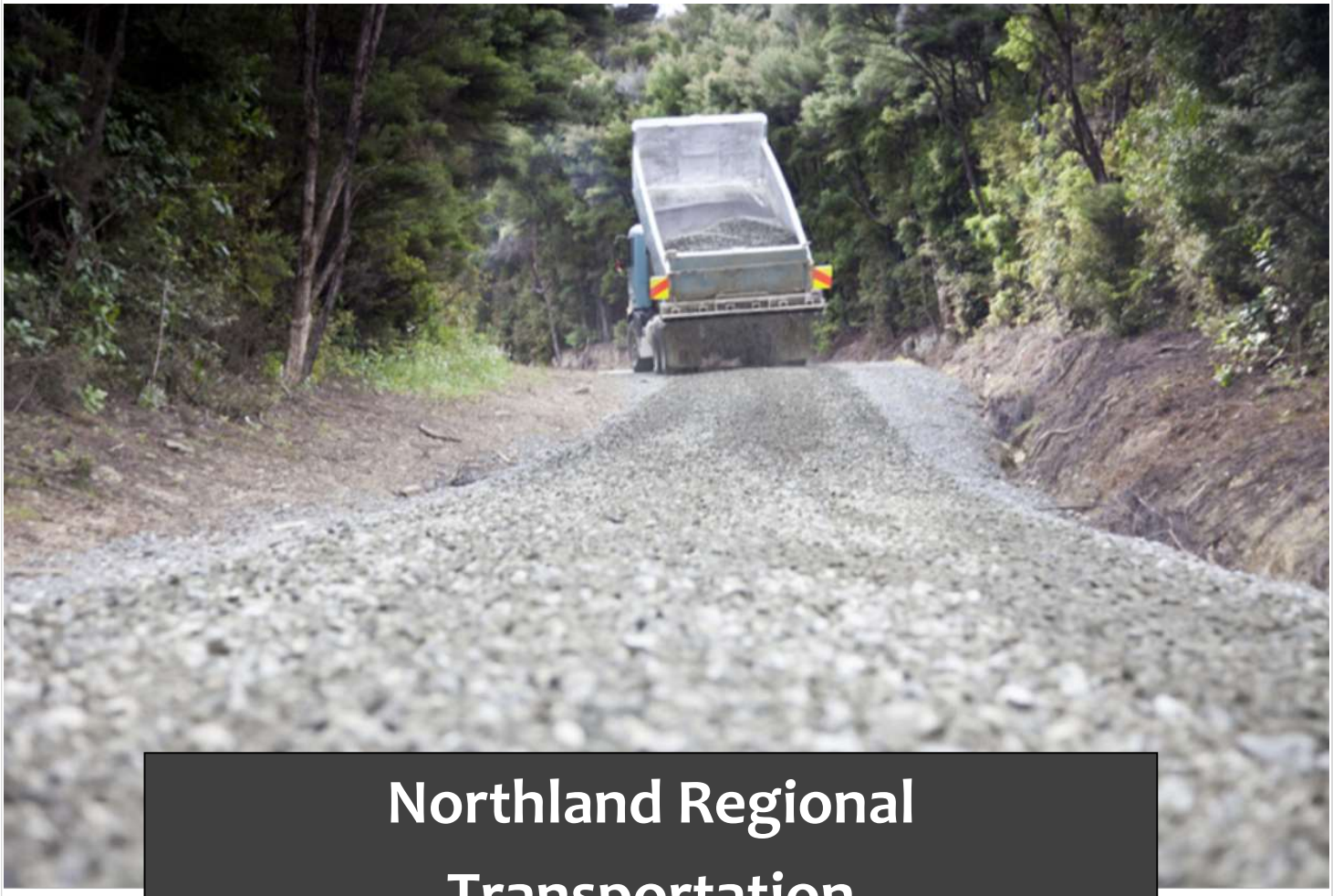

Northland Regional Transportation Activity Management Plan 2024 – 2054

Northland Transportation Alliance

Transportation Activity Management Plan 2024–2054

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Date: April 2024
Status: Version 2.0

Northland Transportation Alliance

Transportation Activity Management Plan 2024–2054

List of Abbreviations

Abbreviation	Description
50MAX	50 Tonne Maximum Load trucks
AADT	Annual Average Daily Traffic
AC	Asphaltic Concrete
AD	Annual Depreciation
ADMS	Asset Database Management System
ADMS	Asset Data Management System
AMP	Activity Management Plan
AR	Annual Report
ATP	Audible Tactile Profile markings (also known as rumble strips)
BCA	Business Case Approach
BCR	Benefit Cost Ratio
CAR	Corridor Access Requests
CCTV	Closed Circuit Television
CERF	Climate Emissions Reduction Fund
CIP	Crown Infrastructure Partners funding
CM	Customer Measure
CMS	Central Management System
CO	Customer Outcome
COE	Centre of Excellence
CRM	Customer Request Management
CRS	Crash Reduction Studies
CSA	Candidate Selection Algorithm
DAPP	Dynamic Adaptive Planning Pathway DAPP
DDP	Deficiency Database and Prioritisation
DIA	Department of Internal Affairs
DSI	Death and Serious Injury
dTIMS	Deighton Total Infrastructure Management System
EES	Environmental Engineering Standards
EM	Efficiency Measure
ERP	Emissions Reduction Plan
FNDC	Far North District Council
FWD	Falling Weight Deflectometer
FWP	Forward Works Programme
GAP	General All-Passing (aggregate)
GDP	Gross Domestic Product
GPR	Ground Penetrating Radar
GPS	Government Policy Statement (for Transport)
HCV	Heavy Commercial Vehicle
HFS	High Friction Surface
HPMV	High Productivity Motor Vehicle
HPS	High-Pressure Sodium
HRRR	High Risk Rural Road
HSD	High Speed Data

Abbreviation	Description
IIMM	International Infrastructure Management Manual
ILM	Investment Logic Mapping
ITS	Integrated Transport Strategy
ITS	Intelligent Transport System
KDC	Kaipara District Council
KSP	Kamo Shared Path
LCLR	Low Cost Low Risk
LCMS	Laser Crack Measuring System
LED	Light Emitting Diode
LGA	Local Government Act
LGNZ	Local Government New Zealand
LoS	Level of Service
LTP	Long Term Plan
MCA	Multi-Criteria Assessment
MIS	Maintenance Intervention Strategy
MMP	Maintenance Management Plan - Unsealed Roads
MOR	Maintenance, Operations and Renewals
MOSS	Maritime Operator Safety System
MOT	Ministry of Transport
MOU	Memorandum of Understanding
NES-F	National Environmental Standards for Freshwater
NLTF	National Land Transport Fund
NPV	Net Present Value
NRC	Northland Regional Council
NTA	Northland Transportation Alliance
NZTA	Waka Kotahi New Zealand Transport Agency
NZUP	New Zealand Upgrade Programme
ODRC	Optimised Depreciated Replacement Cost
OM	Outcome Measure
ONF	One Network Framework
ONRC	One Network Road Classification
OPM	Operational Performance Measures
ORC	Optimised Replacement Cost
PBC	Programme Business Case
PCI	Pavement Condition Index
PGF	Provincial Growth Fund
PII	Pavement Integrity Index
PII	Pavement Integrity Index
PM10	Particulates less than 10 microns in size
RAMM	Road Asset Maintenance Management system
REAP	Rural Education Activities Programme
REG	Roading Efficiency Group
RFS	Request for Service (customer request)
RIDS	Restraint Imperilment Distraction Speed
RIMS	Roading Information Management System
RLTP	Regional Land Transport Plan
RPTP	Regional Public Transport Plan
RRPM	Reflective Raised Pavement Marker
RSAP	Road Safety Action Plan
RSL	Remaining Surface Life
RSMP	Regional Speed Management Plan

Abbreviation	Description
RUL	Remaining Useful Life
SAC	Structural Asphaltic Concrete
SCATS	Sydney Coordinated Adaptive Traffic System
SII	Surface Integrity Index
SSI	Standard Safety Intervention (NZTA pipeline development tool)
STE	Smooth Travel Exposure
SZS	School Zone Signs
TAC	Thin Asphaltic Concrete
TDM	Travel Demand Management
TIO	Transport Investment Online
TMP	Traffic Management Plans
VDM	Vehicle Dimension and Mass
VKT	Vehicle Kilometres Travel
WDC	Whangarei District Council

Northland Transportation Alliance

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Northland Transportation Alliance

Transportation Activity Management Plan 2024–2054

Section 1 – Executive Summary

Northland Transportation Alliance

Transportation Activity Management Plan 2024–2054

Section 1

Executive Summary

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1 Executive Summary

1.1 Introduction

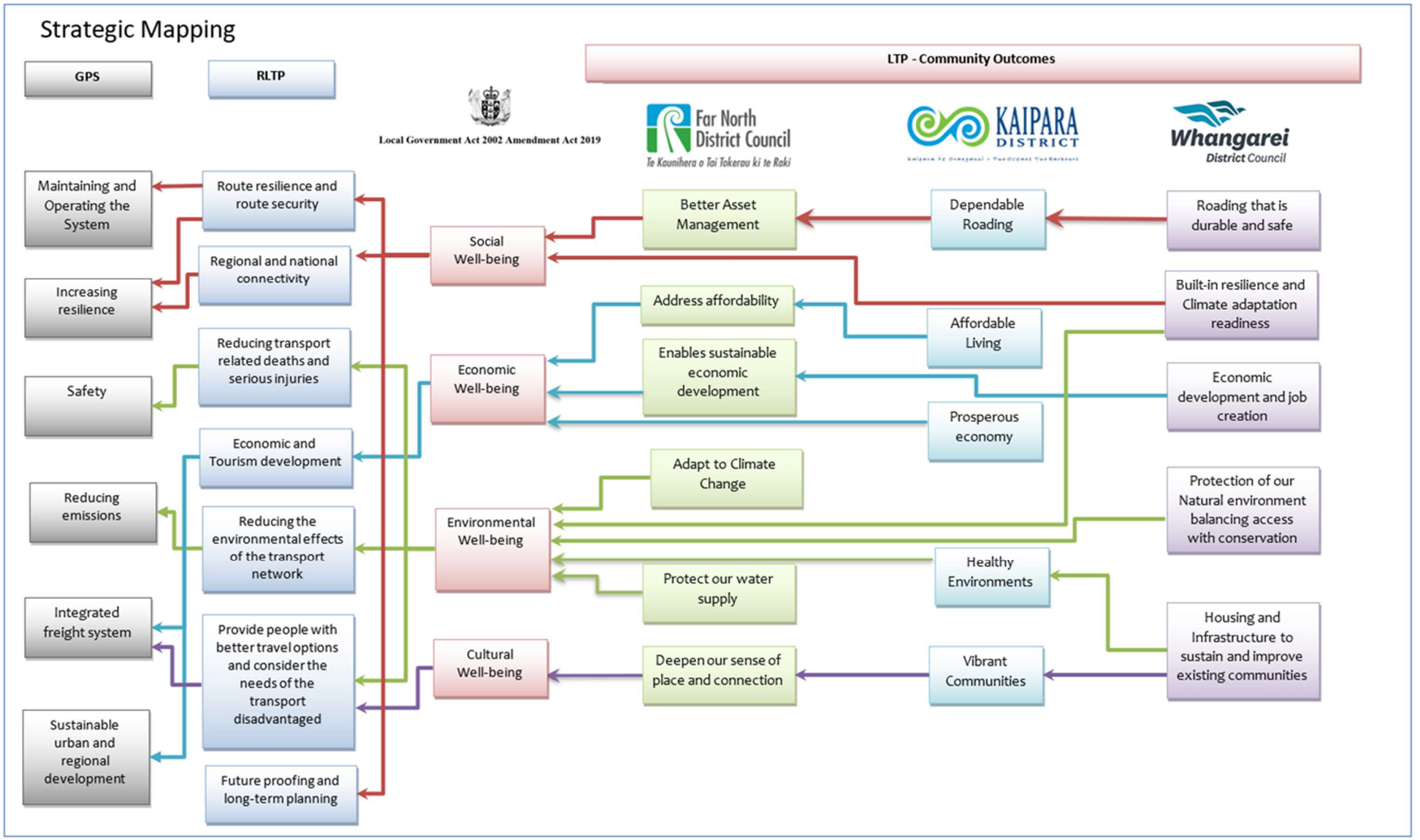
This Transportation Activity Management Plan (AMP) been prepared by the Northland Transport Alliance (NTA) on behalf of the Far North District Council (FNDC), Kaipara District Council (KDC) and Whangarei District Council (WDC). The AMP outlines the current state of the roading assets, the challenges being experienced and a detailed plan of how to meet each council's level of service through the maintenance, operation and continual renewals of assets as well as where to improve its transportation activities over the next three-year period (2024-27) in detail and indicate the intentions over the next 10 and 30 years. The AMP is a living document and extra chapters will be included upon the final budgetary funds secured through each Council's Long-Term Plans (LTPs) and the associated subsidy approved from the National Land Transport Fund (NLTF). The risks to the network (if any) due to the final budgets and quantities of works able to be provided versus the detailed programme of works required to meet the Councils' levels of service will also be highlighted.

The purpose of Council is to provide good-quality local infrastructure, local public services, and performance of regulatory functions in a way that promotes the social, economic, environmental, and cultural well-being of communities in the present and for the future. It is also to meet the vision and objectives of council's commitments to the community, as defined in the Long Term Plan (LTP), and to be consistent with the strategic direction both nationally through the Government Policy Statement (GPS) and regionally through Northland's Regional Land Transport Plan (RLTP).

Te Ringa Maimoa Transport Excellency Partnership (previously known as the Roading Efficiency Group (REG)) have developed the One Network Road Classification (ONRC) principles and the One Network Framework (ONF) as well as performance measures.

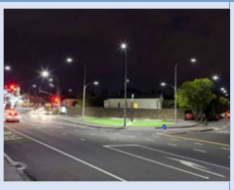
All local Councils, regional, national and industry strategic direction and measures have been embedded into this AMP. The following Figure shows the links between the strategic documents at the national (GPS), regional (RLTP) and local level (LTP).

The AMP has also adopted the Waka Kotahi NZ Transport Agency (NZTA) Business Case Approach in the development of this document.


Strategic Mapping
GPS
RLTP
LTP - Community Outcomes
Local Government Act 2002 Amendment Act 2019
Far North District Council
Te Kaunihera o Tai Tokerau ki te Raki
KAIPARA DISTRICT
Whangarei District Council
Maintaining and Operating the System
Increasing resilience
Safety
Reducing emissions
Integrated freight system
Sustainable urban and regional development
Route resilience and route security
Regional and national connectivity
Reducing transport related deaths and serious injuries
Economic and Tourism development
Reducing the environmental effects of the transport network
Provide people with better travel options and consider the needs of the transport disadvantaged
Future proofing and long-term planning
Social Well-being
Economic Well-being
Environmental Well-being
Cultural Well-being
Better Asset Management
Address affordability
Enables sustainable economic development
Adapt to Climate Change
Protect our water supply
Deepen our sense of place and connection
Dependable Roading
Affordable Living
Prosperous economy
Healthy Environments
Vibrant Communities
Roading that is durable and safe
Built-in resilience and Climate adaptation readiness
Economic development and job creation
Protection of our Natural environment balancing access with conservation
Housing and Infrastructure to sustain and improve existing communities

1.2 What Is Managed – the Transportation Assets

The following table summarises the local road transportation assets in Northland:

Northland's Local Road Network				
				
Total Road Network	Sealed Roads	Unsealed Roads	Bridges and Large Culverts	Drainage Systems
FNDC - 2,509km **KDC – 1,614km** **WDC – 1,774km** **Total – 5,897km**	**FNDC – 910km** **KDC – 471km** **WDC – 1,070km** **Total – 2,451km**	**FNDC – 1,598km** **KDC – 1,140km** **WDC – 683km** **Total – 3,421km**	**FNDC – 723** **KDC – 354** **WDC – 518** **Total – 1,595**	**FNDC - 26,978** **KDC – 15,338** **WDC – 22,120** **Total – 64,436**
				
Footpaths	Cycleways	Streetlights	Signs	**FNDC Hokianga Ferry Service**
FNDC - 234km **KDC – 99km** **WDC – 456km** **Total – 789km**	**FNDC – 87km** **KDC – 32m** **WDC – 22km** **Total – 141km**	**FNDC – 1,995** **KDC – 1,311** **WDC – 6,338** **Total – 8,420** **+ WDC Traffic Signals – 258 (66 Crown)**	**FNDC – 17,715** **KDC – 10,710** **WDC – 15,049** **Total – 39,349** **+ WDC Active Signs – 87**	 **WDC - 2 Opening Bridges**
Asset Valuation (excluding land)	Total Asset Value	Current Value	Annual Depreciation	
FNDC **KDC** **WDC** **Total**	**$1,915M** **$921M** **$1,529M** **$4,365M**	**$1,480M** **$727M** **$952M** **$3,158M**	**$27.6M** **$9.6M** **$24.6M** **$61.8M**	

The following key transportation functions are also part of the transportation portfolio of works:

- Network and asset management
- Safety management
- Management of Corridor Request and traffic management
- Traffic signal operations (on both local and State Highway roads).

1.3 How the transportation assets are managed and by whom

The three district and one regional council's transportation departments formed an alliance in July 2016 – The Northland Transportation Alliance (NTA). This business structure is intended to provide greater efficiencies, by developing "centres of excellence", breaking down the boundaries between the individual council staff and developing the right culture across the organisation.

The current structure of the NTA is defined into four management teams:

- Strategy and Planning
  - Strategic development and Forward Works Planning (FWP)
  - AMP creation
  - Safety management
  - Corridor Access Requests and Traffic Management
  - Budgetary Applications and financial management
- Capital and Procurement
  - Sealed Road Renewals
  - Project management of capital Improvement projects: design, procurement, and implementation
- Maintenance and Operations
  - Management of five maintenance contracts
- Administration and Business Development

The NTA have developed and procured the following major contracts to manage the network:

- 5 x term road maintenance contracts (FNDC x 2, KDC x 1, WDC x 2). These maintenance contracts include reseals, most pavement rehabilitations and pavement markings.
- 1 x term traffic signal contract (WDC)
- 2 x term streetlight contract (FNDC x 1, WDC x 1). KDC has a monthly streetlight maintenance contract.
- 1 x term ferry operation contract for the Hokianga Ferry service (FNDC)
- 4 x term bridge maintenance & operations contracts for the Whangarei opening bridges
- 2 x term Professional Bridge inspection, overweight permits and bridge asset management contracts (FNDC x 1, WDC & KDC x 1)
- A range of other one-off contracts for other activities.

Further improvements due to the creation of the NTA has been a joint activity management plan (AMP) document for the 2021-24 funding application and a subsequent increase in subsidy funding through this improved AMP.

The following Figure is an extract from the Te Ringa Maimoa review of the 2021-24 AMP which indicates the joint AMP as significantly above the National average, but specifically notes:

"The combined AMP is 'good' and shows an improvement across the three councils. Whangarei District Council did well in their 2018 AMP assessment and has continued to show good performance, However, it is FNDC and KDC, that have benefitted significantly from this Alliance, as clearly evidenced by the improvement in their assessment scores."

2021/2024 AMP review - executive summary

Northland Transportation Alliance

Northland Transportation Alliance (NTA), on behalf of the Far North District Council (FNDC), Kaipara District Council (KDC) and Whangarei District Council (WDC), has prepared this combined Activity Management Plan (AMP). The combined AMP is 'good' and shows an improvement across the three councils. Whangarei District Council did well in their 2018 AMP assessment and has continued to show good performance, However, it is FNDC and KDC, that have benefitted significantly from this Alliance, as clearly evidenced by the improvement in their assessment scores. The AMP structure is sound and written in a customer-focused way. Flow and content are clear and provide a robust investment narrative/case. Although 'there is no single correct way to present or structure' the Activity Management Plan (AMP), this AMP could potentially benefit from better utilisation of the International Infrastructure Management Manual (IIMM) AMP and/or the Business Case Approach (BCA) structure. In terms of content, the NTA AMP scores highly with respect to Systems, Communicating and Evidence Te Ringa Maimoa Pillars of Success. The programme business case is comprehensive and very well presented.

