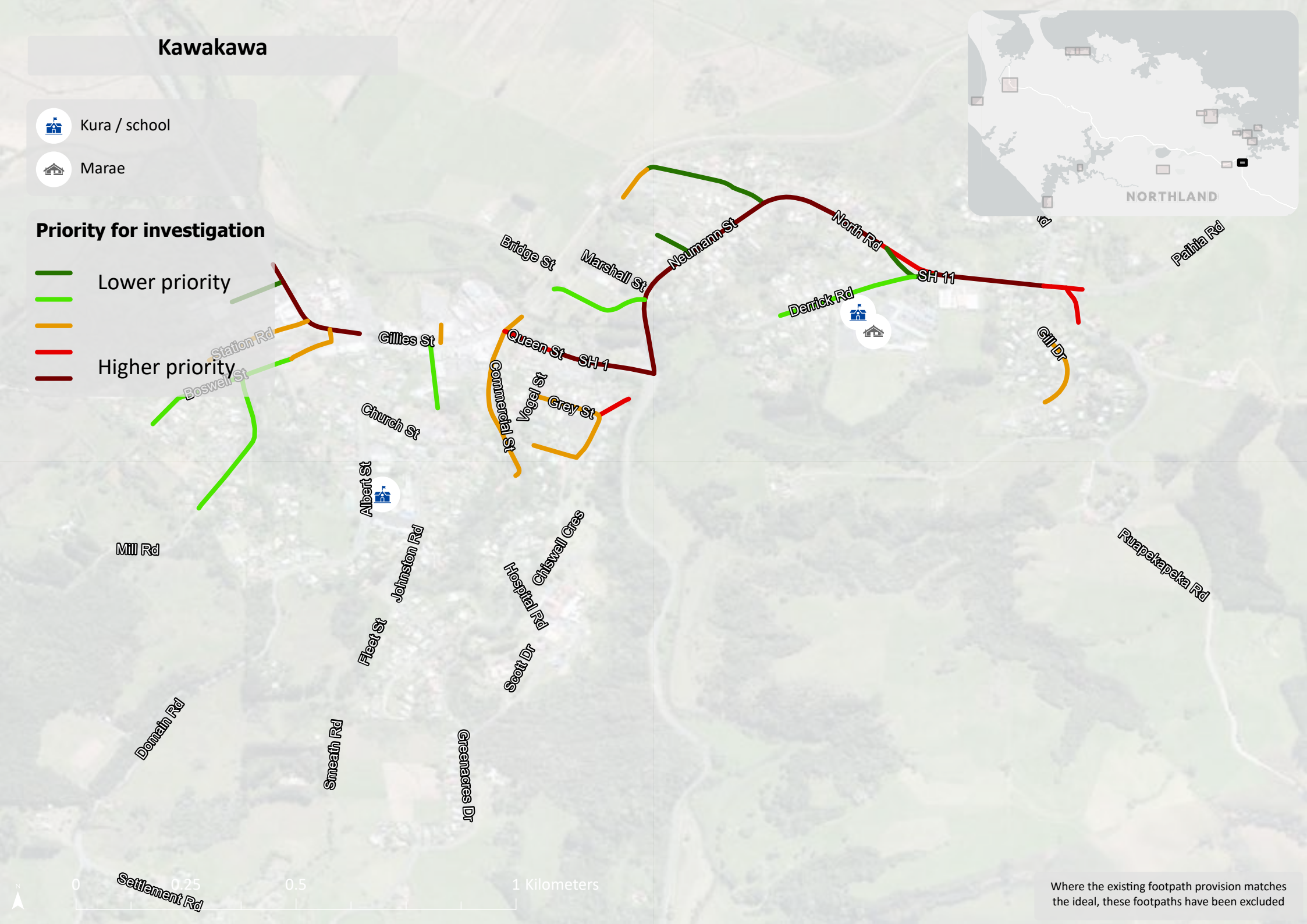
0 0.25 0.5 1 Kilometers



Kawakawa
Existing footpath network



Kawakawa



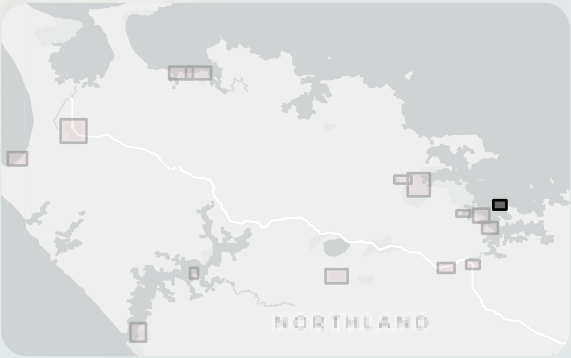
Where the existing footpath provision matches the ideal, these footpaths have been excluded