	NORTHLAND TRANSPORT ALLIANCE	REGIONAL AVERAGE	NATIONAL AVERAGE
2021 / 2024 AMP	2.58	2.50	2.17
2018 / 2021 AMP	2.01	2.09	1.99

Comparison between historic AMP and regional and National averages.

Extract of Te Ringa Maimoa review of 2021/24 AMP

The AMP is the development of identifying what assets are in our remit, what condition they are in as well as their usage and what are the fundamental challenges or problems to align with our individual council strategic direction. For each problem a benefit is identified, and each benefit is assessed to identify the most beneficial problem to solve.

A deeper investigation into the root cause of the problems is prepared and potential solutions identified, which are again assessed to identify the most beneficial solution.

These are then the strategic directions and programmes of works that will give the best value for the networks based upon the strategic direction from Local Councils (LTPs) and National Government (GPS).

1.4 Key Issues

The key issues and major challenges (not asset specific) for the continual maintenance and operation of Northland's roads are defined below, These are broken into three general categories: Regional issues which have to be addressed and often increase cost above that of other regions in New Zealand; One-off issues which have affected the region; and then there are What our Customers want. Each will be discussed in the report and summarised in this summary.

1.4.1 Regional Key Issues

Northland has a diverse and complex geological foundation. The hills are generally underlain by the deeply weathered and tectonically sheared sedimentary rocks of the Northland Allochthon, bisected by broad valleys and incised gullies, which are filled with young alluvial sediment, intruded by volcanic and plutonic rocks, and mantled by coastal dunes. In brief this makes **the foundations**

for roads very susceptible to movement and land slides particularly when high water tables are evidenced.

The geology has a secondary issue for roading in that there are **relatively few sources of quality aggregate suitable for road maintenance and construction** activities in the region which can lead to long cartage runs to truck in metal and hence increased costs for constructing and maintaining roads.

Northland has a subtropical climate in the Trewartha climate classification, with warm humid summers and mild wet winters.

Due to its latitude and low elevation, Northland has the country's highest average annual temperature., which result in droughts during the summer months. Records indicate that **parts of the region on average have a drought of economic significance every three years.**

Summer cyclones also occur infrequently during La Niña weather phases. These modified **cyclonic depressions affect Northland on average once every five years.** These events produce very high rainfall of up to 100mm/hour and can cause widespread flooding, especially when they coincide with very high tides. Isolated thunderstorm cells dump vast amounts of rain over very small areas causing extreme flash flooding.

During an eleven-month period from July 2022 to May 2023 Northland experienced ten discrete significant weather events, this included Cyclone Hale and Cyclone Gabrielle. The cumulative effects of the excessive rain have exceeded historic records to date, and the impacts to the roading network were extensive. With Cyclone Gabriele 450 roads across the region were impacted with 183 temporarily closed. **The additional works to rectify the effects of the storm damage has been immense, equivalent to 46% of the current 3-year LTP spend on roading MO&R.**

Damage to the network included:

- Localised flooding – bridge structure and scour damage.
- Land instability – over and under slips of roads.
- Excessive tree windthrow and windsnap.
- Ground conditions at absorptive capacity – water is unable to be absorbed into ground and becomes excessive storm water.
- Drainage systems – blocked due to excessive stormwater and debris.
- Unsealed roads wash-off – pavement material washed off roads through intense storm rainfall.
- Excessive moisture in pavement layers causing accelerated deterioration of pavements.

Repairs to the network were classified under immediate response; minor repair (non-complex and each event less than $100K) and major repairs (works greater than $100k both complex and non-complex). All immediate response has been completed and greater than 50% of the minor repairs works have been undertaken one year after the major cyclone Gabrielle. Geotechnical investigation and design is being undertaken for the major repair works and construction is due to commence with some sites prior to the end of the 2023-24 financial year with the remaining works due for implementation over the next two years.

1.4.2 *Regional One-Off issues*

1.4.2.1 *Covid-19 Pandemic lockdowns and resulting inflation escalation*

During 2020 and 2021, New Zealand was placed under a country wide Covid-19 pandemic lockdown and restricted movement levels. Although all movement restrictions have been lifted the effects from this event are still impacting. the region. For Northland, there were two distinct impacts, the first being a physical impact to our roading network assets and the second being a financial impact due to inflation.

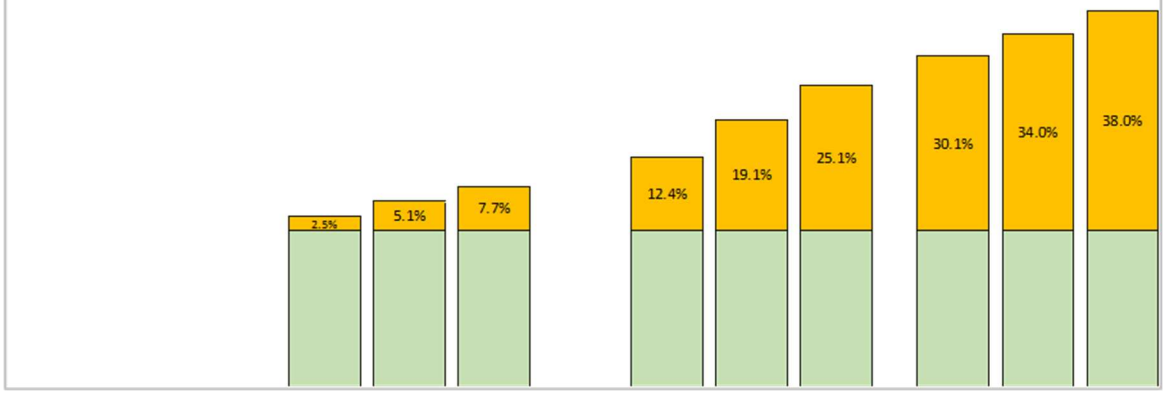
During the country wide lockdowns all construction works such as renewals and preventative maintenance were temporarily stopped, disrupting the continual maintenance process. Preservation of expensive roading assets through preventative maintenance is considered the most economical solution through asset management and therefore when preventative maintenance is stopped or not undertaken the risk to the network is that more costly reactive repairs are required to maintain the same level of serviceability. Unfortunately, it is challenging to clearly define the impacts of the covid-19 lockdown and disrupted maintenance routine as they overlapped with impacts of severe storm events.

The second substantial effect of the Covid-19 lockdown of the country was the increase in construction costs due to supply and demand. When the previous funding application was prepared for the 2021-24 budgets, a nominal escalation of 2.5% cumulative for the three years (compounded as 5.1%) was estimated. Due to the impacts of Covid-19, there were supply and demand constraints which created a significant increase in cost of materials and labour. The average cost index increases due to escalation for 2021-22 for the maintenance contracts was defined as 12.4%, for 2022-23 it was 6% and the anticipated for 2023-24 is 5%. Works in this third year of the approved original budget cost on average 25.1% more.

As the overall budgets for the five major maintenance contracts are basically fixed for the three years of 2021-24 (inflation at market value is not catered for), but the payment structure of the contracts are a proportion of lump sum items and the remaining portion for programmed works. The challenge is that the lump sum rates are escalated at market values, reducing the budget remaining for the programmed works. Secondary as the cost for programmed works is increased this results in substantially less quantities of works being achieved. By 2024 the anticipated reduction in 'buying power' for programmed works was: Whangarei – 23.3%; Kaipara – 26.4%; and Far North – 30.4%. These works are then deferred impacting the next work programmes. **A 23% to 30% reduction in planned works causes a significant deferral of planned works due to inflation and further funding challenges for the next funding application.**

It is worth noting that **compared to the prior application in 2021-24 the current application would be 27.5% more** taking into account the actual and anticipated escalation rates for same funding request, as demonstrated in the following Figure.

	ORIGINAL APPROVED BUDGET			ACTUAL ESCALTION			ANTICIPATED ESCALATION		
	2021/24 AMP			2021/24 AMP			2024/27 AMP		
	Yr1	Yr2	Yr3	Yr1	Yr2	Yr3	Yr1	Yr2	Yr3
Escalation percentage	2.5%	2.5%	2.5%	12.4%	6%	5%	4%	3%	3%
Compound increase as %	2.5%	5.1%	7.7%	12.4%	19.1%	25.1%	30.1%	34.0%	38.0%
Average compound increase as %	5.1%			18.9%			34.0%		
Increase as a % of 21-24 bid	0%			13.1%			27.5%		



Original 2021-24 approved budget compared to actual 2021-24 escalation, alongside anticipated escalation for 2024-27

1.4.2.2 *Maintenance Contracts and potential inflation implications*

On 1 July 2018, new standardised council MO&R performance based hybrid contracts started across Northland. These contracts incorporate best practice principles and are fence to fence, involving most of the M&O aspects with road marking, bridge maintenance, reseals and a portion of rehabilitation work included. These contracts span the whole local road network of Northland. There are two contracts covering each of the Whangarei and Far North Districts and one contract covering the Kaipara District. The MO&R contracts have separable portion terms of 4+2+1+1 years (8 years maximum).

Separable portion 1 of the maintenance contracts ran from July 2018 to June 2022, Separable portion 2 runs from July 2022 to June 2024. Papers are being prepared to take to each council for the award of Separable portion 3 from July 2024 to June 2025, with some negotiated adjustments. The adjustments were due to the delay in awarding cost escalations under the contract (12 months of cost escalation has to be borne by the Contractor until the rates are annually adjusted), and increased risk requirements for temporary traffic management.

As there has been considerable negotiation with the Contractors to ensure they would continue with Separable portion 3, it is unlikely that Separable portion 4 for the final one year will be awarded. With this being considered, then a new maintenance contract will have to be prepared and put out for tender, but this is on hold until the final Section 17A Review report has been issued. Under the Local Government Act 2022, Section 17A, each council has a responsibility to have an independent review of the cost-effectiveness of current arrangements for meeting the needs of communities within its district or region for good-quality local infrastructure, local public services, and performance of regulatory functions. In November 2023 a joint regional review commenced for the Transportation activities of Council and the final report is due in early 2024.

Although preparation of a new maintenance contract has not commenced, all parties are aware that there will need to be some readjustment to the current contract structure. Current industry across New Zealand is indicating up to a 50% increase in rates from previous maintenance contracts tendered. While this trend is concerning, it cannot be accommodated in the future funding bid at that rate. **An estimated increase in tendered rates in Year 2 (2025-26), of 15% has been included across all our budget bids to adjust for industry direction.**

1.4.3 What do Our Customers Want?

1.4.3.1 Resident Satisfaction Surveys

Each district had experienced a general decline in satisfaction relative to previous years surveys.

The main reasons for dissatisfaction for each district's road network is a result of the storm events causing catastrophic land slips and road closures and exacerbated deterioration of the district's networks, both sealed and unsealed, combined with the lack of funds available for planned renewal works.

1.4.3.2 Regional Stakeholder Engagement Workshops

A series of stakeholder engagement workshops were undertaken during 2016 to determine some of the key issues facing stakeholders in the transport system.

In 2019, consideration was given to carrying out a follow up stakeholder engagement workshop. However, it was considered that not enough progress had been made on implementing the 2018/21 programme. Due to the unprecedented weather and storm events of 2022/23, following 2 years of COVID lockdowns and restrictions, it was again felt that follow up workshops would not be justified.

1.5 Transportation Asset Problems and Preferred Options Assessment

This AMP discusses in detail the problems, benefits and solution options for the specific asset groups. Each of which is summarised as follows:

1.5.1 Sealed Roads

There is a growing backlog of pavement maintenance due to various factors like COVID lockdowns, rising costs, limited resources, and frequent storms. The region's geological and climatic conditions make roads prone to early deterioration, needing more frequent and costly repairs. Limited availability of quality materials further drives up costs.

Additionally, freight and forestry traffic put extra strain on the road network, increasing maintenance needs. To address this, a plan integrating forestry needs has been developed, focusing on optimising pavement renewal and implementing new technologies for better maintenance.

The preferred options include optimizing rehabilitation and resealing, investigations into using AI for defect identification, and changing surfacing policies for vested developments to reduce costs. Increasing pavement renewals and improving drainage are also crucial.

Investing in forestry road maintenance ensures safe transportation of logs, sustaining economic benefits. Upgrading freight routes and using thin asphalt surfacing in urban areas can reduce long-term costs. Investigating alternatives to expensive pavement solutions for urban areas is also recommended.

1.5.2 Unsealed Roads

In Northland, many unsealed roads are in poor condition with inadequate drainage and the use of unsuitable materials causing health concerns, resident dissatisfaction, and high maintenance costs. Dust, especially on freight routes, is a major issue impacting residents' health and driving demand for road sealing. To address this, the continued roll out of the Centre of Excellence for unsealed roads is proposed to improve road shape, drainage, and materials, focusing on using compliant wearing courses like Paige-Green specification. It involves gathering data for proactive

maintenance, testing road materials, and limiting residential development on unsealed roads. Preferred options include enforcing material standards, improving grading, and educating the public. Implementing these measures aims to improve road quality, reduce dust, and cut maintenance costs, ensuring a sustainable road network and better community satisfaction.

1.5.3 Drainage

The contract structure of the maintenance contracts in respect of drainage, along with constrained funding budgets and major events like COVID lockdowns, have led to a backlog of drainage works, worsening road conditions. Past drainage efforts have been insufficient to prevent water ingress and flooding, especially on unsealed roads. While culverts are now inspected annually, blocked watertables, which make up most of the drainage network, are not adequately addressed.

Increasing open dispatches for maintenance and renewals show the need for more funding to address drainage issues promptly. The upcoming NTA Drainage Plan and Maintenance Intervention Strategy (MIS) aim to address high-risk areas proactively, focusing on improving watertable maintenance, grading, and culvert design.

Preferred options include providing a comprehensive drainage plan, improving maintenance to prevent water ingress, and replacing or adding culverts as needed. Implementing these measures will improve drainage systems, extend pavement life, and reduce flooding risks during heavy rain. Proper funding for the Drainage Plan will ensure proactive treatment of high-risk areas, ultimately improving road conditions and safety.

1.5.4 Structures

In Northland, aged structures and lack of maintenance are causing premature deterioration, especially in bridges, affecting freight access and increasing the need for costly replacements. FNDC has many bridges with weight and speed restrictions due to underinvestment, hindering productivity. In addition to this, there is limited competition in tenders for bridge work, which delays work and raises prices.

Funding for bridge maintenance and replacements is crucial for FNDC and KDC to prevent costly repairs. The Kohu Ra Tuarua Hokianga Ferry service also strains FNDC's budget. WDC faces corrosion issues with Armco metal culverts, needing replacements.

A professional services contract for bridge inspections aims to develop a predictive maintenance plan. Consolidating bridge data for permit applications will streamline operations for haulage operators.

Retaining walls also need attention, with ongoing inspections and a maintenance plan based on comprehensive data.

Preferred options include developing a long-term bridge strategy, expanding retaining wall inspections, securing sufficient maintenance funding, simplifying procurement processes, and encouraging competition in tendering. Implementing these measures will ensure safe access for freight and high-productivity vehicles, prevent expensive repairs, and improve efficiency and environmental outcomes.

1.5.5 Active Modes (Walking, Cycling, and Miro-Mobility)

Rapid growth in Whangarei and other areas like Kerikeri/Waipapa and Mangawhai has led to congestion during commuter peaks and holiday periods. Remote communities face limited

transportation options, affecting access to work, education, and social activities, leading to safety issues and social deprivation.

There is a lack of connectivity and appropriate widths in pathways, with many footpaths being too narrow, causing accessibility issues. The preferred options include widening footpaths, implementing shared path networks, constructing rural cycle routes, and improving pathways according to Township Improvement Plans and Council Spatial Plans.

These measures aim to encourage active modes of transportation, reduce reliance on private vehicles, and improve overall accessibility and connectivity.

1.5.6 Network Operations

Activities related to building and maintaining our transport network can harm the environment. Clean-fill sites and excessive water from storms can cause pollution. Maintenance practices and construction can harm surrounding plants. To address these concerns, it is important to prioritize good environmental practices throughout the design, construction, and operation of roads. Preferred options from assessments include removing hazardous trees on certain routes and using spraying instead of mowing in specific areas. Other options to consider include managing clean-fill sites better, using best practices when removing vegetation, implementing annual weed control programs, and considering sustainability throughout the lifespan of road assets. Implementing these options will help improve environmental outcomes and road safety by reducing hazards and ensuring compliance with environmental regulations.

Night-time crashes on various road types are increasing in the districts. Line marking costs have risen significantly, which will add to the expense of maintaining road markings each year. Preferred options from assessments include using temporary signs for curves with inadequate skid resistance, increasing funding for a full annual remarking program, and altering pricing structures for streetlights. Implementing these options aims to improve road delineation and reduce the risk of crashes caused by poor visibility. Adequate street lighting will also enhance safety for pedestrians and cyclists at night.

Kaipara and Whangarei have the highest operational traffic management costs compared to their peers. This is due to factors like running recently acquired traffic signals and school zone signs in Kaipara and operating the Te Matau ā Pohe bascule bridge in Whangarei. Preferred options from assessments include improving traffic signal detection and operation in Whangarei and implementing remote operation for the opening bridges. Upgrading traffic signals will make traffic flow more efficiently, reducing congestion. Installing cameras at each site will help address issues faster, potentially lowering operating costs with ATOC support.

1.5.7 Network Safety including Education and Promotion and Demand Management

Northland's rural roads are narrow and winding, leading to a high risk of death and serious injury crashes, especially in FNDC and WDC. Line marking costs are rising, and more funding is needed to meet safety standards, particularly for remarking in the future. Current safety funding levels are insufficient to meet national targets for reducing crashes by 2030.

To address these challenges, treatments for high-risk roads and intersections should be prioritised. Road safety promotion should focus on areas identified as high risk. Roads should be widened and shoulders provided during rehabilitation, and speed management programs implemented across Northland. Safe crossing points for pedestrians and cyclists are needed, especially in Whangarei City.

Preferred options include improving speed management, upgrading warning signage and markings, installing audible tactile markings, prioritising safe crossing points, removing or protecting hazards, making minor alignment improvements, establishing a road safety coordinator, continuing safety promotion campaigns, enhancing speed education programs, implementing travel planning initiatives, promoting vehicle maintenance and safer vehicles, and managing traffic demand during peak periods.

Implementing these options aims to reduce fatal and serious injury crashes, target high-risk areas, improve road network forgiveness, manage speeds effectively, and provide safe routes for pedestrians and cyclists.

1.5.8 Climate Change – Mitigation and Adaptation

Climate change brings intense droughts, fires, flooding, and rising sea levels. In Northland, our roads are vulnerable to slips and floods due to poor geology and drainage systems, which may worsen over time if left unchecked. Access to essential supplies is crucial, especially during floods when the region can be cut off. The Resilience Plan identifies top risks for the transport network, including flooding and land instability.

A resilient transport system is essential for economic and social resilience. Addressing slips and floods proactively, providing detour routes, and considering climate change impacts in planning are key to building a resilient transport system. Therefore, the referred options include crack sealing on slip sites, improving drainage, repairing historic slips, and strengthening routes to isolated communities. These measures will ensure the network is more robust during emergencies and safeguard access to isolated areas.

1.5.9 Growth and Demand

Rapid growth in Whangarei, Kerikeri/Waipapa, and Mangawhai has led to congestion, especially during peak times and holiday periods. Lack of alternative transportation options in remote areas limits access to jobs, education, and social opportunities, leading to safety issues and higher levels of social deprivation.

In Whangarei, the road network is strained by high traffic volumes, with low use of public transport and walking/cycling paths, leading to over-reliance on private vehicles. Kerikeri/Waipapa and Mangawhai face similar challenges, with limited bus services and cycling infrastructure exacerbating congestion.

To address these issues, improvements to public transport and walking/cycling infrastructure are needed, along with education and promotion campaigns to encourage mode shift from private vehicles. Solutions outlined include enhancing active modes, improving network operations and safety, and implementing strategic road networks in growth areas.

By addressing capacity issues, enhancing bus services, and providing better walking and cycling connections, we can reduce congestion, improve access, and lower social deprivation in these communities.

1.5.10 Network Asset Management

Transitioning from a reactive to a predictive approach is the cornerstone of effective asset management. This shift requires high-quality data, the ability to devise strategic responses, and the capability to plan for future works. This entails ongoing inspections, assessments, and data collection. Improved decision-making hinges on having access to superior data, supported by skilled and capable staff.

Insufficient resources pose a significant challenge for the transportation industry in Northland, affecting various aspects from staffing at councils to accessing technical support from consultants. These shortages may lead to higher costs due to limited competition and lower quality work. Additionally, poor communication about road works creates frustrations for motorists, freight operators, and bus users due to resulting delays. Moreover, climate impacts and resilience needs add further strain on asset management teams and available funding.

1.6 How much budget is required for the preferred options?

The budget for these works is divided into continuous maintenance, operations and renewals (MO&R) budget and Improvement works budget, which are further categorised by activity classes: 'Walking and Cycling' and 'Local Road Improvements'.

The Tables following summarise Far North District Council, Waitangi Trust, Kaipara District Council and Whangārei District Council final continuous Maintenance, Operations and Renewal budgets, the Road Safety Promotion budgets and the Low-Cost Low-Risk (LCLR) Improvement budgets as submitted into their respective Council Long Term Pans and into Transport Investment Online (TIO) for FAR subsidy approval.

FNDC Budgets for 2024-27

Continuous Maintenance, Operations and Renewals				
Description	**2024/25**	**2025/26**	**2026/27**	**2024/27 Requested Budget**
Maintenance Activities	$ 15,082,896	$ 17,400,672	$ 17,278,219	**$ 49,761,787**
Operational Activivites	$ 9,392,652	$ 10,138,190	$ 10,311,321	**$ 29,842,163**
Renewal Activities	$ 26,846,720	$ 32,150,614	$ 32,990,650	**$ 91,987,984**
TOTAL 3 YEAR BUDGET	**$ 51,322,268**	**$ 59,689,476**	**$ 60,580,190**	**$ 171,591,934**

Road Safety Promotion				
Description	**2024/25**	**2025/26**	**2026/27**	**2024/27 Requested Budget**
Road Safety Promotion	$ 1,938,458	$ 2,011,295	$ 2,087,009	**$ 6,036,762**
TOTAL 3 YEAR BUDGET	**$ 1,938,458**	**$ 2,011,295**	**$ 2,087,009**	**$ 6,036,762**

Low Cost Low Risk (LCLR) Improvements				
Description	**2024/25**	**2025/26**	**2026/27**	**2024/27 Requested Budget**
Local road Improvements	$ 11,522,561	$ 17,080,359	$ 16,515,062	**$ 45,117,982**
Walking and Cycling Improvements	$ 1,790,000	$ 2,740,000	$ 2,780,000	**$ 7,310,000**
TOTAL 3 YEAR BUDGET	**$ 13,312,561**	**$ 19,820,359**	**$ 19,295,062**	**$ 52,427,982**

Waitangi Trust Budgets for 2024-27

Continuous Maintenance, Operations and Renewals				
Description	**2024/25**	**2025/26**	**2026/27**	**2024/27 Requested Budget**
Maintenance Activities	$ 27,400	$ 34,400	$ 36,400	**$ 98,200**
Operational Activivites	$ 8,900	$ 8,900	$ 8,900	**$ 26,700**
Renewal Activities	$ -	$ -	$ -	**$ -**
TOTAL 3 YEAR BUDGET	**$ 36,300**	**$ 43,300**	**$ 45,300**	**$ 124,900**

Improvements				
Description	**2024/25**	**2025/26**	**2026/27**	**2024/27 Requested Budget**
Local Road Improvements (SPR)	$ 150,000	$ 350,000	$ 400,000	**$ 900,000**
Walking and Cycling Improvements (SPR)	$ 100,000	$ 400,000	$ 300,000	**$ 800,000**
TOTAL 3 YEAR BUDGET	**$ 250,000**	**$ 750,000**	**$ 700,000**	**$ 1,700,000**

KDC Budgets for 2024-27

Continuous Maintenance, Operations and Renewals				
Description	**2024/25**	**2025/26**	**2026/27**	**2024/27 Requested Budget**
Maintenance Activities	**$ 7,133,652**	**$ 8,053,504**	**$ 8,430,990**	**$ 23,618,146**
Operational Activivites	**$ 6,078,566**	**$ 7,909,744**	**$ 7,735,689**	**$ 21,723,999**
Renewal Activities	**$ 14,059,364**	**$ 21,510,844**	**$ 21,794,140**	**$ 57,364,348**
TOTAL 3 YEAR BUDGET	**$ 27,271,582**	**$ 37,474,092**	**$ 37,960,819**	**$ 102,706,493**

Road Safety Promotion				
Description	**2024/25**	**2025/26**	**2026/27**	**2024/27 Requested Budget**
Road Safety Promotion	$ 469,522	$ 441,102	$ 463,700	**$ 1,374,324**
TOTAL 3 YEAR BUDGET	**$ 469,522**	**$ 441,102**	**$ 463,700**	**$ 1,374,324**

Low Cost Low Risk (LCLR) Improvements				
Description	**2024/25**	**2025/26**	**2026/27**	**2024/27 Requested Budget**
Local road Improvements	$ 5,100,000	$ 2,000,000	$ 5,220,000	**$ 12,320,000**
Walking and Cycling Improvements	$ 700,000	$ -	$ 410,000	**$ 1,110,000**
TOTAL 3 YEAR BUDGET	**$ 5,800,000**	**$ 2,000,000**	**$ 5,630,000**	**$ 13,430,000**

WDC Budgets for 2024-27

Continuous Maintenance, Operations and Renewals				
Description	**2024/25**	**2025/26**	**2026/27**	**2024/27 Requested Budget**
Maintenance Activities	$ 10,680,185	$ 12,670,816	$ 12,709,137	$ 36,060,139
Operational Activivites	$ 10,156,270	$ 10,687,699	$ 11,008,329	$ 31,852,298
Renewal Activities	$ 28,965,448	$ 33,566,249	$ 35,365,303	$ 97,896,999
TOTAL 3 YEAR BUDGET	**$ 49,801,903**	**$ 56,924,763**	**$ 59,082,769**	**$ 165,809,436**

Road Safety Promotion				
Description	**2024/25**	**2025/26**	**2026/27**	**2024/27 Requested Budget**
Road Safety Promotion	$ 955,099	$ 977,719	$ 1,001,083	**$ 2,933,901**
TOTAL 3 YEAR BUDGET	**$ 955,099**	**$ 977,719**	**$ 1,001,083**	**$ 2,933,901**

Low Cost Low Risk (LCLR) Improvements				
Description	**2024/25**	**2025/26**	**2026/27**	**2024/27 Requested Budget**
Local road Improvements	$ 9,825,961	$ 13,511,195	$ 11,235,063	**$ 34,572,219**
Walking and Cycling Improvements	$ 2,175,000	$ 4,675,000	$ 5,870,000	**$ 12,720,000**
TOTAL 3 YEAR BUDGET	**$ 12,000,961**	**$ 18,186,195**	**$ 17,105,063**	**$ 47,292,219**

Northland Transportation Alliance

Transportation Activity Management Plan 2024–2054

Section 2 – Introduction

Northland Transportation Alliance

Transportation Activity Management Plan 2024–2054

Section 2

Introduction

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2 Introduction

2.1 Background

The purpose of local government is to promote the social, economic, environmental, and cultural well-being of communities in the present and for the future.

This Transportation Activity Management Plan (AMP) has been prepared by the Northland Transportation Alliance (NTA) on behalf of the Far North District Council (FNDC), Kaipara District Council (KDC) and Whangarei District Council (WDC). The AMP outlines how the district councils will maintain, operate and develop its transportation activities over the next three-year period (2024-27) in detail and show the intentions over the next 10 and 30 years to help achieve these well-beings.

The document is structured in a typical business case approach: Strategic; Programme; and Detailed. The main document provides the summarised Strategic and Programme business case chapters with the detailed programmes of work for renewals and improvements. There are ten appendices, the first six supply the detailed business case for each asset grouping and the remaining four supply supporting information relating to the strategic approach to our network about Safety; Climate; Growth and Demand; and Network Asset Information Management.

As this is considered a living document for the period 2024-27, Section 8 (Approved Funded Programme) of the main document will be reviewed and updated at specific times. Section 8 will not be written until the Council Long Term Plans (LTPs) and the Funding Assistance Rate (FAR) subsidy funding has also been approved.

2.2 Purpose, Framework and Key Elements of the Transportation AMP

The ease of movement of people and goods is of critical importance to a thriving Northland Region. The way we move supports economic transactions, growth and development, social cohesion, health and the day-to-day running of our communities. It is one of the most important functions we provide.

Strategically, as a core service it is important that our transport network is efficient and supplies choice. It recognises that, in certain parts of the network, pedestrians and cyclists are the priority. As our Region grows, public transport will become more important.

An integrated, safe, responsive, and sustainable land transport system is a fundamental requirement of every district council under the Local Government Act 2002. The Far North District Council, Kaipara District Council and Whangarei District Council are the Road Controlling Authorities (RCAs) for the Region, and we manage the planning, creating, operating, maintaining and rehabilitating of all roads (except State Highways) in a financially responsible manner.

The purpose of the Transportation AMP is to meet the vision and objectives of the Council's commitment to the community, as defined in the Long-Term Plan (LTP), and to be consistent with the strategic direction both nationally through the Government Policy Statement (GPS) and regionally through Northland's Regional Land Transport Plan (RLTP).

To meet these obligations, the Northland Transportation Alliance (NTA) undertakes an asset management process that applies the Business Case Approach (BCA) principles of accurately

showing problems, opportunities and consequences, along with benefits associated with correcting these problems and clear logic and evidence to support it.

The framework and the key element of asset management used in this plan are:

- Supplying a defined level of service and monitoring performance
- Managing the impact of demand changes
- Taking a lifecycle approach to developing cost effective strategies
- Identifying, assessing and appropriately managing risk
- Long term financial planning which identifies expenditure and how it will be funded.

Potential negative effects

Transportation activities contribute to several negative environmental effects including water quality, air quality, noise, and safety-related issues. However, all activities are undertaken per the environmental standards. We invest in walking and cycling and public transport to help reduce some of these impacts.

2.3 Regional Overview - Northland

Northland is approximately 260km in length from Cape Reinga to Te Hana. It consists predominantly of rolling terrain with generally poor slip prone geology and includes several harbours, inlets and rivers. The population of Northland is 179,000 (in 2018).

The region has approximately 6,700km of road network, including 900km of state highway and 5,800km of local roads, of which only 40% is sealed. Northland's main artery, State Highway 1, is around 340km long and connects Northland to Auckland and the rest of the country. For this reason, State Highway 1 is Northland's economic lifeline.

The region is administered by four councils:

- Northland Regional Council (NRC)
- Far North District Council (FNDC)
- Kaipara District Council (KDC) and
- Whangarei District Council (WDC).

From a transport perspective NRC run the subsidised public bus and total mobility services, and the three district councils maintain and operate the local road network in Northland. In addition, Waka Kotahi New Zealand Transport Agency handle the maintenance and operation of the state highway network.

Northland has a rail link to Auckland (Swanson) from Moerewa (Otiria). The Swanson to Kauri (just north of Whangarei) section of the line was re-opened in 2021 after a four-month closure for upgrades. The Kauri to Otiria section of the line closed in 2022 for work upgrades in order to carry 18 tonne axle loads and is due for re-opening in 2024. The old branch line to Dargaville from south of Whangarei was closed and there are no plans currently to upgrade or re-open this section. There are plans for an 19km spur link from Oakleigh, just south of Whangarei to Northport, Marsden Point. Land purchase, consultation and a delivery case are underway. Once approved construction should take five years.

Northland's major marine port is Northport at Marsden Point but has several smaller coastal ports as well. Northport can support coastal shipping as well as the storage and movement of bulk freight. It is connected to the national highway network, though lacks direct rail access. Other smaller ports (such as Opua) can support recreation, tourism and fishing.

The region's three airports – Kaitaia, Kerikeri and Whangarei – all presently have flights to Auckland. Air New Zealand runs from Bay of Island (Kerikeri) and Whangarei while Barrier Air is running the Kaitaia - Auckland route.

Subsidised contracted public bus services operate the following routes:

- Whangarei City Link - 7 urban routes – Monday to Saturday.
- Far North Link – 4 routes: Kaitaia circuit (four times a day on Tuesday, Wednesday and Thursday), Ahipara to Kaitaia (once a day return on Wednesday), Mangonui to Kaitaia (once a day return on Tuesday) and Pukenui to Kaitaia (once a day return on Thursday).
- Mid North Links – 2 routes: Kaikohe to Kerikeri/Waipapa and Kaikohe to Waipapa via Waitangi – Once a day return on a Tuesday and Thursday.
- Hokianga Link - Omapere/Opononi to Kaikohe – Once a day return on a Tuesday and Thursday.
- Hikurangi Link – Whangarei to Hikurangi – two times a day return on Thursday.
- Bream Bay Link – Kaiwaka to Whangarei – Once a day return on Thursday.

Total Mobility is a nationwide scheme that provides a transport subsidy to help people with disabilities stay connected within their community. Total Mobility Schemes run in the Whangarei area and the Far North District.

The region also has a Great Ride (part of the New Zealand Cycle Trail) in the Far North (the Twin Coast Cycleway), which connects the east and west coast. There is also a shared path network under development in Whangarei City and in Mangawhai, Kaipara.

The Twin Coast Discovery Highway also traverses the Region and links into Auckland which encourages tourists to Northland.

Northland as a region has a number of natural and physical advantages, for example:

- Strong tourism and growth potential with well-regarded beaches, historic heritage, a warm climate, safe harbours and close proximity to Auckland.
- Strong industry potential with a rural-based and manufacturing economy including pastoral farming, forestry and fishing, two large dairy factories, a large cement factory at Portland, and wood processing facilities around the region.

- Auckland's need for raw materials and food to sustain its growth is being sourced from Northland.

2.4 District Overview – Far North, Kaipara and Whangarei Districts

An overview of the transport "story" for each district council is given in the following section to supply some context about the key outcomes that these communities want to achieve as well as the issues they face.

2.4.1 *Far North's "Story"*

The Far North District stretches from Cape Reinga in the north to the Waipoua Forest and Whangaruru Harbour in the south. It includes both east and west coastlines and has many harbours and inlets including the Bay of Islands and Hokianga Harbour.

The population of the Far North is 65,250 (in 2018 census data) and this is spread over the whole district with Kaitaia, Kaikohe and Kerikeri being the largest towns. The district is predominantly rural in nature with many small communities found on the coast or within river valleys. The Far North has a growing population with most of this growth occurring on the east coast, particularly in the Kerikeri/Waipapa and Doubtless Bay areas. There is a static or declining population on the west coast and some mid north communities.

The Far North has one of the largest Māori populations in the country and strong cultural ties to the past. Far North is the home to many iwi tribes including Ngāpuhi, Te Aupouri, Te Rarawa, Ngāti Kahu and Ngati Kuri. It also has a strong historic connection being the birthplace of the nation and includes the historic Waitangi and Russell.

Far North's economy is similar to the rest of Northland in that it is based on primary production including farming, forestry and horticulture in Kerikeri and more recently Houhora. It also has a strong tourism industry focused around the Bay of Islands with 88 cruise ships expected in 2023/24. There is a power station at Ngawha which is being upgraded to cater for the Far North's power needs and an adjacent business park is planned to make use of this power supply.

There are high levels of social deprivation in the Far North and it, along with the Gisborne area, are recognised as having the highest levels of deprivation in the country.

A summary of the Far North District Council's transport system is supplied below:

Far North District Council				
				
2,509km Total Road Network	**910km** of Sealed Roads	**1,598km** of Unsealed Roads	**723** Bridges and Large Culverts	**26,978** Drainage Systems
				
234km of Footpaths	**87km** of Cycleways	**1,995** Streetlights	**17,715** Signs	**Hokianga Ferry Service**

The Far North has a high proportion of unsealed roads and many of these serve forestry areas. This has resulted in problems with poor road condition and dust, which has driven public demand for dust suppression and road sealing.

The bridge network has been under-funded resulting in many bridges in poor and very poor condition. There are a high number of weight restricted bridges, and the Far North has the most 50MAX restrictive bridges in the country.

The Hokianga Ferry service supplies an essential part of the transport system, linking Rawene to Kohukohu across the Hokianga Harbour.

The Far North has a developing footpath network in many towns and villages, although several communities have little or no facilities.

The Twin Coast Cycle Trail is part of the national Great Ride network and stretches from Opua on the east coast to Horeke on the west coast (Hokianga Harbour) and allows recreational and tourist cyclists to explore this historic area of the Far North.

As described in the Northland Overview above, there are several subsidised bus services in the Far North, including the Far North Link, Hokianga Link and Mid North Link.

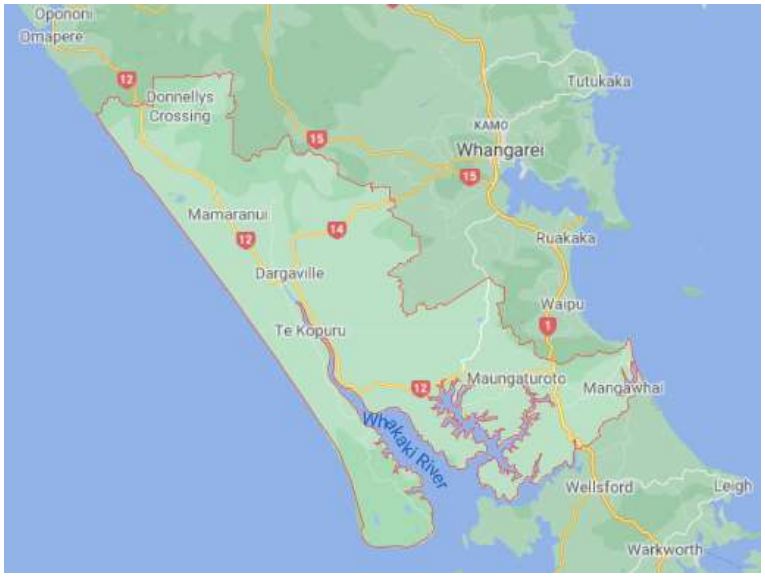
The North Auckland Rail Line stretches to Otiria, near Moerewa, in the Far North and this line is currently being upgraded with an expected re-opening in July 2024.

Key issues for the Far North's transport system are:

- Poor safety record with an increasing rate of death and serious injury crashes.
- A large, unsealed network which is subject to high forestry traffic volumes resulting in poor condition and dust impacts to local residents.

- Few transport links with the rest of the region which are prone to slips and flooding during storm events resulting in many road closures.
- Many isolated coastal communities which are heavily reliant on a vulnerable road network for access.
- Poor bridging stock which is restricting freight routes and making the transport network more vulnerable to failure.
- Growing congestion in summer holiday periods from sustained growth in the Kerikeri and Waipapa areas.
- Lack of transport choice in most communities which contributes to higher levels of social deprivation.
- A backlog of asphalt surfacing on arterial roads in the major towns.