Russell
Appropriate crossing types

Higher priority is shown by thicker lines

Kura / school

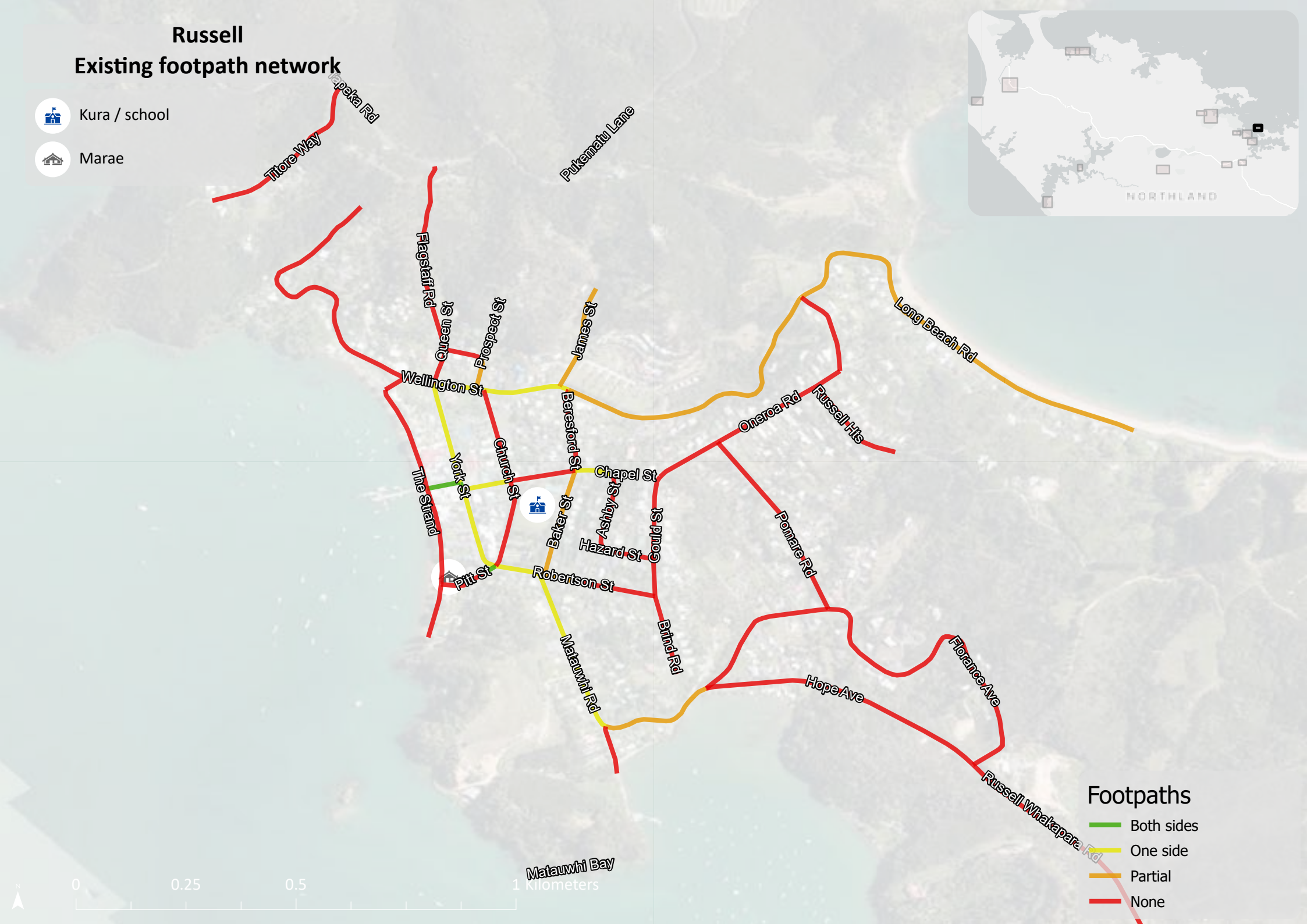
Marae



Tapeka Rd
Titore Way
Pukematu Lane
Flagstaff Rd
Queen St
Prospect St
James St
Wellington St
Beresford St
Church St
York St
The Strand
Chapel St
Baker St
Ashby St
Gould St
Hazard St
Pitt St
Robertson St
Matauwhi Rd
Brind Rd
Oneroa Rd
Russell Hls
Long Beach Rd
Pomare Rd
Hope Ave
Matauwhi Bay

0 0.25 0.5 1 Kilometers

Russell
Existing footpath network



Russell

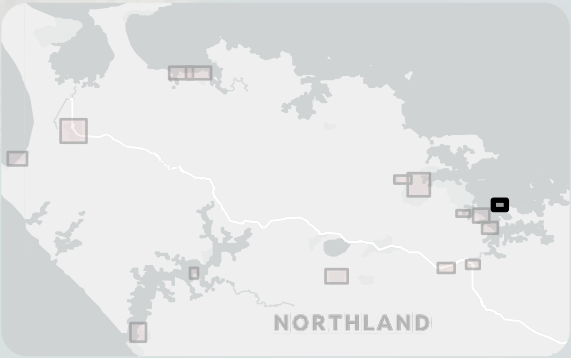
Kura / school

Marae

Priority for investigation

Lower priority

Higher priority



Tapeka Rd
Titore Way
Pukematu Lane
Flagstaff Rd
Queen St
Prospect St
James St
Wellington St
Beresford St
Church St
York St
The Strand
Chapel St
Ashby St
Baker St
Hazard St
Gould St
Pomare Rd
Oneroa Rd
Russell Hts
Long Beach Rd
Pitt St
Robertson St
Brind Rd
Matauwhi Rd
Hope Ave
Florance Ave
Russell Whakapara Rd
Matauwhi Bay

0 0.25 0.5 1 Kilometers

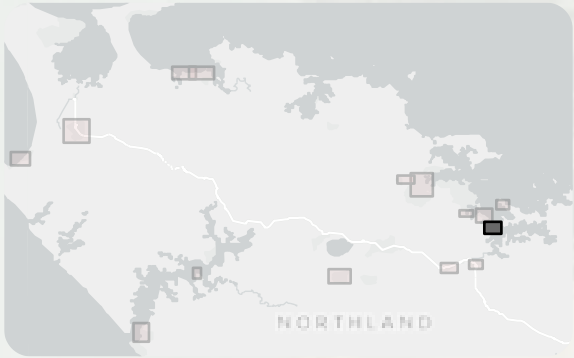
Where the existing footpath provision matches the ideal, these footpaths have been excluded

Opua
Appropriate crossing types

Higher priority is shown by thicker lines

Kura / school

Marae



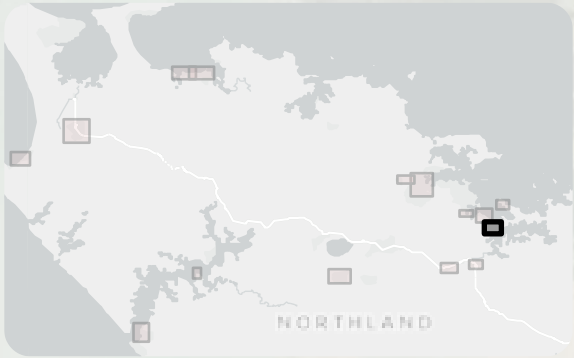
Puketiro Pl
Tui Grv
Hihiaia Rise
Te Haumi Dr
Arabella Rd
Waimangaro Rd
Broadview Rd
Ward Dr
Paihia Rd
Rosella Rd
SH 11
Oromahoe Rd
Okiato Rd
Aucks Rd
Pipiroa Rd
Creswell St
English Bay Rd
Richardson St
Ross St