2.4.2 *Kaipara's "Story"*



The Kaipara District covers the west coast and hinterland of Northland from the Waipoua Forest in the north to the Kaipara Harbour in the south and stretches across to the east coast at Mangawhai. As well as including the northern shore of the Kaipara Harbour, it includes the major watercourses of the Northern Wairoa and Kaihu Rivers.

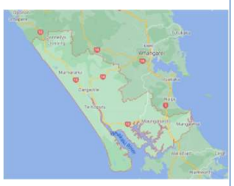
The population of the Kaipara District is 22,869 (in 2018 census data) and is sparse, with Dargaville and Mangawhai being the largest towns. It is mainly rural in nature with many small, predominantly coastal villages. The Kaipara District is the fastest growing district in Northland, with most of this growth occurring in Mangawhai which is the fastest growing town in the country due to overflow housing pressure from Auckland.

Kaipara has a strong Māori heritage with Ngāti Whatua being the local iwi. There are many Marae in coastal communities along the Kaipara Harbour coastline and this ties back to the past when the Kaipara Harbour and Northern Wairoa Harbour were the main means of transportation in the area. Likewise, there are many wharves that were built in colonial times to cart freight, and in particular kauri logs, from Northland to Auckland.

Like the rest of Northland, Kaipara's economy is based mainly on primary production, particularly dairy farming, forestry and horticulture including kumara farming on the coastal plains of the lower reaches of the Northern Wairoa River. Kaipara also has a large Fonterra milk-processing facility in Maungaturoto. Tourism is a growing sector in Kaipara with access to the Matakohe Kauri Museum, west coast beaches and Waipoua Forest. Mangawhai is a holiday destination, particularly for Aucklanders, and they add to the seasonal economy of the local area.

In the 2012-2014 period, many residents in Mangawhai and in the wider District, refused to pay their rates in protest to rapidly increasing rate hikes being imposed by the Council following a significant cost increase in the Mangawhai sewerage scheme. The Minister of Local Government appointed Commissioners in September 2012 for a period of four years to address the issues of concern. In order to resolve the issues, the Commissioners imposed lower levels of funding for maintenance and renewal activities and therefore relative austerity, belt-tightening and debt reduction was undertaken. Residents and ratepayers elected their new Council in 2016. Particular emphasis in reinstating the original level of service for the roading network has been the major focus following the period of Commission.

A summary of the Kaipara District Council's transport system is supplied below:

Kaipara District Council				
				
1,614km Total Road Network	**471km** of Sealed Roads	**1,140km** of Unsealed Roads	**354** Bridges and Large Culverts	**15,338** Drainage Systems
				
99km of Footpaths	**32km** of Cycleways	**1,311** Streetlights	**10,710** Signs	

The Kaipara District has a high proportion of unsealed roads, which are used by freight including quarries and agriculture, and several of these serve forestry areas. This has resulted in problems with poor road condition and dust. To date Council has resisted public demand for dust suppression and road sealing. It has instead invested in alternative quarry sources and blends for its unsealed roads to good effect.

The bridge network is starting to deteriorate due to lack of maintenance in the recent past and this is leading to expensive repairs.

The footpath network in Kaipara is mainly found in towns and villages within the district. Many of these communities such as Dargaville, Maungaturoto and Kaiwaka are severed by the State Highway network and have poor crossing points. There are currently no dedicated cycleways in the Kaipara District, although implementation of the first phase of a shared path in Mangawhai has been undertaken.

There is only one subsidised bus service in Kaipara which is the Bream Bay Link which supplies access from Mangawhai and Kaiwaka to Whangarei.

The North Auckland Rail Line cuts through the Kaiwaka and Maungaturoto areas on its way to Whangarei and further north. This line is currently being revitalised through recent funding from the Provincial Growth Fund. The Dargaville Branch Rail Line which runs from Mangapai to Dargaville is currently mothballed.

Key issues for the Kaipara's transport system are:

- Poor safety record with Kaipara being a High Community at Risk for death and serious injury crashes.
- A large, unsealed network, some of which is subject to high forestry traffic volumes resulting in poor condition and dust impacts to local residents.
- Many isolated coastal communities which are heavily reliant on a vulnerable road network for access.
- Bridges which are deteriorating due to lack of maintenance in the recent past.
- Growing congestion in summer holiday periods from rapid growth in Mangawhai.
- Lack of access to public transport, no cycleways and severance of local communities caused by the State Highway network results in poor use of alternative transport modes.

2.4.3 *Whangarei's "Story"*

The Whangarei District is a triangular shaped district that reaches from Whangaruru Harbour and Twin Bridges in the north to the Brynderwyn Ranges in the south. It is bounded by the Far North District to the north and the Kaipara District to the west and south. The district surrounds the Whangarei Harbour and has many other harbours and inlets.

The population of the Whangarei District is 90,960 (in 2018 census data) and approximately two thirds of this is located in Whangarei City which is the only city in Northland. There are also several towns including Hikurangi, Ruakaka and Waipu as well as many coastal and rural villages and communities. The population has been growing strongly in Whangarei for the past five years and much of this growth has occurred in Whangarei City and the Ruakaka/Marsden area.

There is a significant Māori community in Whangarei and historically the Whangarei Harbour was the main means of transport for Māori. The local iwi is Ngāti Whatua and there are still many Marae found on the coastal fringe and waterways of the district. There is also a more recent history of colonial use of the harbour, with many industries being developed around the harbour edge.

Whangarei's economy is more diverse than the rest of Northland as it is the main service centre in the Region. As well as primary production industries such as dairy farming, forestry and horticulture in the rural areas, the city supplies many commercial, retail and social services to the wider region. Whangarei City also has a strong marine and ship building industry. The economy is supported by the main regional port of Northport at Marsden Point. Fonterra also has a large milk processing facility at Kauri just north of Whangarei.

A summary of the Whangarei District Council's transport system is supplied below:

Whangarei District Council				
				
1,774km Total Road Network	**1,070km** of Sealed Roads	**683km** of Unsealed Roads	**518** Bridges and Large Culverts	**22,120** Drainage Systems
				
456km of Footpaths	**22km** of Cycleways	**6,338** Streetlights **258 (66 crown)** Traffic Signals	**17,840** Signs **87** Active Signs (ITS (Intelligent Traffic Systems))	**2** Opening Bridges

The urban sealed road network in Whangarei City has deteriorated over time and is slowly being addressed, although further work is required. Due to high traffic loads on many arterial routes, expensive renewal treatments have been needed.

Although Whangarei does not have a significant unsealed road network compared to the other districts, several of these serve forestry areas. This has resulted in problems with dust affecting local residents and calls for dust suppression and sealing of roads. Much of the unsealed road network has a lack of aggregate due to lack of investment in the past.

The bridge network in Whangarei is generally in adequate condition, although there are a significant number of large steel (Armco) culverts that are in poor condition and have been progressively replaced. In Whangarei City, the Te Matau ā Pohe and Kotuitui Whitinga opening bridges are used to enable marine traffic to pass through.

The footpath network is mature in the city but is still being developed in towns and villages within the district. Communities within the city are severed by the State Highway network and main arterial roads which have poor crossing points. A shared path network is currently being

constructed in Whangarei City to provide safe walking and cycling opportunities. A rural cycle path is also being constructed between Waipu and Waipu Cove.

The CityLink bus service provides public transport in Whangarei City and has several routes from the outer suburbs into the city centre. However, this service is not well utilised because the buses get stuck in the same queue as private vehicles, the service is not convenient and all-day parking in Whangarei is cheaper than the bus fare. There is only one rural subsidised bus service in Whangarei which is the Bream Bay Link which provides access from Mangawhai, through Waipu and Ruakaka to Whangarei.

The North Auckland Rail Line travels in a north south direction through the district cuts through Whangarei City and further north. This line is currently active through to Kauri north of Whangarei and is under revitalisation beyond this point. The Dargaville Branch Rail Line which runs from Mangapai to Dargaville is currently mothballed.

Key issues for the Whangarei's transport system are:

- Poor condition of the urban sealed road network in Whangarei City.
- Congestion in the city which is being worsened by high population growth.
- High fatal and serious crash rate on the district's arterial roads.
- An unsealed road network that has a lack of aggregate, some of which is subject to high forestry traffic volumes resulting in poor condition and dust impacts to local residents.
- Many isolated coastal communities which are heavily reliant on a vulnerable road network for access.
- A poorly used bus system in Whangarei City, lack of access to public transport in rural areas, incomplete shared path network and pedestrian severance caused by the State Highway and arterial road network results in poor use of alternative transport modes.

2.5 Our customers and stakeholders

Our customers and stakeholders are summarised as follows:

- Waka Kotahi New Zealand Transport Agency
- Ministry of Transport
- Regional Land Transport Committee
- Local Iwi
- Ratepayers and Residents
- Utilities providers
- Freight operators
- Public transport operators including school bus operators
- Pedestrians, cyclists, scooter users etc
- Mobility challenged users
- Vehicle operators and passengers.

The needs of these customers and stakeholders have been considered during the development of this Activity Management Plan. For significant projects, affected stakeholders and customers will be consulted to determine any specific requirements and impacts.

2.6 Relationship with Other Documents

The AMP is a living document reflecting best practice, and central and local government requirements, policy and guidance. It will be used to inform the Council's Long-Term Plan and National Land Transport Programme as well as providing guidance and direction of asset management strategies and operations for roading staff and contractors.

This section describes how the AMP aligns to relevant national, regional and local organisational strategies. The strategies with the most direct impact on this AMP are outlined below.

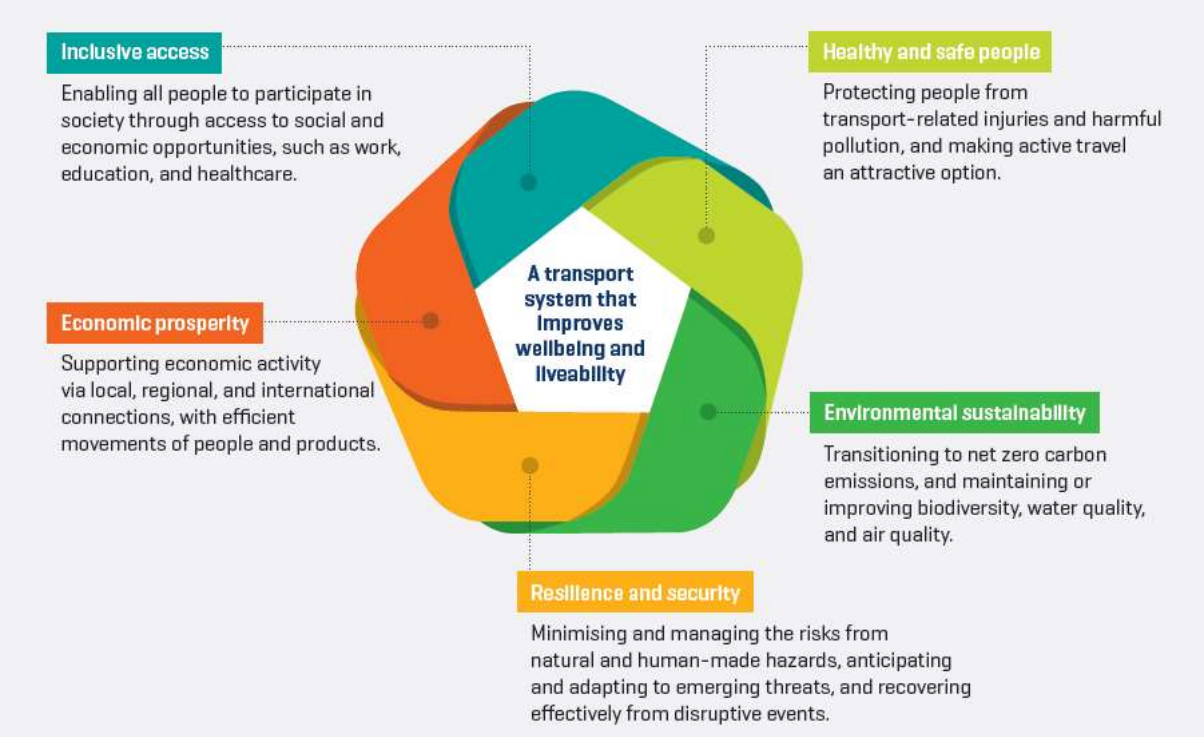
2.7 Local Government Act 2002 amendment act 2019

The Local Government Act 2002 defines the purposes and functions of 'local government' as well as providing the legal framework for establishing and administering Councils.

In 2019, the Government passed an amendment to the Act to reinstate the four well-beings which were removed by amendment in 2012. The purpose is to support Local Authorities to play a broad role in promoting the social, economic, environmental, and cultural well-being of their communities, taking a sustainable development approach.

2.8 Transport Outcomes Framework

The Ministry of Transport's Transport Outcomes Framework (June 2018) identifies what the government is trying to achieve through the transport system. It has proven that the purpose of the transport system is to improve people's wellbeing, and the liveability of places. It does this by contributing to five key outcomes, summarised in the diagram below:



A guiding principle in the framework is mode neutrality. Mode neutrality involves two important aspects:

1. Making sure all modes and options are considered and evaluated to find the best system solution.

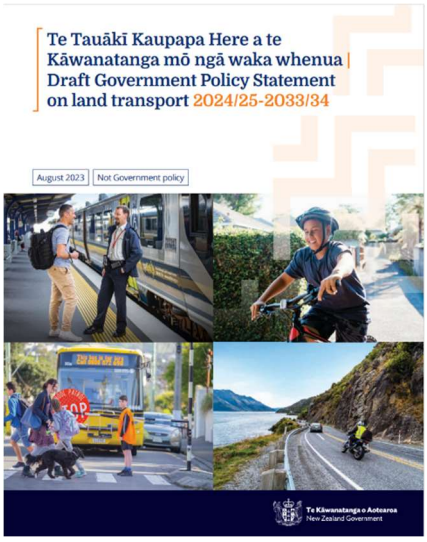
2. Making users and decision-makers more aware of the benefits and costs of transport choices, to incentivise robust decision-making and smart travel choices.

Specifically, the framework notes that more attention needs to be given to public transport and active modes as well as rail and coastal shipping.

In May 2022 a set of 37 Transport Indicators were issued by the Te Manatū Waka (Ministry of Transport)

The Transport Outcomes Framework is a guiding document for the Government Policy Statement (GPS) for Transport as described in the following section.

2.9 Government Policy Statement on Land Transport 2024/25 -2033/34 (GPS 2024)



The draft Government Policy Statement 2024/25-2033/34 (GPS 2024) outlines the Crown's land transport strategy over the next ten years, the funding available, and where funding should be directed to deliver on this strategy.

The draft GPS 2024 six strategic priorities are as follows:

- Maintaining and operating the system
- Increasing resilience
- Reducing Emissions
- Safety
- Sustainable urban and regional development
- Integrated Freight system.

These strategic priorities reflect a need to rebuild after recent weather events and to strengthen the resilience of the entire transport system.

The draft GPS 2024 aims to deliver the following Transport choices outcomes and the following table identifies the measures to be used to monitor the progress:

Strategic priority	Contribution to Transport Outcomes	Measures we will use to monitor progress
Maintaining and operating the system	Investments in maintenance renewals and replacements support base asset condition	• Proportion of the state highway network that meets minimum asset condition requirements • Proportion of travel on smooth roads (local roads) • Asset sustainability ratio (state highways)
Increasing resilience	Existing infrastructure will have increased adaptive capacity	• Percentage of high-risk, high-impact routes with a viable alternative (also a measure under "Integrated freight system") • The proportion of unplanned state highway road closures resolved within standard timeframes
	Urban planning and development will minimise risk of climate change to communities	• Te Manatū Waka will work with Waka Kotahi and other agencies to develop improved adaptation and resilience measures
Reducing emissions	The ERP will be on track to achieve its emissions reduction targets	• Greenhouse gas emissions from the land transport system • Light vehicle kilometres travelled • Proportion of light vehicle fleet that are no/low carbon vehicles • Emissions from freight transport
Safety	The system is on track to achieve the Road to Zero targets	• Deaths and serious injuries (DSIs) on the land transport system – Target 40 percent reduction by 2030 • Head-on, run-off-road and intersection DSIs • DSIs involving low safety rating vehicles
Sustainable urban and regional development	Reduced reliance on cars in urban areas	• Increase access to social and economic opportunities by public transport and active modes • Mode share of PT and active modes • Proportion of new housing with access to frequent public transport • Perceived safety of walking and cycling • Percentage of people that view active modes as an attractive and feasible alternative to driving for their most recent journey • Private vehicle occupancy
	Improved transport journeys	• Commute length • Trip rate (measure of how often people leave their homes) • Predictability on key urban roads (good indication of urban congestion) • User experience by mode (increasing for shared and active modes)
Integrated freight system	Improved freight supply chain efficiency	• Rail travel time reliability (freight)
	More freight is moved by low carbon modes	• Freight mode share
	Freight routes are more resilient	• Proportion of outages that are restored within agreed timeframes • Number of rail freight derailments • Percentage of high-risk, high-impact routes with a viable alternative

2.10 Waka Kotahi (NZTA) Arataki 2023

Arataki has been developed as a shared sector view of how we need to plan, develop, and invest in the land transport system during the next 30 years. Arataki 2023 provides a strong foundation to have ongoing conversations with partners of Waka Kotahi New Zealand Transport Agency (NZTA) and others to co-create the plan. Arataki provides direction that will guide how we'll work together during the next 30 years to deliver the future land transport system needed to keep Aotearoa New Zealand moving.

Arataki was first published in 2019. It identified the significant shifts, known as step changes, needed to meet the government's short-term priorities and long-term outcomes for the land transport system over a 10-year period. It also considered how Waka Kotahi should focus its efforts on each region.

Arataki version two was published in 2020. This release reflected the initial impact of COVID-19 on the land transport system. This work supported the Waka Kotahi response to the global pandemic.

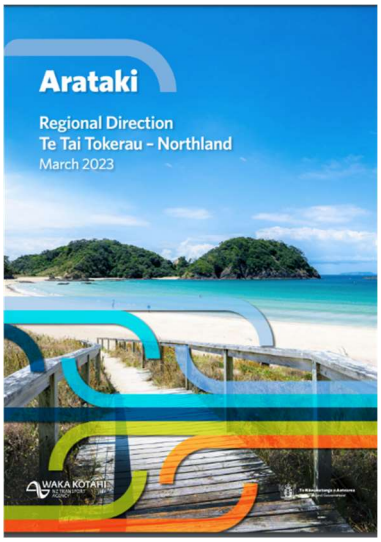
In 2022, we took our first step towards developing a longer-term view with the 30-year plan: Baseline network version. This release was launched as a prototype on a digital platform to support land transport planning and investment decisions. It focused on the actions Waka Kotahi (in collaboration with others) would need to make to the state highway network to achieve priority outcomes and deliver a fit-for-purpose land transport system.

This current version of Arataki 2023 replaces all earlier versions, including Arataki: 2021-2031 and the 30-year plan: Baseline network version.

The NZ Transport Agency have summarised the six key drivers that will shape the future land transport system as:

- Demographic change
- Climate change
- Technology and data
- Changing Travel Patterns
- Changing economic structure
- Funding and financing challenges.

Within Arataki are specific regional directions, with Te Tai Tokerau – Northland being the first.