0 0.25 0.5 1 Kilometers

Opua
Existing footpath network

Kura / school

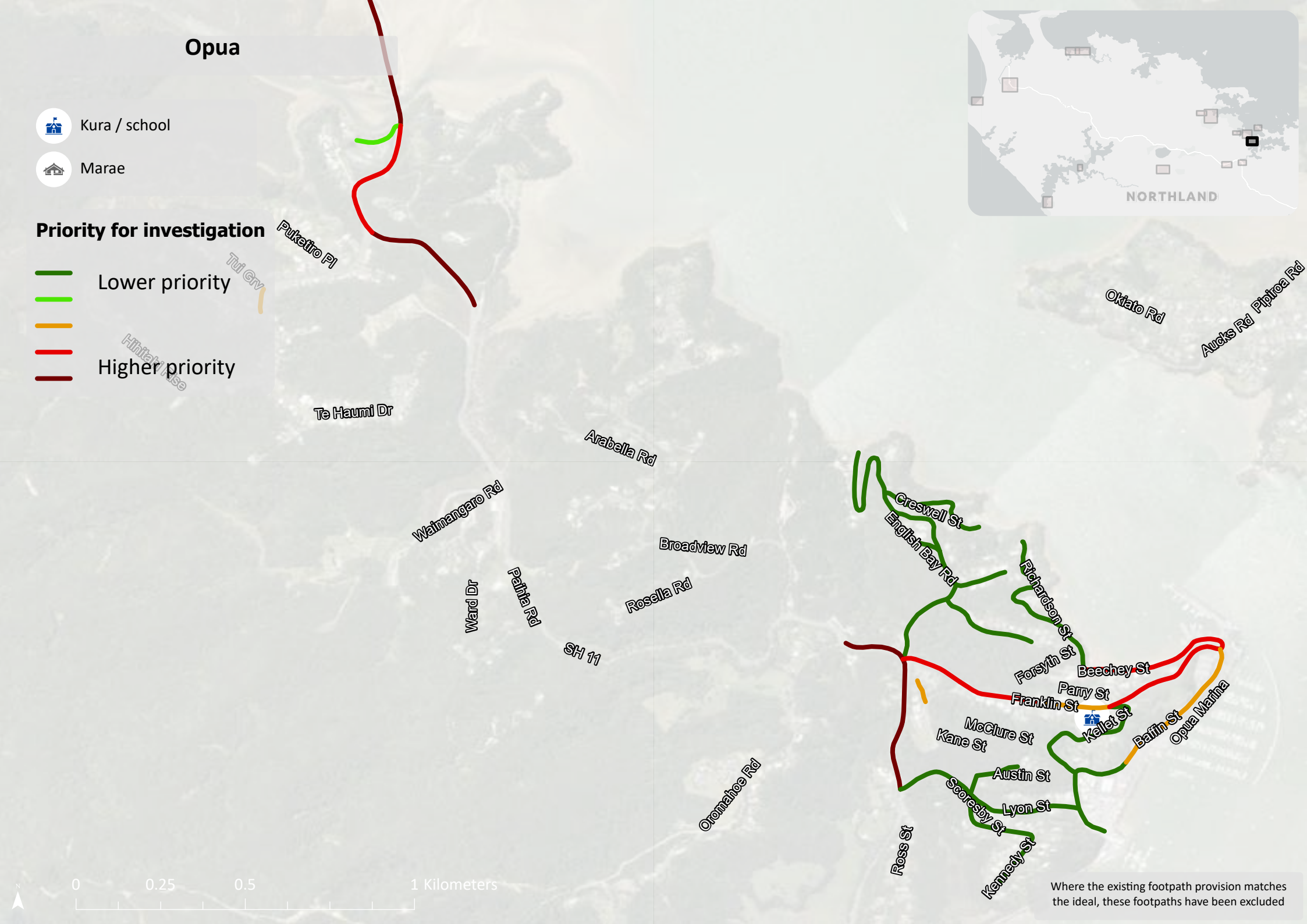
Marae



Puketiro Pl
Tui Grv
Hihitahi Rise
Te Haumi Dr
Arabella Rd
Waimangaro Rd
Broadview Rd
Ward Dr
Paihia Rd
Rosella Rd
SH 11
Oromahoe Rd
Okiato Rd
Aucks Rd
Pipiroa Rd
Creswell St
English Bay Rd
Richardson St
Forsyth St
Beechey St
Parry St
Franklin St
Kellet St
Baffin St
Opua Marina
McClure St
Kane St
Austin St
Scoresby St
Lyon St
Ross St
Kennedy St

Footpaths
- Both sides
- One side
- Partial
- None

0 0.25 0.5 1 Kilometers

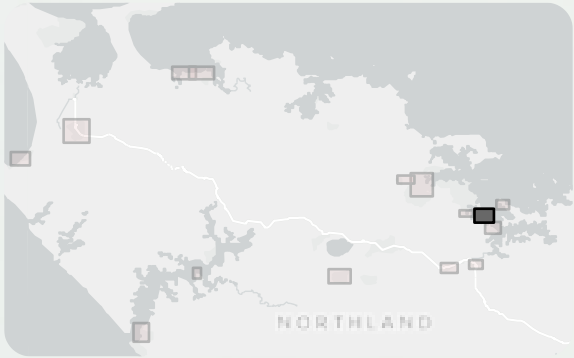

Opua
Kura / school
Marae
Priority for investigation
Lower priority
Higher priority
NORTHLAND
Puketiro Pl
Tui Grv
Hihiaia Rise
Te Haumi Dr
Arabella Rd
Waimangaro Rd
Broadview Rd
Ward Dr
Paihia Rd
Rosella Rd
SH 11
Oromahoe Rd
Okiato Rd
Aucks Rd
Pipiroa Rd
Creswell St
English Bay Rd
Richardson St
Forsyth St
Beechey St
Parry St
Franklin St
Kellet St
Baffin St
Opua Marina
McClure St
Kane St
Austin St
Scoresby St
Lyon St
Ross St
Kennedy St
0
0.25
0.5
1 Kilometers
Where the existing footpath provision matches the ideal, these footpaths have been excluded

Paihia
Appropriate crossing types

Higher priority is shown by thicker lines

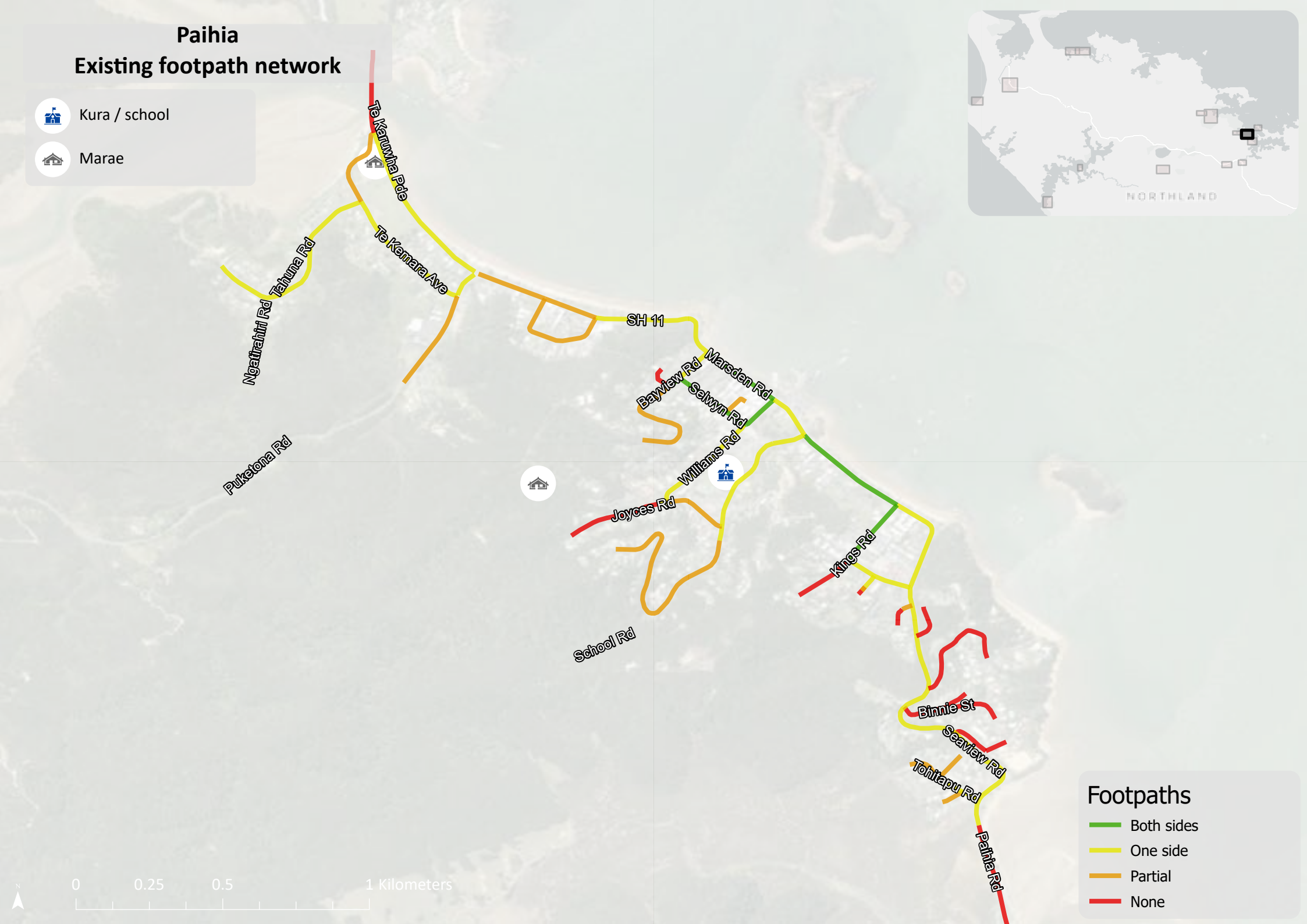
Kura / school

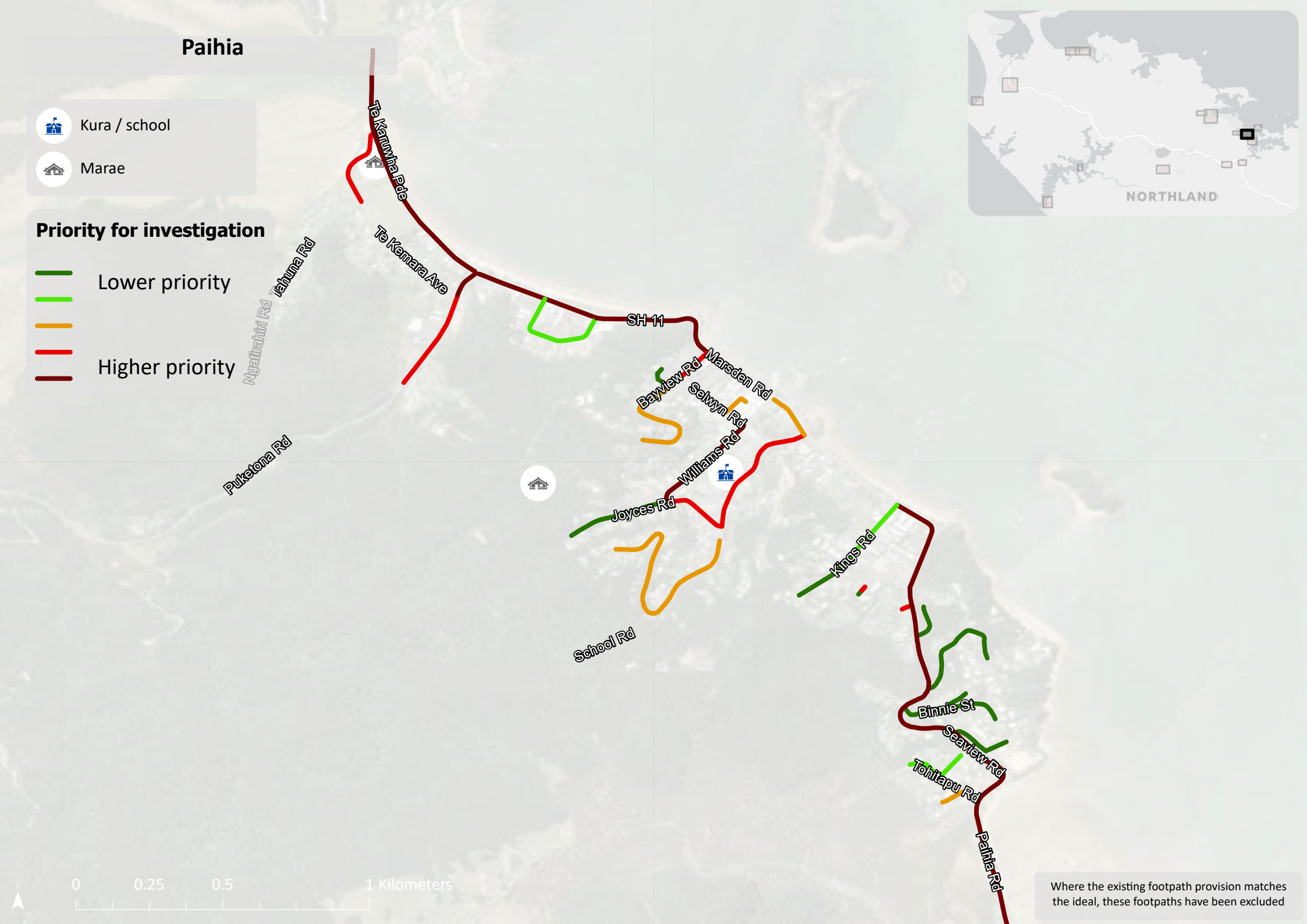
Marae



Te Karuwha Pde
Te Kemara Ave
Tahuna Rd
Ngatirahiri Rd
SH 11
Marsden Rd
Bayview Rd
Selwyn Rd
Williams Rd
Joyces Rd
Puketona Rd
School Rd
Kings Rd
Binni
Tohitapu

0 0.25 0.5 1 Kilometers


Paihia
Existing footpath network
Kura / school
Marae
Te Karuwha Pde
Te Kemara Ave
Tahuna Rd
Ngatitahiti Rd
Puketona Rd
SH 11
Marsden Rd
Bayview Rd
Selwyn Rd
Williams Rd
Joyces Rd
School Rd
Kings Rd
Binnie St
Seaview Rd
Tohitapu Rd
Paihia Rd
NORTHLAND
0
0.25
0.5
1 Kilometers
Footpaths
Both sides
One side
Partial
None

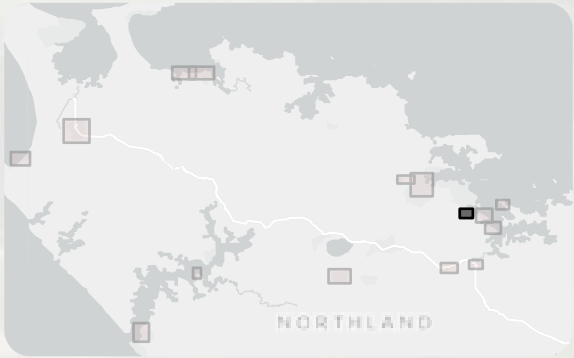

Paihia
Kura / school
Marae
Priority for investigation
Lower priority
Higher priority
Te Karuwha Pde
Te Kemara Ave
Jahuna Rd
Ngatitahiri Rd
SH 11
Marsden Rd
Bayview Rd
Selwyn Rd
Williams Rd
Joyces Rd
Puketona Rd
School Rd
Kings Rd
Binnie St
Seaview Rd
Tohitapu Rd
Paihia Rd
NORTHLAND
0
0.25
0.5
1 Kilometers
Where the existing footpath provision matches the ideal, these footpaths have been excluded