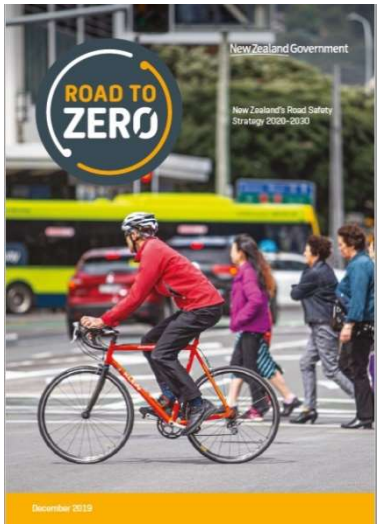
For efficient and effective progress, the transport challenges for Te Tai Tokerau must be tackled in a cohesive way. The directions below identify the most important issues to be resolved over the next 10 years to make progress towards transport outcomes.

- Significantly reduce the harm caused by the transport system of Te Tai Tokerau, especially through improved road safety and reduced pollutants dangerous to health.
- Reduce vehicle kilometres travelled, focusing on Whangārei, in a way that's fair, equitable, and improves quality of life.
- Plan and deliver growth in Whangārei and key townships, such as Kerikeri and Mangawhai, in an affordable and cost-effective way that aligns with safety and emissions reduction goals.
- Support the prosperity of Te Tai Tokerau by providing a safe, efficient, and resilient transport network that helps address low incomes, supports Māori economic opportunities, and improves access for rural communities to employment, training, and education.
- Increase resilience by focusing on key connections and communities at risk, as well as important road and rail connections to Tāmaki Makaurau Auckland and Northport.
- Provide communities with access to a range of social and economic opportunities by public transport, walking, and cycling.
- Work with local government, developers, and agencies to support and encourage development in areas that already have good travel choices and shorter average trip lengths.
- Rapidly accelerate the delivery of walking and cycling networks with a focus on completing existing planned networks in Whangārei and reshaping existing streets, to make these options safe and attractive.
- Improve and expand public transport services, including potential on-demand services, to improve access to social and economic opportunities.

- Identify and support opportunities to move to a multimodal freight system with greater use of rail and coastal shipping.
- Work with communities and councils to identify and confirm how key resilience risks will be addressed over time.
- Progressively upgrade road and rail connections to Tāmaki Makaurau and Northport to improve the safety, efficiency, and resilience of these critical links to the rest of Aotearoa New Zealand.
- Confirm how resilience risks will be addressed over time, and work with communities to plan for when to defend, accommodate, or retreat.
- Continue to implement road safety plans and programmes including those focused for iwi Māori.
- Reduce financial and other barriers to iwi Māori getting a driver's licence in areas not well served by public transport.
- Improve or maintain, as appropriate, physical access to marae, papakāinga wāhi tapu, and wāhi taonga. These will be updated over time to focus effort on the most critical matters.

2.11 Road to Zero

The Road to Zero is the Ministry of Transport's strategy for road safety to 2031. The vision for the strategy is "A New Zealand where no one is killed or serious injured in road crashes". It is based on the following principles:

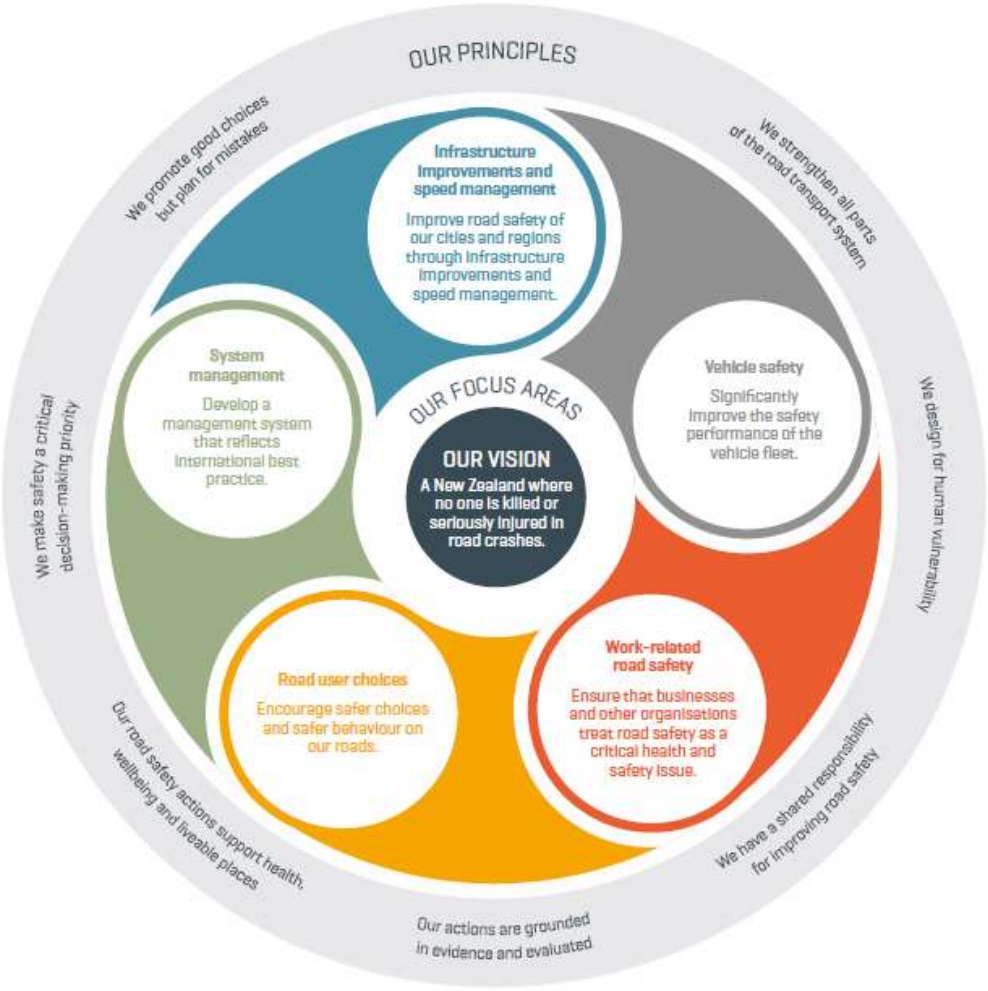


- no loss of life is acceptable in the transport system
- deaths and serious injuries on our roads are preventable
- we all make mistakes, but these mistakes should not cost us our lives.

The strategy is based on the "Vision Zero" concept which is based on no deaths being acceptable on the road network. This means that we will no longer pay a "road toll" for using our road network. The strategy is founded on the principles of the Safe Systems approach embedded in the earlier Safer Journeys strategy.

As a step towards achieving this vision, a target has been set of a 40 percent reduction in deaths and serious injuries by 2030.

The vision, focus areas, and guiding principles of the strategy are shown in the following diagram:



These focus areas and principles will be incorporated into this AMP wherever possible. In particular, the following four focus areas are likely to supported by the AMP:

- Infrastructure improvements and speed management (through low-cost low risk safety improvements and speed limit reviews)
- Vehicle safety and work-related road safety (through Council support for high safety rated vehicles)
- Road user choices (through road safety promotion activities).

2.12 Draft Northland Regional Land Transport Plan, 2021-2027 (RLTP)

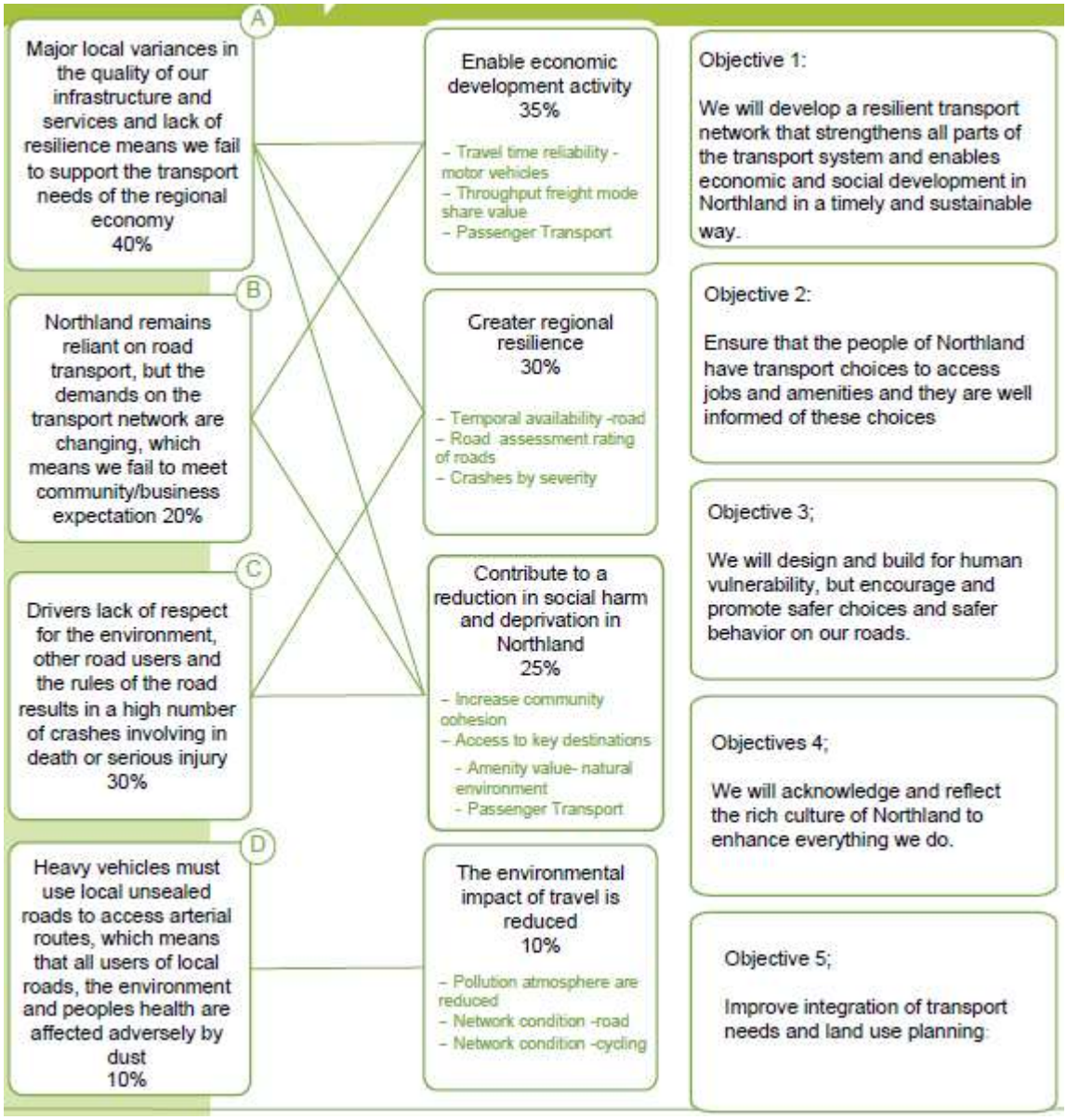
The draft Northland Regional Land Transport Plan (RLTP) for 2021 – 2027 identifies seven key priorities that the region seeks to achieve. These are:

- Reducing transport related deaths and serious injuries
- Regional and national connectivity
- Route resilience and security
- Regional economic and tourism development
- Reducing the environmental effects of the transport network
- Considering the needs of the transport disadvantaged (including transport choice in rural areas)

- Future proofing and long-term planning.

These priorities will be used to develop programmes through this AMP.

As part of the development of the draft RLTP, an Investment Logic Mapping (ILM) exercise was undertaken, and this identified the following key problems, benefits and objectives with the Northland transport network:



These issues are directly relevant for the Northland local road network and are reflected in the AMP problem statements described in Section 5.

2.13 Community Outcomes - Long Term Plans, 2018-2028 (LTP)

The draft Long-Term Plans (LTP) for each council for the 2024-2034 period, names the key Community Outcomes that each district plans to achieve. These outcomes have been agreed by each council and are detailed below.

2.13.1 Far North District Council – Community Outcomes

2.13.2 Kaipara District Council – Community Outcomes

2.13.3 Whangarei District Council – Community Outcomes

Proposed: 2024-34 LTP Key Priorities (from EM overall priorities in spreadsheet)

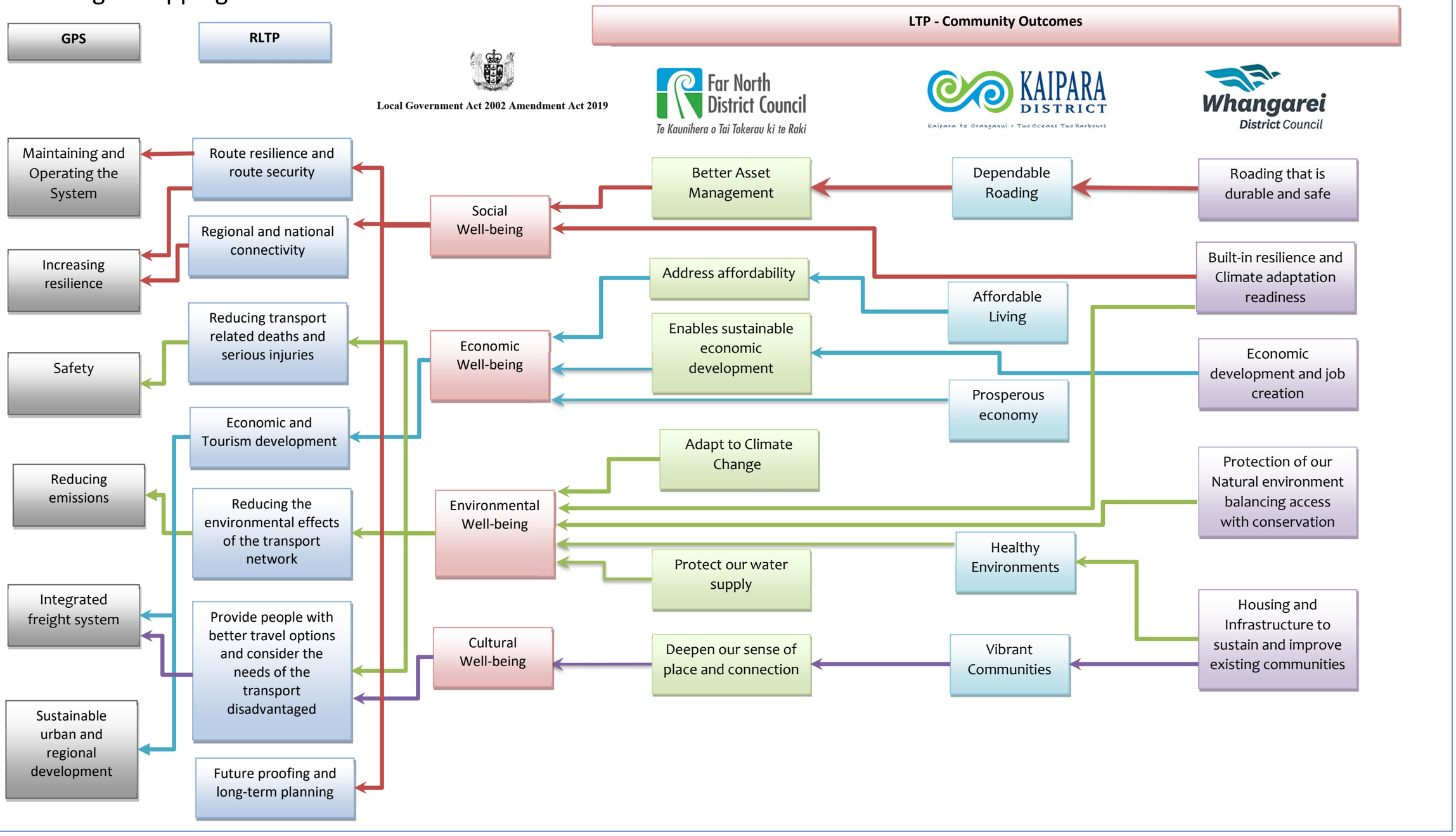
1. Economic development and job creation.
2. Roading that is durable and safe.
3. Built in resilience and climate adaption readiness.
4. Protection of our natural environment balancing access with conservation.
5. Housing and infrastructure to sustain and improve existing communities.

The Community Outcomes are reflected in the activities within this AMP. The section below shows the linkages between these Community Outcomes and to the higher level strategies.

2.14 Linkages Between Strategic Documents

The following diagram shows the links between the strategic documents at the national (GPS), regional (RLTP) and local level (LTP Community Outcomes).

Strategic Mapping



2.15 Other Strategic Documents

There are other strategic documents that informs the AMP as follows:

- Tai Tokerau Economic Action Plan
- Council Growth Strategies
- Council Transportation Strategies
- Council Walking and Cycling Strategies
- Council Parking Strategies.

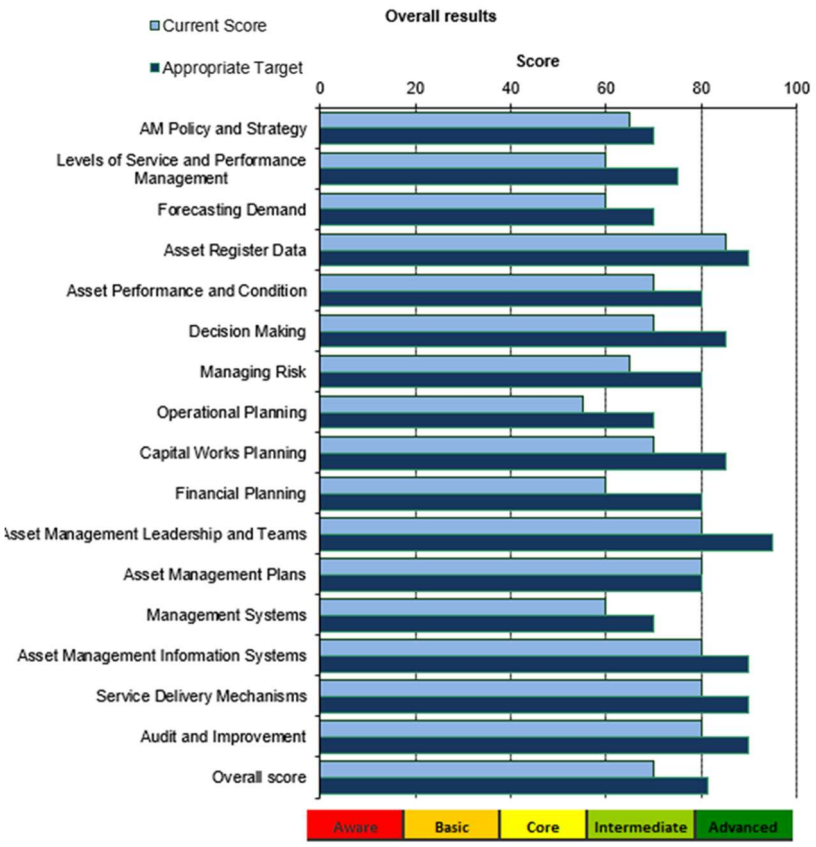
These documents mainly affect the future demand and are therefore detailed in Appendix 9 Growth and Demand.

2.16 Maturity Index

A basic asset management maturity assessment tool was based on the 2011 International Infrastructure Management Manual (IIMM) Asset Management Maturity Table.

Both the current score and target scores for each IIMM question are recorded as whole numbers, in 5-point increments. The overall scores for each asset portfolio are calculated as a simple average of the scores across the 16 questions, rounded to the nearest whole number.

This assessment showed that the NTA's asset management processes are working at an Intermediate level with an overall score of 70%. This is slightly less than the desired Advanced level with an overall desired score of 81%.



2.17 Value of what we Manage

The table below outlines the assets groups we manage and their respective values. This does not include the land under roads. As of 30 June 2023, the council's transportation assets are described in the table below:

Asset Group	Asset	Far North District Council (FNDC)			Kaipara District Council (KDC)			Whangarei District Council (WDC)		
		Optimised Replacement Cost (ORC)	Optimised Depreciated Replacement Cost (ODRC)	Annual Depreciation (AD)	Optimised Replacement Cost (ORC)	Optimised Depreciated Replacement Cost (ODRC)	Annual Depreciation (AD)	Optimised Replacement Cost (ORC)	Optimised Depreciated Replacement Cost (ODRC)	Annual Depreciation (AD)
Transport Assets	Pavement, Surfacing and Formation	$1,275,601,387	$1,117,880,070	$14,952,326	$663,696,334	$561,927,098	$5,392,041	$998,027,485	$689,196,177	$15,946,951
	Bridge	$234,850,403	$105,802,191	$5,590,337	$111,530,445	$42,878,002	$1,211,646	$216,412,511	$114,257,152	$2,399,969
	Drainage	$173,538,986	$108,748,982	$2,249,664	$64,325,060	$31,616,781	$975,958	$70,273,102	$44,940,454	$958,199
	Footpath & Cycleway	$55,590,043	$33,514,992	$1,033,812	$15,654,247	$9,143,891	$211,848	$76,536,578	$30,262,451	$1,415,375
	Intelligent Transport Systems	$0	$0	$0	$0	$0	$0	$258,223	$122,570	$23,196
	Railing	$19,044,635	$10,286,254	$407,825	$7,041,682	$2,649,870	$170,767	$4,809,134	$2,347,872	$255,518
	Retaining Wall	$108,992,199	$69,703,219	$2,197,541	$24,409,029	$18,428,539	$487,886	$55,060,647	$26,519,934	$929,767
	Signs	$6,437,232	$3,122,870	$324,064	$4,032,968	$1,781,274	$291,819	$4,692,818	$1,673,962	$283,945
	Streetlights	$8,231,810	$4,611,534	$285,037	$3,686,286	$2,606,566	$130,114	$19,052,217	$10,173,277	$641,052
	SW Channel	$20,185,297	$19,783,330	$18,786	$23,968,317	$15,852,882	$361,253	$72,546,987	$27,063,761	$1,202,318
	Traffic Facilities including islands	$3,922,127	$2,884,042	$66,504	$2,667,632	$1,428,195	$381,628	$6,592,124	$3,978,779	$184,935
	Traffic Signal	$0	$0	$0	$0	$0	$0	$4,793,969	$1,710,425	$350,625
	Ferry	$8,015,558	$2,762,502	$460,015	$0	$0	$0	$0	$0	$0
	Quarries	$1,008,267	$570,000	$0						
Total for Transport Assets		**$1,915,417,944**	**$1,479,669,986**	**$27,585,911**	**$921,012,000**	**$726,543,706**	**$9,581,960**	**$1,529,055,795**	**$952,246,814**	**$24,591,850**

2.18 Northland Network Statistics

The following diagrams shows a snapshot of the road networks for each council and high-level information to give an overall picture of the network, based upon its One Network Road Classification (ONRC) and usage.

Far North DC Network Stats

ONRC	Total Length (Km)	Urban (Km)	Rural (Km)	Sealed (Km)	Unsealed (Km)	Lane (Km)	Urban Journeys (M VKT)	Rural Journeys (M VKT)	Annual Total Journeys Travelled (M VKT)	Percentage of length
Arterial	15	7.6	7.0	15		29	21.0	20.8	41.8	1%
Primary Collector	138	10	128	136	2.8	277	10.6	74.2	84.8	6%
Secondary Collector	712	41	671	497	215	1,424	21.8	89.1	110.8	28%
Access	962	52	911	160	802	1,924	9.4	37.5	46.9	38%
Low Volume	677	92	584	100	576	1,353	6.8	10.8	17.6	27%
Unclassified	4.2									0%
TOTAL NETWORK	**2,508**	**203**	**2,301**	**908**	**1,597**	**5,007**	**69.6**	**232.4**	**302.0**	

Table 1: Network Statistics for network length (km) and journeys travelled (Million vehicle km) by ONRC Class

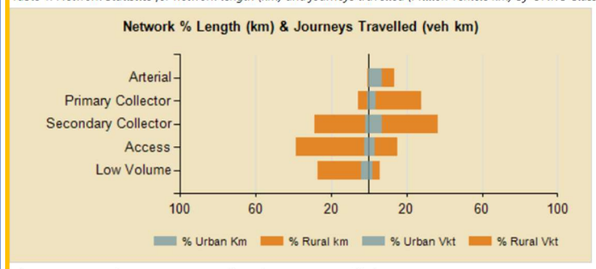


Figure 1: Network Percentage Length and Journeys Travelled

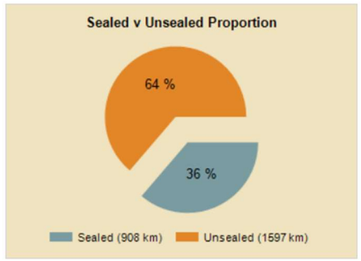
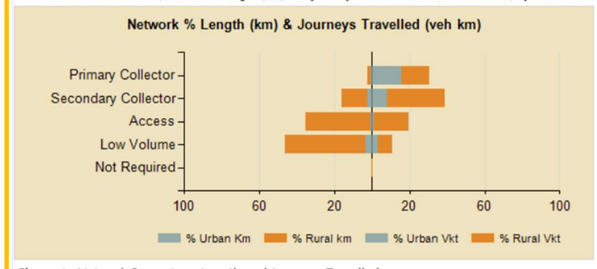


Figure 2: Sealed v Unsealed

Kaipara DC Network Stats

ONRC	Total Length (Km)	Urban (Km)	Rural (Km)	Sealed (Km)	Unsealed (Km)	Lane (Km)	Urban Journeys (M VKT)	Rural Journeys (M VKT)	Annual Total Journeys Travelled (M VKT)	Percentage of length
Primary Collector	36	13	22	36		71	23.5	21.5	44.9	2%
Secondary Collector	250	37	213	239	11	500	11.8	45.6	57.4	16%
Access	556	13	544	128	428	1,055	1.5	27.3	28.8	35%
Low Volume	731	53	678	64	666	1,102	4.4	12.1	16.5	46%
Not Required	3.0		3.0		3.0	3.0		0.1	0.1	0%
Unclassified	3.6									0%
TOTAL NETWORK	**1,579**	**116**	**1,460**	**467**	**1,109**	**2,731**	**41.2**	**106.5**	**147.7**	

Table 1: Network Statistics for network length (km) and journeys travelled (Million vehicle km) by ONRC Class



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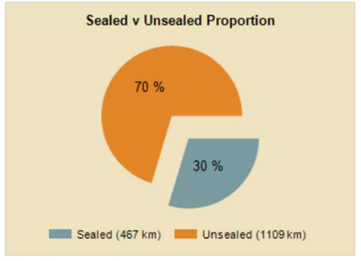


Figure 2: Sealed v Unsealed

Whangarei DC Network Stats

ONRC	Total Length (Km)	Urban (Km)	Rural (Km)	Sealed (Km)	Unsealed (Km)	Lane (Km)	Urban Journeys (M VKT)	Rural Journeys (M VKT)	Annual Total Journeys Travelled (M VKT)	Percentage of length
Arterial	108	57	51	108		224	201.6	79.7	281.3	6%
Primary Collector	197	42	155	197	0.1	394	32.7	55.0	87.7	11%
Secondary Collector	447	77	371	422	26	883	32.3	56.0	88.3	26%
Access	610	55	555	237	373	1,134	9.4	27.8	37.1	35%
Low Volume	379	84	295	100	279	667	5.5	6.9	12.4	22%
Not Required	0.3	0.3		0.3		0.6				0%
Unclassified	4.2									0%
TOTAL NETWORK	**1,746**	**316**	**1,426**	**1,064**	**678**	**3,303**	**281.5**	**225.2**	**506.8**	

Table 1: Network Statistics for network length (km) and journeys travelled (Million vehicle km) by ONRC Class

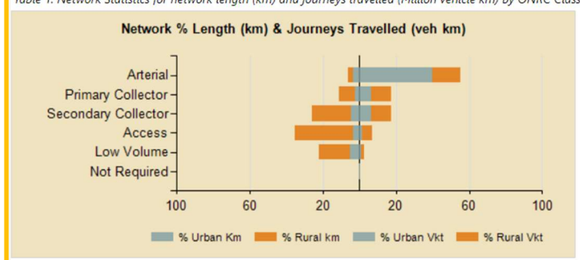


Figure 1: Network Percentage Length and Journeys Travelled

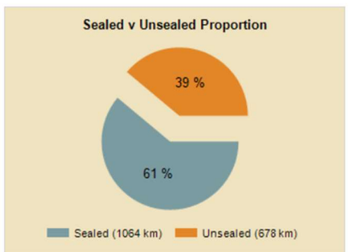
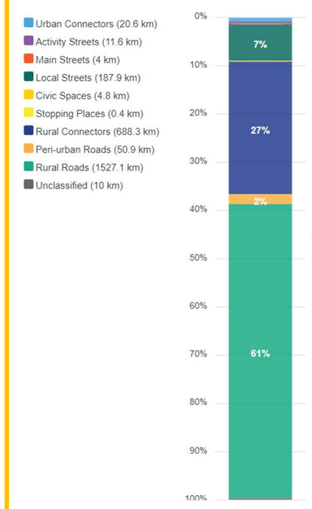


Figure 2: Sealed v Unsealed

The following diagrams shows a snapshot of the road networks for each council and high-level information to give an overall picture of the network, based upon its One Network Framework (ONF) and usage.

Far North DC Network Stats

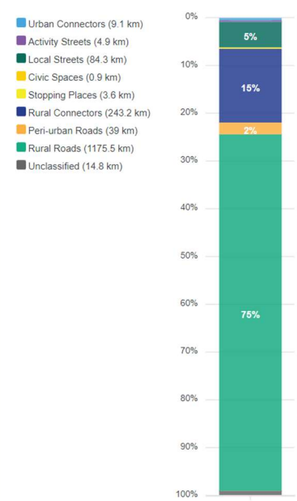
Length by Category



	ONF Category	Total Length (km)	Total Length (%)	Sealed (km)	Unsealed (km)	Lane (km)	Vehicle Journeys
URBAN	Urban Connectors	20.6	0.8%	20.6	0	41.3	38.4
	Activity Streets	11.6	0.5%	11.6	0	22.7	12
	Main Streets	4	0.2%	4	0	8.1	4
	Local Streets	187.9	7.5%	178.3	9.6	375.5	32
	Civic Spaces	4.8	0.2%	4.8	0	9.6	0.8
	Total Urban Network	**229**	**9.1%**	**219.4**	**9.6**	**457.2**	**87.2**
RURAL	Stopping Places	0.4	0%	0.4	0	0.8	0
	Rural Connectors	688.3	27.5%	473.7	214.7	1376.6	158
	Peri-urban Roads	50.9	2%	38	12.8	101.8	6.9
	Rural Roads	1527.1	60.9%	170.2	1356.9	3054	56
	Total Rural Network	**2266.6**	**90.5%**	**682.3**	**1584.4**	**4533.1**	**220.9**
	Unclassified	10	0.4%	5.9	4	19.9	0.5
	Total Network	**2505.6**	**100%**	**907.6**	**1598**	**5010.2**	**308.7**

Kaipara DC Network Stats

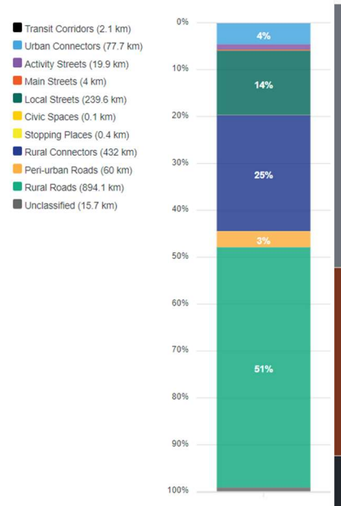
Length by Category



	ONF Category	Total Length (km)	Total Length (%)	Sealed (km)	Unsealed (km)	Lane (km)	Vehicle Journeys
URBAN	Urban Connectors	9.1	0.6%	9.1	0	18.5	16.1
	Activity Streets	4.9	0.3%	4.9	0	9.7	7.7
	Local Streets	84.3	5.3%	81.3	3	165.6	16.6
	Civic Spaces	0.9	0.1%	0.9	0	1.9	0
	Total Urban Network	**99.2**	**6.3%**	**96.2**	**3**	**195.6**	**40.4**
RURAL	Stopping Places	3.6	0.2%	3.3	0.3	6.9	0.3
	Rural Connectors	243.2	15.4%	232.2	11	486.3	64.2
	Peri-urban Roads	39	2.5%	22.1	16.8	69.2	4.4
	Rural Roads	1175.5	74.6%	105.3	1070.2	1947	36.1
	Total Rural Network	**1461.3**	**92.8%**	**362.9**	**1098.3**	**2509.4**	**104.9**
	Unclassified	14.8	0.9%	10.7	4.1	27.7	2.4
	Total Network	**1575.3**	**100%**	**469.9**	**1105.4**	**2732.7**	**147.7**

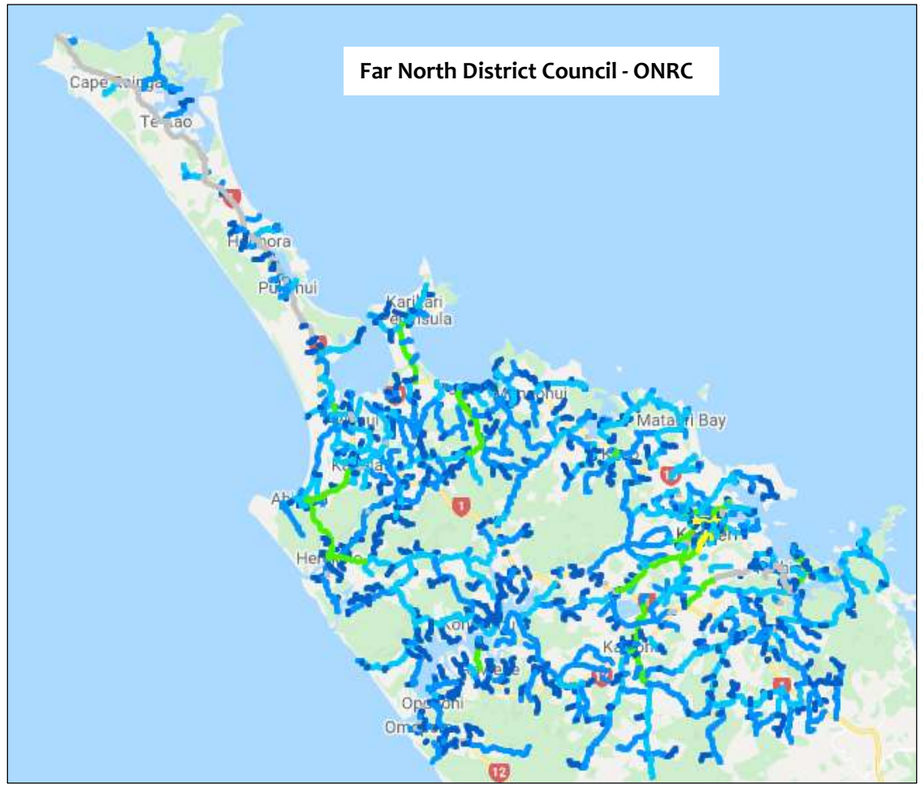
Whangarei DC Network Stats

Length by Category



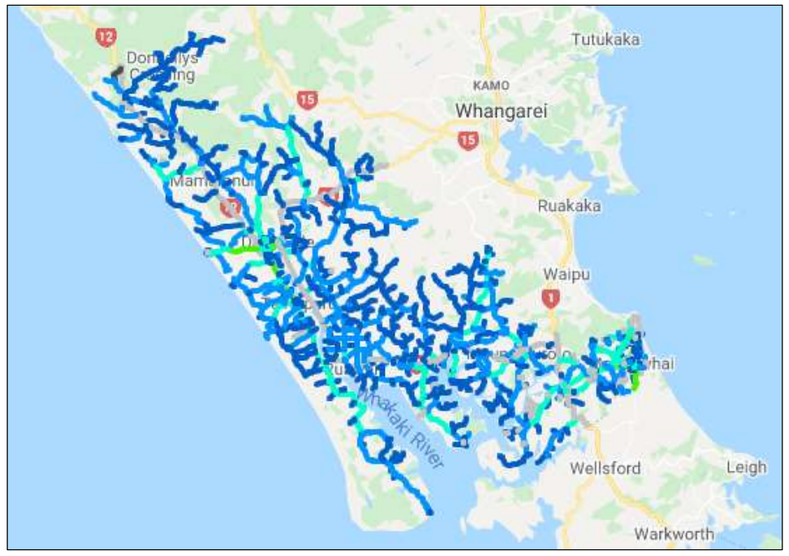
	ONF Category	Total Length (km)	Total Length (%)	Sealed (km)	Unsealed (km)	Lane (km)	Vehicle Journeys
	Transit Corridors	2.1	0.1%	2.1	0	4.4	13.6
URBAN	Urban Connectors	77.7	4.5%	77.7	0	161.4	182.2
	Activity Streets	19.9	1.1%	19.9	0	40.1	35.9
	Main Streets	4	0.2%	4	0	9.8	15.6
	Local Streets	239.6	13.7%	238.1	1.5	470.7	51
	Civic Spaces	0.1	0%	0.1	0	0.1	0
	Total Urban Network	**343.3**	**19.7%**	**341.8**	**1.5**	**686.4**	**298.3**
RURAL	Stopping Places	0.4	0%	0.2	0.2	0.7	0
	Rural Connectors	432	24.7%	429.4	2.6	862.6	151.7
	Peri-urban Roads	60	3.4%	53.1	6.9	117.9	17.7
	Rural Roads	894.1	51.2%	235	659.2	1613.8	37
	Total Rural Network	**1386.5**	**79.4%**	**717.7**	**668.8**	**2595**	**206.4**
	Unclassified	15.7	0.9%	8.2	7.5	28.6	2
	Total Network	**1745.5**	**100%**	**1067.7**	**677.9**	**3310.1**	**506.7**

Far North District Council - ONRC

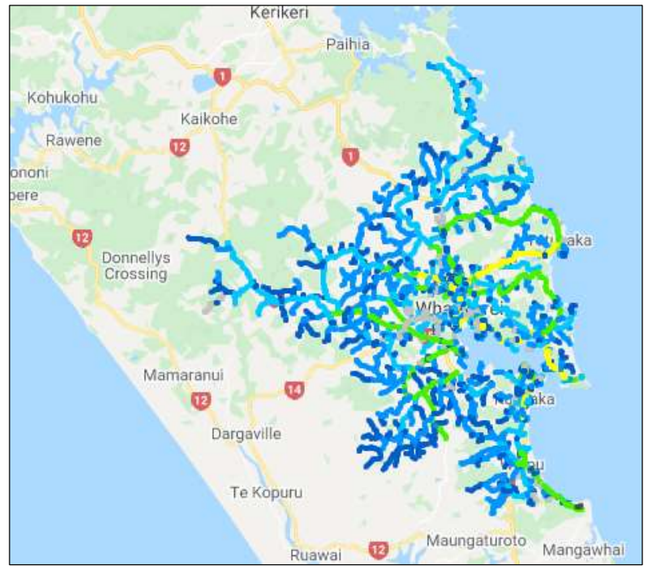


- Low Volume
- Access
- Secondary Collector
- Primary Collector
- Arterial
- Regional
- National
- High Volume
- Not Required

Kaipara District Council - ONRC



Whangarei District Council - ONRC



2.19 Services Provided

The following table sets the activities we undertake and the services and contribution these activities make to the deliver on the desired outcomes from local level to the GPS.