Haruru
Appropriate crossing types

Higher priority is shown by thicker lines

Kura / school

Marae



Jameson Esp

Haruru Falls Rd

Spinnaker Pt

The Anchorage

Halyard Loop

Admiralty Dr

Nautical Dr

Puketona Rd SH 11

Hawke Dr

Old Wharf Rd

River Palms Lane

Orchard Rd

Falls View Rd

Yorke Rd

Causeway Rd

Wilson Rd

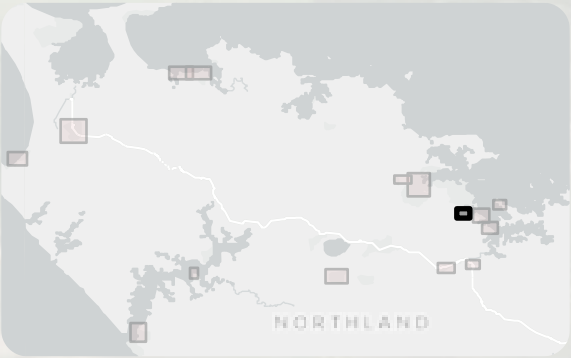
Goffe Dr

0 0.25 0.5 1 Kilometers

Haruru
Existing footpath network

Kura / school

Marae



Jameson Esp

Haruru Falls Rd

Spinnaker Pt

The Anchorage

Admiralty Dr

Halyard Loop

Nautical Dr

Puketona Rd SH 11

Hawke Dr

Old Wharf Rd

River Palms Lane

Orchard Rd

Falls View Rd

Yorke Rd

Causeway Rd

Wilson Rd

Goffe Dr

0 0.25 0.5 1 Kilometers

Footpaths

- Both sides
- One side
- Partial
- None

Haruru

Kura / school

Marae

Priority for investigation

Lower priority

Higher priority

Tui Glen Rd

Jameson Esp

Haruru Falls Rd

Spinnaker Pt

The Anchorage

Halyard Loop

Admiralty Dr

Nautical Dr

Puketona Rd SH 11

Hawke Dr

Old Wharf Rd

River Palms Lane

Orchard Rd

Falls View Rd

Yorke Rd

Causeway Rd

Wilson Rd

Goffe Dr

0 0.25 0.5 1 Kilometers

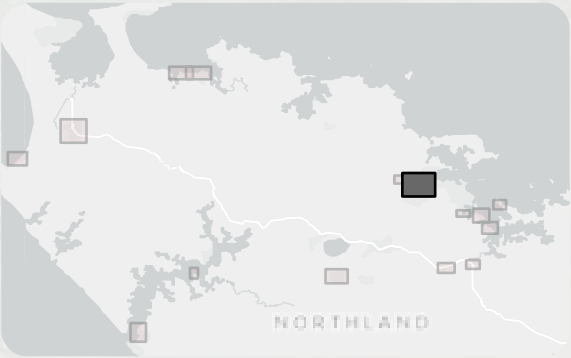
Where the existing footpath provision matches the ideal, these footpaths have been excluded

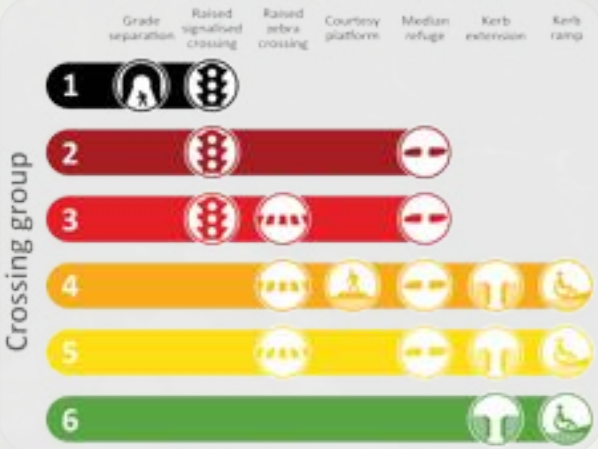
Kerikeri
Appropriate crossing types

Higher priority is shown by thicker lines

Kura / school

Marae



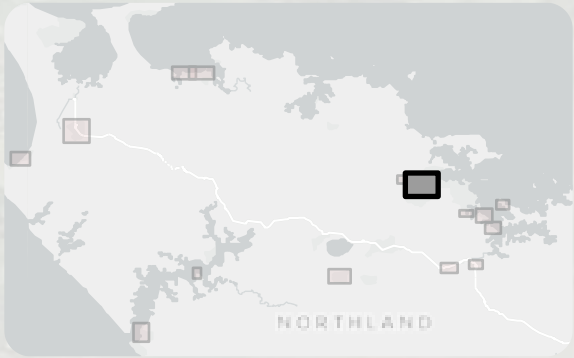


0 0.25 0.5 1 Kilometers

Kerikeri
Existing footpath network

Kura / school

Marae



0 0.25 0.5 1 Kilometers

Footpaths

Both sides

One side

Partial

None

Kerikeri

Kura / school

Marae

Priority for investigation

Lower priority

Higher priority

0 0.25 0.5 1 Kilometers

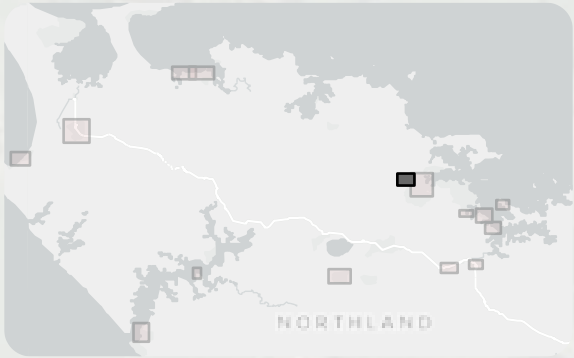
Where the existing footpath provision matches the ideal, these footpaths have been excluded

Waipapa
Appropriate crossing types

Higher priority is shown by thicker lines

Kura / school

Marae



Mawson Ave

Harmony Lane

Lacebark Lane

Puriri Park Lane

Pathways Dr

The Lakes Dr

Cochrane Dr

Waipapa Rd

Maritime Lane

Kimag Lane

SH 10

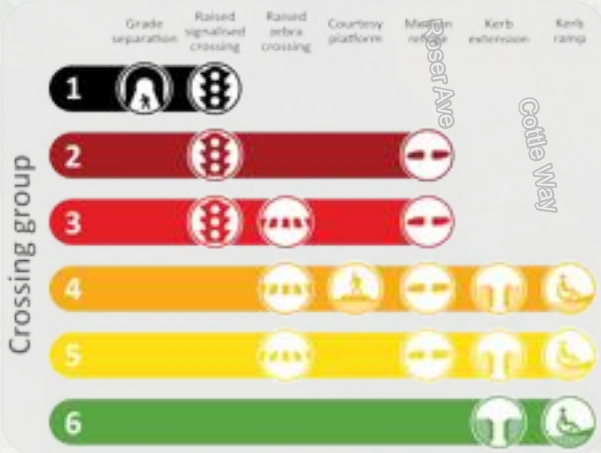
Rainbow Falls Rd

Kahikatearoa Lane

Waitotara Dr

Awhitu Rd

Industrial Way

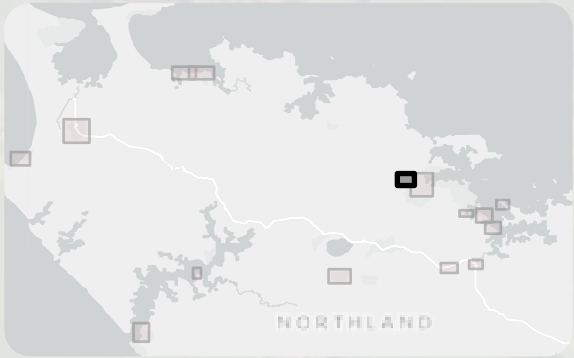


0 0.25 0.5 1 Kilometers

Waipapa
Existing footpath network


Kura / school


Marae



Harmony Lane
Mawson Ave
Lacebark Lane
Puriri Park Lane
Pathways Dr
The Lakes Dr
Cochrane Dr
Waipapa Rd
Maritime Lane
Kimag Lane
SH 10
Rainbow Falls Rd
Kahikatearoa Lane
Waitotara Dr
Awhitu Rd
Roser Ave
Cottle Way
Industrial Way

Footpaths
- Both sides
- One side
- Partial
- None

0 0.25 0.5 1 Kilometers

Waipapa

Kura / school

Marae

Priority for investigation

Lower priority

Higher priority

Harmony Lane

Mawson Ave

Lacebark Lane

Puriri Park Lane

Pathways Dr

The Lakes Dr

Cochrane Dr

Waipapa Rd

Maritime Lane

Kiwi Lane

SH 10

Rainbow Falls Rd

Kahikatearoa Lane

Waitotara Dr

Awhitu Rd

Roser Ave

Cottle Way

Industrial Way

0 0.25 0.5 1 Kilometers

Where the existing footpath provision matches the ideal, these footpaths have been excluded

Appendix A Analysis process and data dictionary

A.1 Published layers and web map information

The GIS data layers described in this section are hosted in the view only (non-editable) webmap:

Urban Active Modes Plan FNDC - view only

Data sources included:

- Footpaths from RAMM
- MegaMaps IV centrelines (March 2023 published version)
- Slow streets analysis

A.2 Crossing prioritisation and costing

Every segment was geospatially scored and ranked by priority, with the associated appropriate crossing type (Table A-1). Existing crossing conditions were not quantified or measured. The limitations of presenting the crossing type for each street segment, rather than the exact crossing type and location is discussed in Section 3.1.

A high and low cost of implementation of one crossing per 100 m was estimated (Table A-2) and the sum cost of all segments for each town by urban area and grouping developed (Table A-3).

Table A-1: crossing prioritisation, symbolised in map by priority score

Category ***sub-total field***	Methodology and source	Category	Description	Score	Weighting
Crossing types *'typeScore'*	• Started with MegaMaps corridors • Split at intersections • Selected corridors within urban areas (defined for Slow Streets work) • Assigned suitable crossing types using Waka Kotahi's mid-block crossing facility selection flowchart with MegaMaps attributes.	Crossing group 1	Grade separation or raised signalised crossing	25	29.4% or 25/85
		Crossing group 2	Raised signalised crossing or pedestrian/median refuge	20	
		Crossing group 3	Raised signalised crossing, raised zebra crossing, or pedestrian/median refuge	15	
		Crossing group 4	Raised zebra crossing, courtesy platform, pedestrian/median refuge, kerb extension, or kerb crossing	10	
		Crossing group 5	Raised zebra crossing, courtesy crossing, pedestrian/median refuge, or kerb extension	5	
		Crossing group 6	Courtesy platform, kerb extension, or kerb crossing	0	
Average Annual Daily Traffic (AADT) *'aadtScore'*	MegaMaps		6000+	20	23.5% or 20/85
			3000-6000	10	
			1000-3000	5	
			<1000	0	

Category ***sub-total field***	Methodology and source	Category	Description	Score	Weighting
Slow Streets Scores *'slowstreetsScore'*		attributes	Attributes include scores for schools, geometry, crashes, deaths/serious injuries, the one network framework, cut throughs / accessways, and population density.		35.3% Or 30/85
		sub-total	Max score = 90/110 and total slow streets score / 3	< 30	
One Network Framework (ONF) *'onfScore'*			Main Streets	10	11.8% Or 10/85
			Activity Streets	10	
			Civic Spaces	10	
			Urban Connectors	5	
			Local Streets	0	

Table A-2: crossing type costings

Group	Crossing types	High cost	Low cost	Notes
Group 1	Grade separation or raised signalised crossing	$750,000	$600,000	Farm style underpass or midblock crossing. Raised signalised crossing unlikely to occur in this scenario.
Group 2	Raised signalised crossing or refuge	$600,000	$75,000	Raised signalised midblock crossing unlikely to occur in this scenario. Traffic management of rural >60 km/h area implementation.
Group 3	Raised signalised crossing, raised zebra crossing, or refuge	$650,000	$50,000	Midblock zebra or signalised urban crossing includes cost of urban stormwater for raised safety platform (RSP).
Group 4	Raised zebra crossing, courtesy crossing, refuge, kerb extension, or kerb crossing	$100,000	$25,000	Urban stormwater for RSP + kerb extensions.
Group 5	Raised zebra crossing, courtesy crossing, refuge, or kerb extension	$100,000	$25,000	Urban stormwater for RSP + kerb extensions.
Group 6	Kerb extension, or kerb crossing	$25,000	$10,000	The PNG flowchart also includes courtesy platform but removed from list as part of the crossing types. These neighbourhood streets have LCLR options. Priority not required for pedestrians due to availability of gaps.

Table A-3: crossing types cost, by grouping and urban area ($ millions)

	Group 1		Group 2		Group 3		Group 4		Group 5		Group 6			
	High cost	Low cost	High cost	Low cost	High cost	Low cost	High cost	Low cost	High cost	Low cost	High cost	Low cost	Total High cost	Total Low cost
01 Ahipara	0.00	0.00	3.24	0.40	0.00	0.00	2.87	0.72	0.00	0.00	1.10	0.44	7.2	1.6
02 Kaitaia	14.19	11.35	23.70	2.96	12.16	0.94	11.88	2.97	3.83	0.96	1.86	0.74	67.6	19.9
03 & 4 Doubtless Bay	53.45	42.76	0.00	0.00	0.00	0.00	15.96	3.99	0.00	0.00	1.66	0.67	71.1	47.4
05 Omapere	0.00	0.00	26.93	3.37	0.00	0.00	3.52	0.88	0.00	0.00	0.40	0.16	30.8	4.4
06 Rawene	0.00	0.00	2.99	0.37	0.00	0.00	4.13	1.03	0.00	0.00	0.38	0.15	7.5	1.6
07 Kaikohe	5.14	4.11	11.56	1.44	0.00	0.00	12.51	3.13	2.16	0.54	1.21	0.48	32.6	9.7
08 Moerewa	1.40	1.12	15.17	1.90	1.57	0.12	4.37	1.09	0.00	0.00	0.19	0.08	22.7	4.3
09 Kawakawa	0.00	0.00	3.71	0.46	5.31	0.41	5.67	1.42	0.17	0.04	0.57	0.23	15.4	2.6
10 Russell	0.00	0.00	0.00	0.00	0.00	0.00	6.69	1.67	0.00	0.00	1.07	0.43	7.8	2.1
11 Opua	0.00	0.00	6.54	0.82	0.00	0.00	5.22	1.31	0.00	0.00	0.22	0.09	12.0	2.2
12 Paihia	0.00	0.00	8.70	1.09	0.00	0.00	8.63	2.16	3.83	0.96	0.41	0.17	21.6	4.4
13 Haruru	11.97	9.57	0.00	0.00	0.00	0.00	4.03	1.01	0.00	0.00	0.26	0.11	16.3	10.7
14 Kerikeri	28.68	22.95	9.26	1.16	8.54	0.66	14.34	3.58	3.75	0.94	2.37	0.95	67.0	30.2
15 Waipapa	23.86	19.09	10.58	1.32	0.00	0.00	1.64	0.41	0.27	0.07	0.09	0.03	36.4	20.9
Grand Total	138.69	110.95	122.38	15.30	27.58	2.12	101.45	25.36	13.99	3.50	11.80	4.72	415.9	161.9

Urban fringe and rural residential note

Two layers were published for crossings: *Crossing Prioritisation (1,122 segments)* and U*rban Fringe and Rural Residential (UFRR) Prioritisation (26 segments)*. The UFRR crossings may be unlikely to be treated with crossings but had high priority because they were in crossings group 1 (>60 km/h operating speed, requiring grade separation or a raised signalised crossing). These are presented in the *Crossing Prioritisation UFRR* layer, with all other land-use types in the *Crossing Prioritisation* layer. The ranking is based on the Total Score field (highest total score is highest priority) and this overall score applies across both the *Crossing Prioritisation* and *UFRR prioritisation* layers.