Activity Type	Services Provided	How this is Delivered	Contribution to ONRC Customer Outcomes	Contribution to GPS Outcomes
Sealed Pavements	Repairing potholes, roughness, rutting and cracking to avoid pre-mature pavement failure. Also includes repairing sunken service covers. Resurfacing to supply waterproofing and skid resistance and rehabilitation to restore shape and pavement strength	Repairs, Resurfacing and Rehabilitations (when put through term contracts) – 5 x Term area maintenance contracts (4+2+1+1yr): (2 x FNDC, 1 x KDC, 2 x WDC) Rehabilitations outside of term contracts – Packaged into one-off contracts	Efficiency – Optimized whole of life costs through maintenance and operations Safety – Reduced hazards on the road (i.e. potholes) and improved skid resistance Amenity – Smoother roads	Maintaining and Operating the System – Efficiently at a level that meets the current and future needs of the user. Safety – Reduced hazards on the road (i.e. potholes) and improved skid resistance – Transport is made substantially safer for all. Value for Money – Optimized whole of life costs
Unsealed Pavements	Repairing potholes, smoothing corrugations, application of running course and grading. Heavy metaling to restore shape and pavement strength.	5 x Term area maintenance contracts (4+2+1+1yr): (2 x FNDC, 1 x KDC, 2 x WDC)	Efficiency – Optimized whole of life costs through maintenance and operations Safety – Reduced hazards on the road (i.e. potholes and corrugations) Amenity – Smoother roads	Maintaining and Operating the System – Efficiently at a level that meets the current and future needs of the user. Safety – Reduced hazards on the road (i.e. potholes and corrugations) resistance – Transport is made substantially safer for all. Value for Money – Optimized whole of life costs
Drainage	Clearing watertables and culverts, street sweeping, repairing scours. Replacement of broken culverts and kerb and channel and re-cutting watertables to keep drainage flows and avoid water ingress into pavements.	5 x Term area maintenance contracts (4+2+1+1yr): (2 x FNDC, 1 x KDC, 2 x WDC)	Efficiency – Optimized whole of life costs through maintenance and operations Resilience – Reduced slips and flooding resulting in road closures Safety – Reduced flooding on roads Accessibility – reducing road closure due to flooding,	Maintaining and operating the system – Efficiently by reducing the pavement damage through water ingress Increasing Resilience to better cope with natural and anthropogenic hazards. Safety – Reduced hazards on the road (i.e. flooding) Integrated Freight system – Reduced Road closures and provide reliable resilient freight connections.
Structures	Repair of bridges and retaining walls, repair of bridge rails, painting of bridge beams and rails, clearing of bridge waterways, scour protection. Maintenance of the Te Matau ā Pohe lifting road bridge. Maintenance, operation and component renewal of the Hokianga Ferry Service. Replacement of bridge decks, rails, beams, piers and abutments. Replacement of old retaining walls.	Repairs – 5 x Term area maintenance contracts (4+2+1+1yr): (2 x FNDC, 1 x KDC, 2 x WDC) Component Replacement and Scour Protection – Packaged into one-off contracts WDC Opening Bridges – Term contracts for electrical and hydraulic maintenance (2+3yr). Term contract for structural maintenance (2yr). FNDC Hokianga Ferry Service – Term contract for maintenance, operations and component renewal (3+3+2+2yr)	Efficiency – Optimized whole of life costs through maintenance and operations Resilience – Reduced likelihood of bridge collapse Safety – Maintaining bridge rails in good condition Accessibility – Reducing bridges that cause restriction to HCVs. Providing access across the Hokianga Harbour (Hokianga Ferry Service)	Maintaining and operating the system – Efficiently by maximizing the life of the assets. Increasing Resilience - to better cope with natural and anthropogenic hazards. Safety – Maintaining bridge rails in good condition. Integrated Freight Systems – reliable network connections that can carry HCV and reduce lengths diversions, reducing emissions.
Environmental	Vegetation control by spraying road shoulders and clearing tree growth encroaching into the road corridor.	5 x Term area maintenance contracts (4+2+1+1yr): (2 x FNDC, 1 x KDC, 2 x WDC)	Safety – Clearing sightlines and removing roadside tree hazards	Safety – Clearing sightlines and removing roadside tree hazards

Activity Type	Services Provided	How this is Delivered	Contribution to ONRC Customer Outcomes	Contribution to GPS Outcomes
	Maintenance and operation of clean fill dumpsites and water treatment devices.		Amenity – Improved water quality.	Increasing resilience – removing roadside tree hazards.
Traffic Services	Repair and replacement of signs, re-marking of pavement markings, installation of edge marker posts and RRPMs (Reflective Raised Pavement Markers). Streetlight maintenance, repair, renewals and operation.	Signs and Markings – 5 x Term area maintenance contracts (4+2+1+1yr): (2 x FNDC, 1 x KDC, 2 x WDC) Streetlights – 3 x Streetlight maintenance contracts: - FNDC (3+1+1yr) - KDC (Monthly) - WDC (3+2yr) Streetlights – 3 x Term power supply contracts (3yr): (1 x FNDC, 1 x KDC, 1 x WDC)	Efficiency – Optimized whole of life costs through maintenance and operations. Safety – Providing signs and markings to guide road users and warn of hazards. Streetlighting to improve safety at night. Accessibility and development – Guide signage to direct road users to their destinations.	Maintaining and Operating the System – Efficiently at a level that meets the current and future needs of the user. Safety – Providing signs and markings to guide road users and warn of hazards. Streetlighting to improve safety at night. Sustainable urban and regional development – people can readily and reliably access social, cultural and economic opportunities through effective transport networks.
Operational Traffic Management	Traffic signal and school zone active sign maintenance and operation. Renewal of traffic signal and school zone components as they fail or through vehicle damage. Operation of the Te Matau ā Pohe and Kotuitui Whitinga opening bridges.	WDC Traffic Signals and School Zone Active Signs – Term traffic signal contract (2+3yr) WDC Opening Bridges – Term bridge operation contract (2+3yr)	Safety – Reduced likelihood of crashes at signalized intersections and around schools. Travel Time Reliability – Improved traffic flows through signalized intersections and across opening bridges.	Safety – Reduced likelihood of crashes at signalized intersections and around schools. Reducing emissions – improved traffic flows and travel times.
Walking & Cycling	Repair of broken footpaths and cycleways, removal of trip hazards and maintenance of handrails. Sweeping of broken glass and removal of other rubbish on paths. Maintenance of the Kotuitui Whitinga opening walking/cycle bridge.	Repairs and Replacement – 5 x Term area maintenance contracts (4+2+1+1yr): (2 x FNDC, 1 x KDC, 2 x WDC) WDC Opening Bridges – Term contracts for electrical and hydraulic maintenance (2+3yr). Term contract for structural maintenance (2yr).	Efficiency – Optimized whole of life costs through maintenance and operations. Safety – Keeping footpaths and cycleways clear of hazards. Accessibility and development – Maintain alternative modes of transport which promote reduced emissions.	Maintaining and Operating the System – Efficiently at a level that meets the current and future needs of the user. Safety – Keeping footpaths and cycleways clear of hazards. Sustainable urban and regional development – networks that provide low-emission transport options and maintain active modes of transport which supply travel choice and reduces congestion. Reducing emissions - Reduce vehicle emissions by supporting active transport modes.
Network and Asset Management	Management and operations of the maintenance contracts. Emergency response management. Activity management includes operations of the AMP, traffic counting, forward works planning etc. Approval and coordination of corridor access requests and traffic management.	General Network and Asset Management – Council in-house business unit. Specialist Services – One-off engagement with specialist consultants.	Efficiency – Optimizing whole of life costs through good activity management. Resilience – Management of response to emergency events. Safety – Prioritization and management of safety related works. Travel Time Reliability – Reducing traffic impact due to works on the road.	Value for Money – Optimizing whole of life costs through good activity management. Building back better so investment in maintenance and renewals is fit for the future. Safety – Management of safety related works. Integrated freight system - Reducing traffic impact due to works on the road or during emergency events. Planning for freight traffic and resilience on strategic routes.

Activity Type	Services Provided	How this is Delivered	Contribution to ONRC Customer Outcomes	Contribution to GPS Outcomes
Minor Improvements	Safety improvements such as sight benching, guardrail, signage upgrades, minor intersection upgrades and speed management. Associated improvement works such as road widening when undertaking pavement rehabilitation. Full bridge replacements, bridge widening or strengthening to support 50Max/HPMV. Resilience improvements such as slip repairs and flood protection. New footpath and cycleway connections. Pedestrian crossing improvements. Bus priority lanes to improve travel time reliability for public transport.	Packaged into one-off contracts. Smaller works undertaken through the maintenance contracts - 5 x Term area maintenance contracts (4+2+1+1yr): (2 x FNDC, 1 x KDC, 2 x WDC)	Resilience – Reducing the likelihood of road closure due to slips, flooding or bridge collapse. Accessibility – Reducing bridges that cause restriction to HCVs. Improving travel time reliability for public transport. Improving pedestrian and cyclist connections and safety. Safety – Reducing the impact of roadside hazards, improving intersections, supplying safer speed management and supplying wider roads.	Increasing Resilience – to better improve the reliance and resilience of the network from flooding and slips. Integrated freight system - Reducing the likelihood of road closure due to slips, flooding or bridge collapse. Reducing bridges that cause restriction to HCVs. Safety – Reducing the impact of roadside hazards, improving intersections, supplying safer speed management and supplying wider roads.
Education and Promotion	Education and promotion campaigns to improve road safety in the following high-risk areas: Alcohol, Young Drivers, Restraints, Fatigue and Loss of Control on Bends. Travel demand management such as travel plans to reduce private vehicle use.	Road Safety Promotion - Term service contracts: - FNDC 6mthly rolling - KDC and WDC – 3yr Travel Demand Management – Term service contract: - WDC (Bike Skills Training) – 2.25yr	Safety – Reducing crashes by improving driver education and behaviour in high-risk areas. Accessibility – Promoting the shift to alternative transport modes.	Safety – Reducing crashes by improving driver education and behaviour in high-risk areas. Reducing Emissions - by promoting alternative transport modes.
Public Transport	Operation and maintenance of the Far North Link, Mid North Link, Hokianga Link, Whangarei CityLink and Bream Bay Link bus services. **(Note – This is funded by the NRC and is covered separately in the Northland Regional Public Transport Plan (RPTP).** Maintenance, renewal and provision of new bus shelters. **NOTE – the Hokianga Ferry Service is captured under the Structures activity because that is where this work is funded from.**	NRC Bus Service Operations - Term service contracts: - Whangarei CityLink – 6+3yr - Far North Link – 2yr - Mid North Link – 1.5yr - Hokianga Link – 1.5yr - Bream Bay Link – 1yr (trial) WDC Bus Shelter Maintenance – separate contracts and agreements WDC Bus Shelter Renewals – Term service contracts 4+2+1+1yr	Accessibility – Providing public transport opportunities for commuter traffic in Whangarei and the transport disadvantaged in rural areas.	Sustainable urban and regional development – Providing public transport opportunities for commuter traffic in Whangarei and transport disadvantaged in rural areas. Reduce emissions - by promoting public transport.
Parking (Non-Subsidized)	Operations and maintenance of parking meters. Renewal of parking meters when broken or obsolete. Maintenance and marking of off-street carparks. Resurfacing of off-street carparks.	WDC Operations and Maintenance of Parking Meters– Term service contract 10yr+3yr+2yr Maintenance and Renewal of Off-Street Carparks– 5 x Term area maintenance contracts (4+2+1+1yr): (2 x FNDC, 1 x KDC, 2 x WDC)	Accessibility – Parking provides accessibility to commercial and retail areas. Parking pricing strategy to increase the price of all-day parking to support uptake of alternative modes by commuters. Efficiency – Parking is self-funded by the revenue earned by parking charges.	Sustainable urban and regional development – Parking pricing strategy to increase the price of all-day parking to support the uptake of alternative modes by commuters. Reduced emissions - by increasing the price of all-day parking to support uptake of alternative modes by commuters.

Northland Transportation Alliance

Transportation Activity Management Plan 2024–2054

Section 3 – Setting the Scene

Northland Transportation Alliance

Transportation Activity Management Plan 2024–2054

Section 3

Introduction

Table of Contents

3 Setting the Scene

3.1 Understanding our Customers Needs (Customer Research and Expectations)

3.1.1 Resident Satisfaction Surveys

All three councils undertake an annual survey of residents to measure satisfaction with Council's performance. The survey results for each council are shown below.

3.1.1.1 Resident Satisfaction Survey – Far North

The Far North resident satisfaction survey methodology was conducted on sample of 102 residents which is significantly less than the previous year sample size.

The overall satisfaction results are shown in Figure 3-1 below.

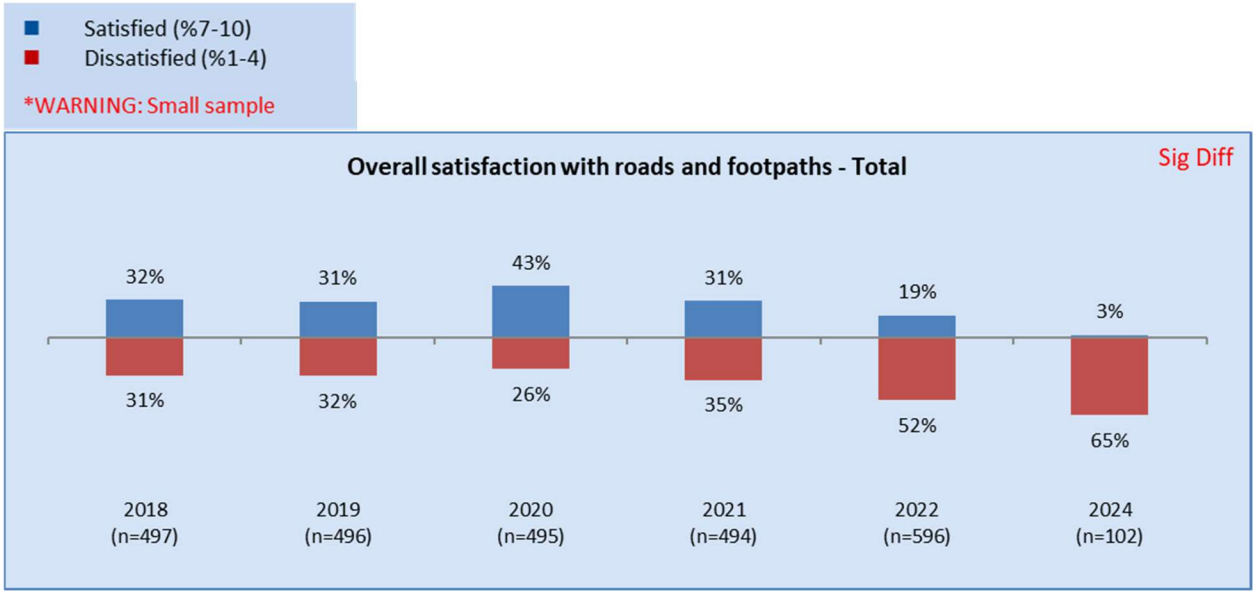


Figure 3-1: FNDC overall satisfaction with roads and footpaths

Figure 3-2 following shows the percentage satisfied with the FNDC transport network decreased across all categories since 2020. This is expected to be as a result of the climatic impacts and storm events causing catastrophic land slips and road closures and exacerbated deterioration of the network both sealed and unsealed.

Figure 3-2: FNDC overall satisfaction with the transport network

3.1.1.2 *Resident Satisfaction Survey – Kaipara*

The Kaipara resident satisfaction survey was undertaken on a sample of 770 residents in the Kaipara District and reported in June 2023. The results as they relate to roading and transport are shown below in Figure 3-3 and Figure 3-4 below:

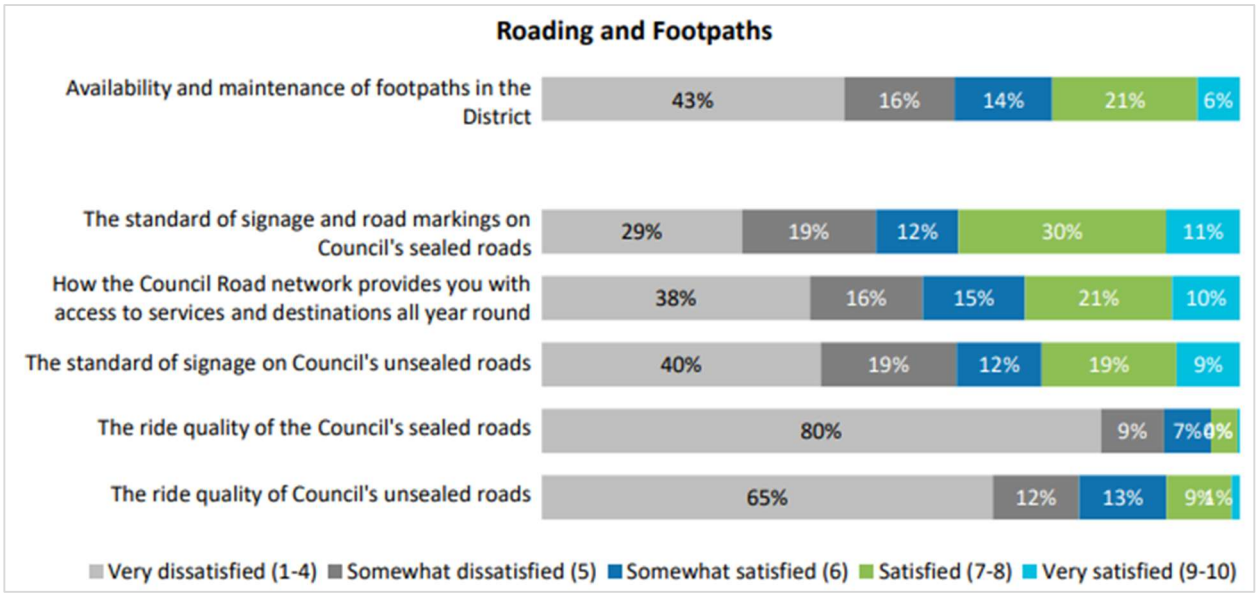


Figure 3-3: KDC overall satisfaction with roads and footpaths

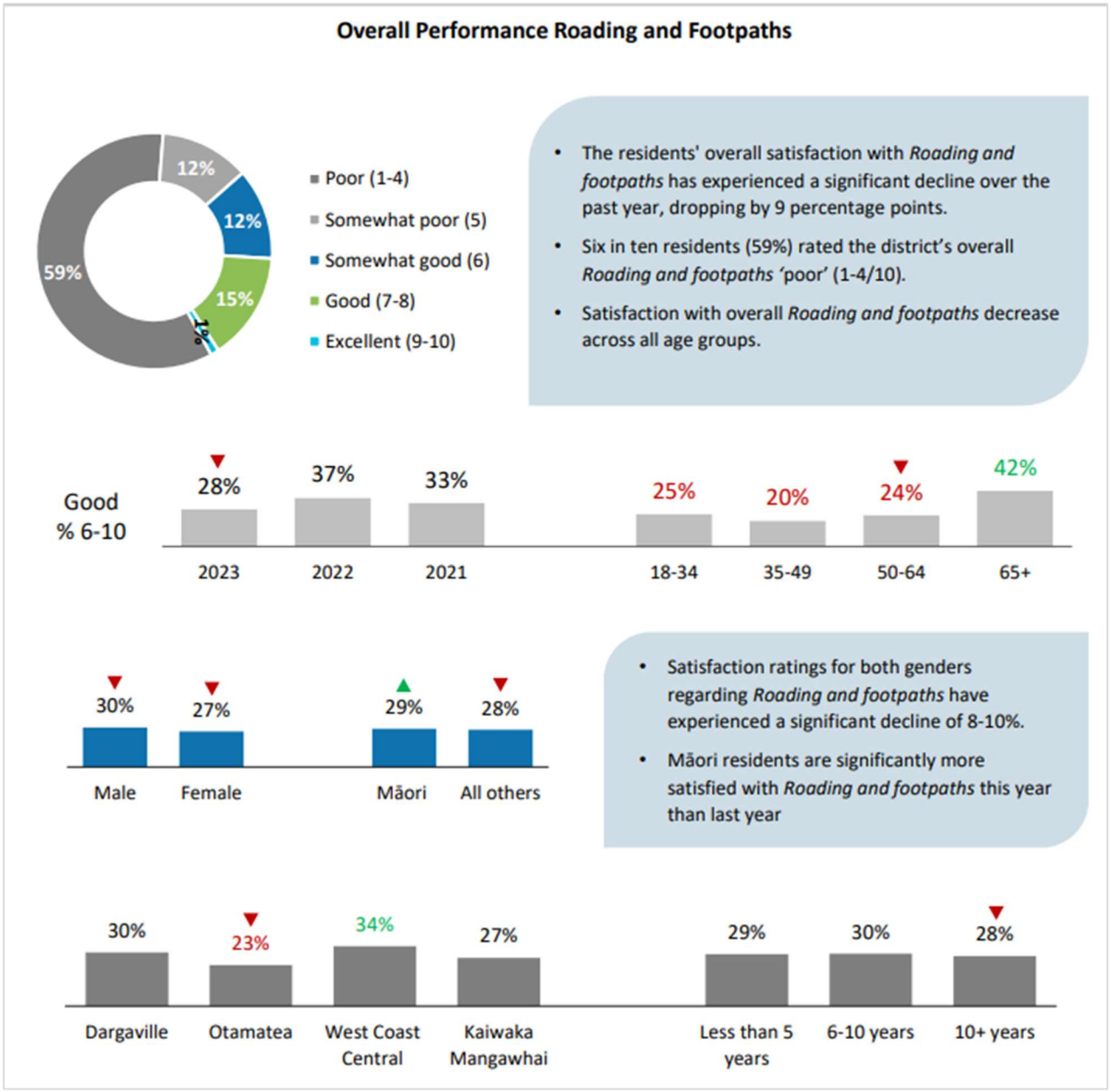


Figure 3-4: KDC overall satisfaction with the transport network

Overall satisfaction with the transport network is at 71%. Compared to Far North the major dissatisfaction is with the sealed roads at 85% over the dissatisfaction of the unsealed roads at 77%. The main reasons for dissatisfaction with the road network are a result of the climatic impacts and storm events causing catastrophic land slips and road closures and exacerbated deterioration of the network both sealed and unsealed.