A.3 Footpath prioritisation and costing

The footpath prioritisation was complex, as the analysis had to compare corridors with no footpaths on either side to corridors with existing footpaths (but these may be in poor condition or incomplete). For the purposes of scoring the footpaths, segments were categorised into four groups based on the coverage:

1. No footpath
2. Incomplete footpath
3. Footpath on one side (but should be on both)
4. Ideal footpath coverage

The corridors were scored and ranked within each group. This means that every segment in group 1 is higher priority than every segment in group 2. The scoring for each group varies based on which fields are relevant (e.g., no penalty for poor condition or narrow footpaths if there are no footpaths). To get a global footpath priority rank (n=1122), segments were first ranked by priority group (group 1 to group 4, ascending), and then by total score within each grouping (descending).

There were two situations where segments were excluded:

- Where segments were less than 5 metres. These short segments were generated occasionally by splitting corridors at intersections.
- Where segments had a rural categorisation from the One Network Framework. These segments occasionally snuck in where the segment overlapped town boundaries.

Table A-4: scoring of the footpath prioritisation (coloured boxes show the criteria that each of the four groupings use for prioritisation)

Criteria (scoring)	**Max score each field**	**No footpaths (Group 1)**	**Incomplete footpaths (Group 2)**	**Footpath on one side, but should be both (Group 3)**	**Ideal footpath coverage (Group 4)**
		Weighting of each criteria within each group's scoring shown in italics below			
Length	20		40%	30.8%	
Condition	10		20%	15.4%	22.2%
Width	15			23.0%	33.3%
One Network Framework	10	50%	20%	15.4%	22.2%
Average Annual Daily Traffic	10	50%	20%	15.4%	22.2%
Maximum score per group		**20**	**50**	**65**	**45**

Footpath costs for every segment were calculated using the procedure in Table A-5.

Table A-5: procedure for calculating the cost of filling in missing gaps of network and cost of replacing existing footpaths

Cost per town	Factors multiplied together	Units	Methodology for summarising segments in each town
Cost of filling in missing gaps [$]	• missing length (proportion of shape length)	Unitless	A pivot table was used to summarise the total cost of filling in missing gaps of network for every town in the district to achieve a completed network. The completeness of the footpath network in the benchmark/comparison towns (Helensville, Mangawhai and Whenuapai) was estimated as 75% complete. The cost required to move from the Far North's network completeness of 38% to the estimated comparison town completeness of 75% was calculated as 59.7% (or $47.8M) of the cost to complete all missing pieces of the network ($80.0M).
	• shape length	[m]	
	• ideal footpath width (per PNG)	[m]	
	• concrete path 100 mm thick @ $350 / m2	[$/m2]	
Cost of replacing existing footpaths [$]	• sum of length (LHS of road + RHS of road)	[m]	A pivot table was used to summarise the cost of replacing existing footpaths in the district. Data for each town was presented by the condition (bad, poor, acceptable, fair, good and unknown), by width (sufficient and insufficient).
	• ideal footpath width (per PNG)	[m]	
	• concrete path 100 mm thick @ $350 / m2	[$/m2]	

Table A-6: footpath prioritisation scoring categories

Scoring category, and and sub-total field name in *italics*	Methodology and source Explanation of scoring in purple	Category		Score
Length gap *'lengthScore'*	Length Gap (only for partial existing footpaths – groups 2 and 3) Ideal footpath coverage is based on minimum requirements from the Pedestrian Network Guidance (PNG) – preferred would be both sides everywhere. • ONF = civic spaces, activity streets, main streets, urban connectors = both sides • Land use = commercial big box/industrial, commercial strip shopping (both sides) • Residential local streets = one side Greater the extent of the gap, the greater the score (priority / need for investment)	% shape length	Ideal Coverage	
		>150%	Both sides	20
		100%-150%	Both sides	15
		>50%	One side	15
		50%-100%	Both sides	10
		25%-50%	One side	10
		20%-50%	Both sides	5
		10%-25%	One side	5
		<20%	Any	0
		<10%	Any	0
Condition *'conditionScore'*	Condition (only for existing footpaths – groups 2,3,4). The grades are from the condition reports. G1 excellent, G2	Less than 50% grade 3 (fair) or better	Bad	10

Scoring category, and and sub-total field name in *italics*	Methodology and source Explanation of scoring in purple	Category		Score
	good, G3 fair, G4 poor, G5 bad. This table is to assign an overall condition to a corridor with multiple footpaths with different grades. Poorer condition = greater scores (priority / need for investment)	At least 50% grade 3 (fair) or better	Poor	5
		At least 80% grade 3 (fair) or better	Acceptable	0
		At least 95% grade 3 (fair) or better	Fair	0
		At least 95% grade 2 (good) or better	Good	0
Width *'widthScore'*	Extra width required – average if footpaths on both sides (only for full length existing footpaths – groups 3 and 4). Ideal footpath width is based on the Pedestrian Network Guidance (PNG). Best practice states an absolute minimum of 1.5 m, with the ideal footpath width (based on One Network Framework categories of movement/place: • 'Main Streets' = 3.0 m; • for 'Activity streets' = 2.4 m, • for everything else = 1.8 m. Greater width needed = greater score (priority / need for investment)	>1m		15
		0.5-1m		10
		0-0.5m		5
		0m		0
One Network Framework *'onfScore'*	Streets with greater place value (Main Streets, Activity streets and urban connectors) are given greater scores (priority / need for investment)	Main Streets		10
		Activity Streets		10
		Civic Spaces		10
		Urban Connectors		5
		Local Streets		0
AADT score *'aadtScore'*	Greater volumes of vehicles = greater score (priority / need for investment)	6000+		10
		3000-6000		5
		1000-3000		2.5
		<1000		0

A.4 Relevant guidance

Table A-7: footpath provision: when to provide footpaths, Pedestrian Network Guidance (Waka Kotahi NZ Transport Agency)

<table>
<tr><th rowspan="3">Land use</th><th colspan="4">Footpath provision</th></tr>
<tr><th colspan="2">New roads</th><th colspan="2">Existing roads</th></tr>
<tr><th>Preferred</th><th>Minimum</th><th>Preferred</th><th>Minimum</th></tr>
<tr><td>Commercial and industrial</td><td colspan="2" rowspan="4">Both sides</td><td colspan="2" rowspan="3">Both sides</td></tr>
<tr><td>Residential (on arterials)</td></tr>
<tr><td>Residential (on collector roads)</td></tr>
<tr><td>Residential (on local streets)</td><td>Both sides</td><td>One side</td></tr>
<tr><td>Three to 10 dwellings per hectare</td><td>Both sides</td><td>One side</td><td rowspan="2">One side</td><td rowspan="2">Shoulders on both sides</td></tr>
<tr><td>Fewer than three dwellings per hectare (rural)</td><td>One side</td><td>Shoulders on both sides</td></tr>
</table>

Source: https://www.nzta.govt.nz/walking-cycling-and-public-transport/walking/walking-standards-and-guidelines/pedestrian-network-guidance/design/paths/footpath-design-principles/#where-footpaths-should-be-provided

Table A-8: minimum footpath dimensions, Pedestrian Network Guidance (Waka Kotahi NZ Transport Agency)

Location (place type)	Maximum flow (p/min)[1]	Zone				Total (m)
		Kerb (m)	Street furniture if provided[2] (m)	Through route (m)	Frontage[3] (m)	
Main Streets: arterial streets in pedestrian districts	100+	0.15	2.5	3.0+	1.0	6.65
Activity Streets: alongside parks, schools and other major pedestrian generators	80	0.15	1.5	2.4	0.75	4.8
Local streets near schools and other activities that generate pedestrian activity	60	0.15	1.5	1.8	0.45	3.9
Commercial/ industrial areas outside the CBD						
Urban connectors (collector streets)	60	0.15	0.9	1.8	0.15	3.0
Local streets in residential areas	50	0.15	0.9	1.8	0.15	3.0
Absolute minimum[4]		0.15	0.0	1.5	0.0	1.65

[1] Maximum flow volumes are based on a threshold of 33 persons per minute per metre of footpath width – the point where walking speeds are seriously affected. Refer to Pedestrian Comfort Guidance(external link) (Transport for London, 2019) for more information.

[2] Consider increasing this distance where vehicle speeds are higher than 55 km/h.

[3] Frontage zone may need to be wider in residential areas so the through zone is offset from the boundary for driveway safety

[4] Only acceptable in existing constrained conditions and where it is not possible to reallocate road space.

Source: https://www.nzta.govt.nz/walking-cycling-and-public-transport/walking/walking-standards-and-guidelines/pedestrian-network-guidance/design/paths/footpath-design-geometry/footpath-width/

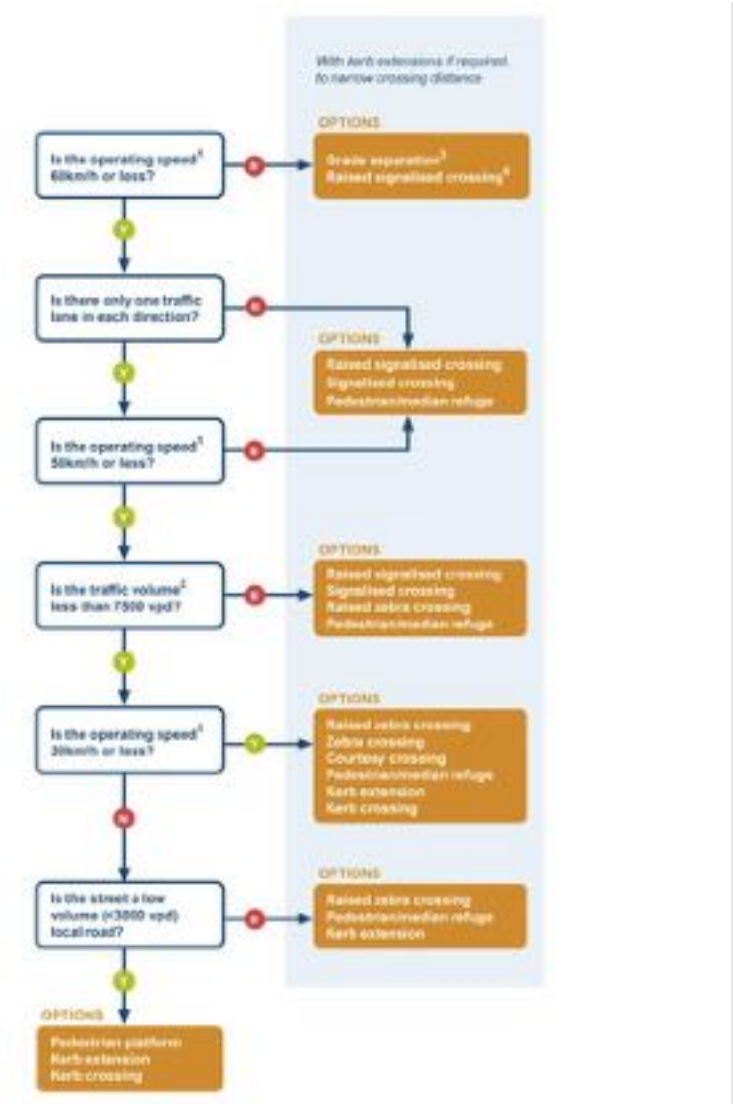


Figure A-1: midblock crossing selection flowchart, Pedestrian Network Guidance (Waka Kotahi NZ Transport Agency)

A.5 Geospatial generation of layers

A.5.1 Generating footpath data

The following process was used for the footpath network coverage maps and footpath prioritisation:

1. Footpath polygons sourced from RAMM were converted to lines in Feature Manipulation Engine (FME).
2. Condition report spreadsheets were attached to footpath lines using road name, side, start and end points.
3. Utilising the same corridors from the crossing types layer, footpath points were generated every 10.0 m along footpaths.
4. Corridor IDs (from Waka Kotahi NZTA's MegaMaps) were attached to footpath points within 10 m of a corridor.
5. Points were summarised by Corridor ID's to get a footpath length, average width and grade for each side.
6. Footpath segments were classified for display / symbology (for footpath network coverage maps) depending on footpath length and segment length
    - *Both sides* if both sides have footpath length > 90% of segment length
    - *One side* if one side has footpath length > 90% of segment length
    - *Partial* if one side has footpath length > 25% of segment length
    - *None* otherwise

There were places where the footpath polygons layer from RAMM had duplicates/overlapping polygons. This could result in a street being identified as having a footpath for the full length when it is a double up for half of the length.

A.5.2 Attaching Slow Streets Data

This is relevant for both the crossing prioritisation and the footpath prioritisation

To attach the slow streets data, mid points were generated for both the active modes and slow streets segments. Using the active modes mid points as a base, slow street segment ID's were joined for segments with midpoints within 10.0 m. Any cases where the road names from the two datasets did not match these were removed. Additional checks were made for variations on State Highway names. Where urban plan midpoints did not yet have a slow streets segment ID, the ID was joined from the closest slow street segment (using the whole line) within 5.0 m of the urban plan midpoint. Any cases where the road names did not match were removed. Pairs of ActiveModes_UID and SlowStreets_SegmentID were used to join the remaining attributes.

There were some cases where the active modes segments overlapped two or more slow streets segments. This is because the active modes segments had only been split at intersections, and the slow streets segments had also been split at school zone boundaries. In these cases, the slow streets data will be taken from the segment that overlaps the midpoint of the active modes segment.