3.1.1.3 *Resident Satisfaction Survey – Whangarei*

The Whangarei resident satisfaction survey was undertaken on a sample of 600 residents in the Whangarei District and reported in July 2023. The results as they relate to roading and transport are shown in Figure 3-5below:

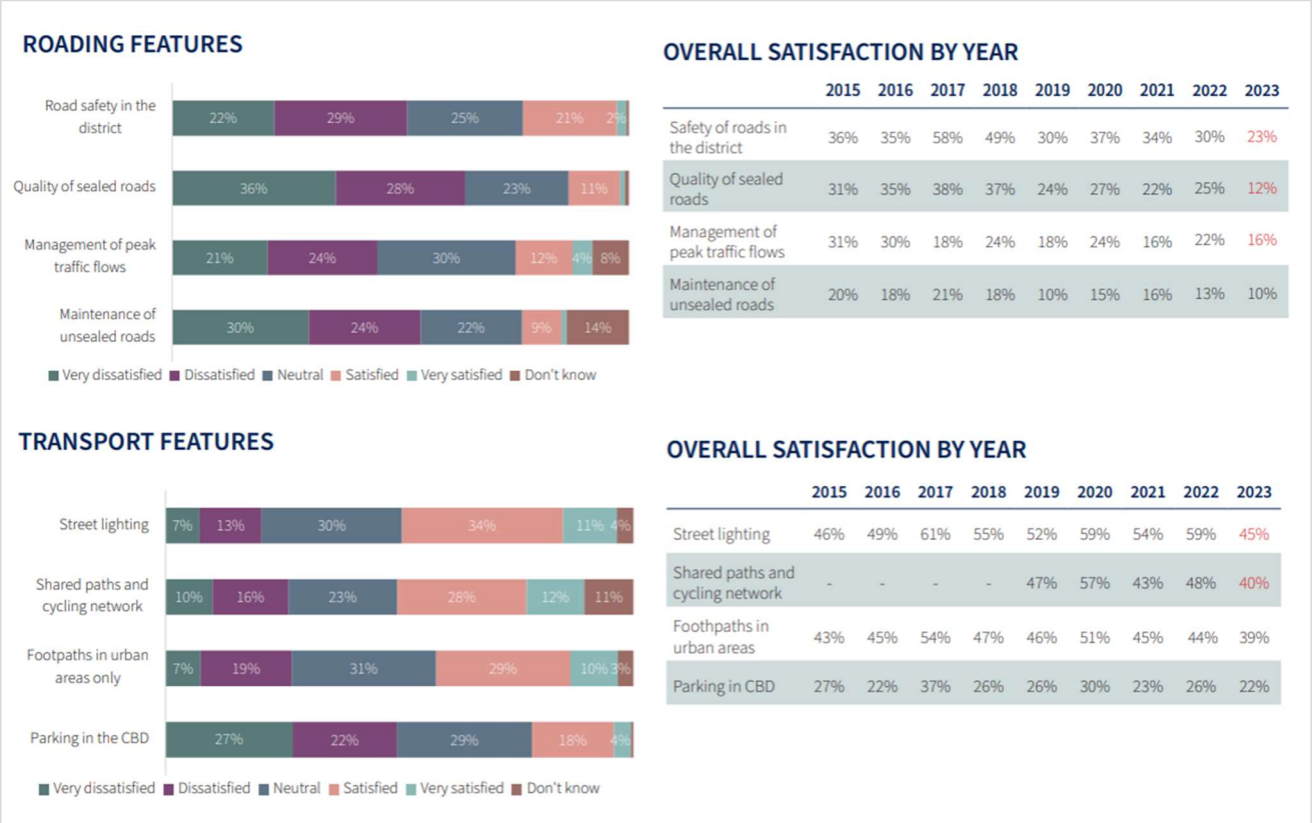


Figure 3-5: WDC overall satisfaction with the transport network

Nearly all roading attributes have declined this last year with most at their lowest since monitoring began. The main reasons for dissatisfaction with the road network are a result of the climatic impacts and storm events causing catastrophic land slips and road closures and exacerbated deterioration of the network both sealed and unsealed.

3.1.2 *Regional Stakeholder Engagement Workshops*

A series of stakeholder engagement workshops were undertaken in late June/early July 2016 to determine some of the key issues facing stakeholders in the transport system. In 2019, consideration was given to carrying out a follow up stakeholder engagement workshop. However, it was considered that not enough progress had been made on implementing the 2018/21 programme, and that there had not been any other significant changes at that time to justify a follow up workshop. Due to the unprecedented weather and storm events of 2022/23, following 2 years of COVID lockdowns and restrictions, it was again felt that follow up workshops would not be justified.

The original workshops were held on a regional basis and included representatives from the following organisations:

- Waka Kotahi New Zealand Transport Agency (NZTA)
- Northland Regional Council (NRC)
- Whangarei District Council (WDC)
- Kaipara District Council (KDC)
- Far North District Council (FNDC)
- Northport
- Northland Inc
- Northland Road Carriers
- New Zealand Police
- Road Safety Northland
- Ritchies Buses
- Bike Northland

The workshops were broken into a series of sessions which focused on specific topics. The key issues for the Whangarei District were:

Freight / Forestry and Resilience

- Connectivity / Reliable Routes / Route Resilience
- Connection to Auckland – Freight at night, tourism during the day would support economic growth in many sectors
- Forestry – currently at peak production (4.5m tonnes/year) and will stay at that level until 2026
- Communication and Co-ordination of road works regionally
- Fit for purpose detour routes
- Travel time reliability
- Rest areas
- Growth of the port – investing in container market.

Tourism and Economic Development

- Tourism growth in Northland expected to grow significantly. No regional figures available.
- Hundertwasser Art Centre – a game changer for Whangarei but must consider impact on tourist facilities, congestion and parking.
- Tourist routes "twin coast discovery" also by-ways. Route aesthetics and facilities, toilets/electric charging stations/pull off areas important.
- Travel time reliability
- Tai Tokerau Action Plan – support and enable.

Public Transport

- New / upgrade bus terminal required – clean / safe and inviting
- Need to consider and balance the creation of new parking facilities on public transport.

Walking and Cycling

- Need to continue with investment in walking and cycling and ensure attractive and safe
- Need to consider travel planning and education and training
- We have an aging population infrastructure needs to accommodate for mobility scooters etc.

Road Safety

- Need to continue to be evidence based and focus on the issues.
- Road safety promotions – difficult to get funding
- The road network is generally narrow and unforgiving which results in high loss of control crash rates.

These issues have been reconsidered in the development of the AMP.

3.2 Key Issues and Current State of Play

3.2.1 Covid-19 Pandemic

During 2020 and 2021, New Zealand was placed under lockdown and restricted movement levels (see Figure 3-6 for graphical representation). During these periods renewals and preventative maintenance was temporarily stopped, disrupting the continual maintenance process. The impacts of these disruptions are challenging to define due to the overlapping Climatic Impacts of severe storm events.

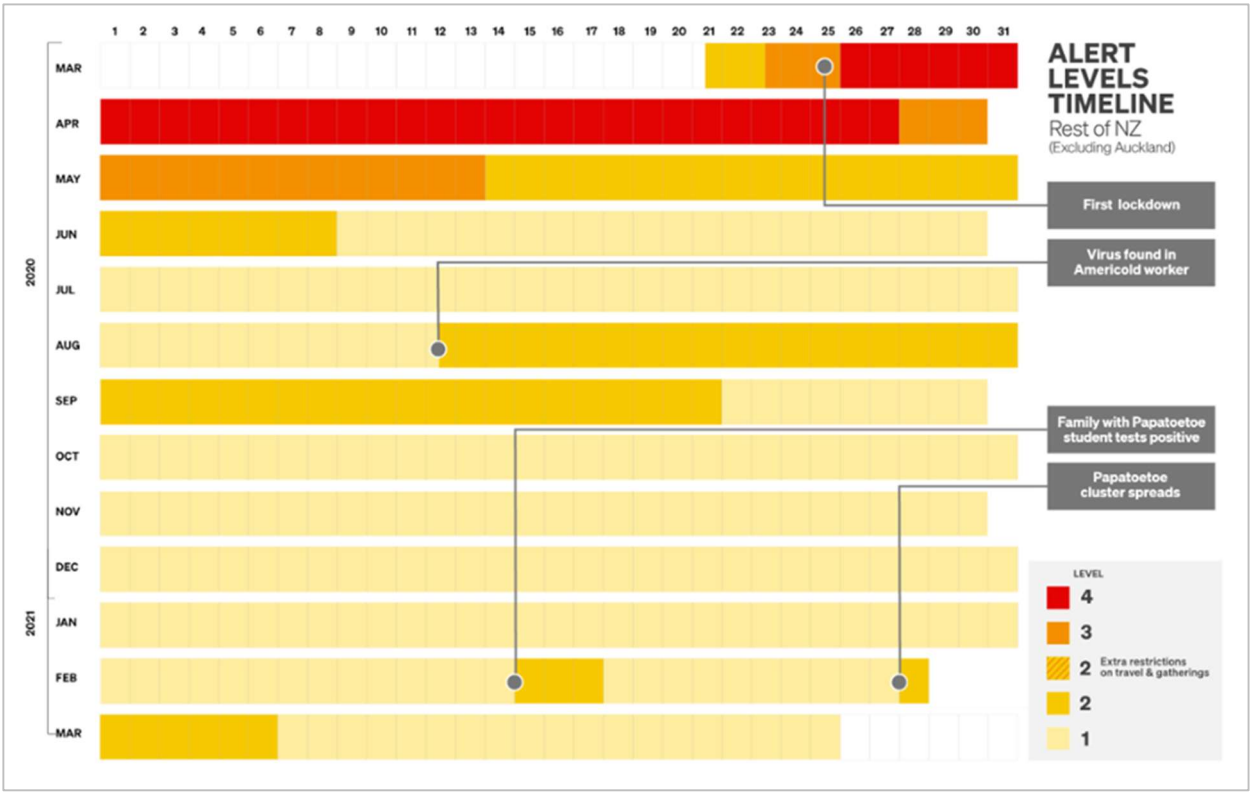


Figure 3-6: Alert Levels and lockdown periods between 2020 and 2021

3.2.2 Climatic Change - Environmental Factors

The Northland Region is subject to sub-tropical cyclones and storms. The geology of the region is also variable with many roads subject to instability and ground creep or slow land movements. Climate change is a very real threat that puts coastal communities at risk from rising sea levels and the frequency and is likely to increase the intensity of storm events.

During an eleven-month period from July 2022 to May 2023 Northland experienced ten discrete significant weather events as listed below:

- July 2022 (2 x extreme rainfall events)
- August 2022
- November 2022
- January 2023 (2x extreme events: Cyclone Hale + Auckland Anniversary weekend)
- February 2023 (2x extreme events: Cyclone Gabrielle + Mangawhai local event)
- May 2023 (2x orange rain warning events).

The cumulative effects of the excessive rain have exceeded the historic records to date. See Figure 3-7, Figure 3-8, and Figure 3-9 following for three typical historical rainfall data across the three districts of Northland.

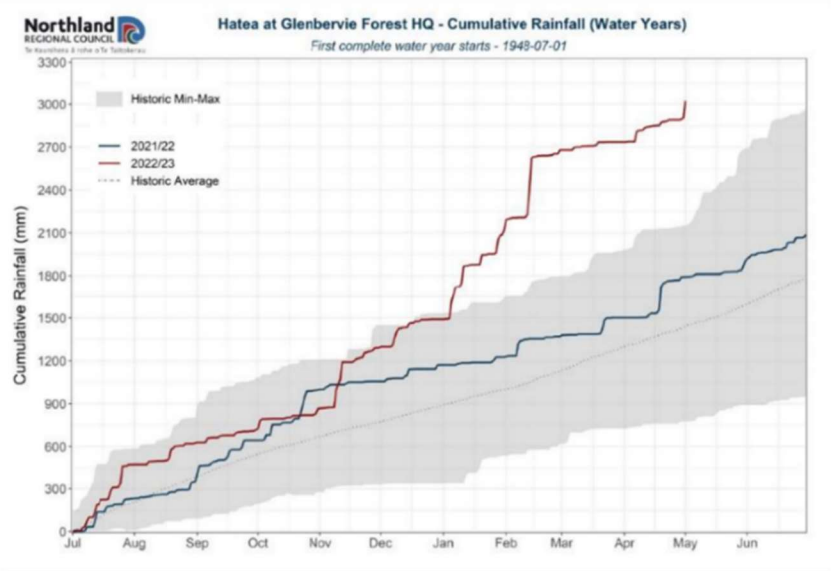


Figure 3-7: Historic cumulative rainfall - Glenbervie Forrest, WDC

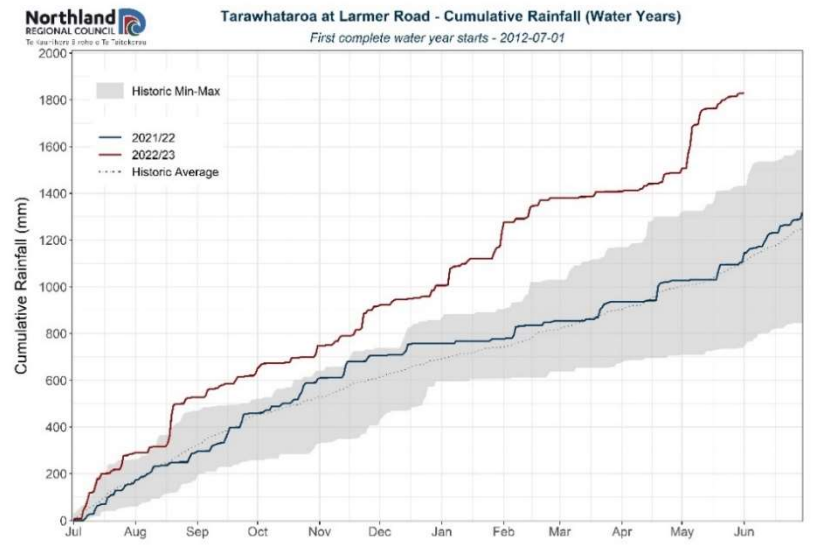


Figure 3-8: Historic cumulative rainfall - Larmer Road, Kaitia, FNDC

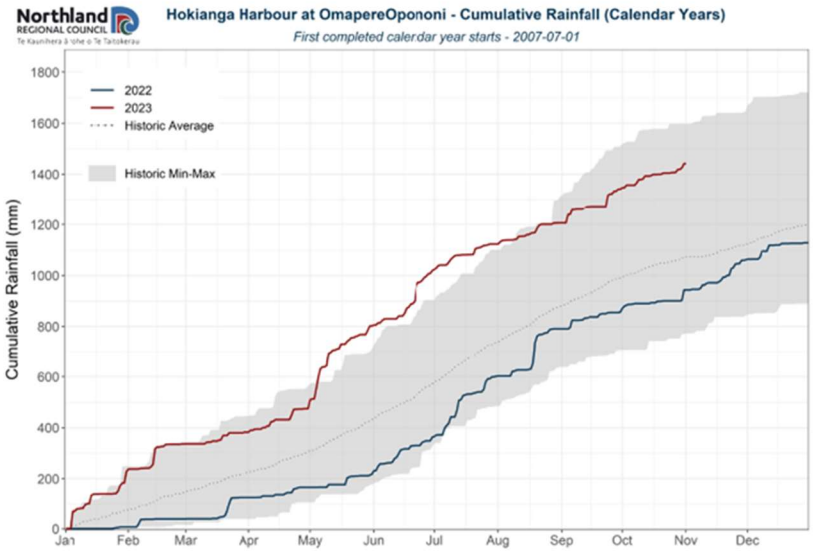


Figure 3-9: Historic cumulative rainfall - Hokianga Harbour, KDC

The damages to the network were:

- Localised Flooding – bridge structure and scour damage
- Land instability – over and under slips of roads
- Excessive tree windthrow and windsnap
- Ground conditions at absorptive capacity – water unable to be absorbed into ground that becomes excessive storm water
- Drainage systems – blocked due to excessive stormwater and debris
- Unsealed roads wash-off – pavement material (metal) washed off roads through intense storm rainfall
- Excessive moisture within pavement layers (from stormwater, rainfall, and fully saturated ground conditions) causing accelerated deterioration of pavements.

Table 3-1 below summarises the number of individual roads that were affected by one of the major storm events – Cyclone Gabrielle in February 2023, with issues such as under or over land instability slips, fallen trees, flooding, damaged bridges to give a few examples.

Table 3-1: Number of individual roads affected by one of the major storm events

Council	Individual Roads Closed	Individual Network Roads impacted (less closures)	Total Roads impacted
Whangarei	68	99	167
Kaipara	60	44	104
Far North	55	124	179
Northland Regionally	**183**	**267**	**450**

3.2.3 *Significant Increase in Economic Cost Escalation*

When the previous funding application was prepared for 2021-2024 a nominal escalation of 2.5% cumulative for the three years (compounded as 5.1%) was estimated. Due to the impacts of Covid-19 with the country in lock-down, there were supply and demand constraints which created a significant increase in cost of materials and labour. The average cost index increases due to escalation for 2021-2022 for the maintenance contracts was defined as 12.4%, for 2022-23 it was 6% and the anticipated for 2023-2024 is 5%. Works in this third year of the approved original budget cost on average 25.1% more. As the maintenance budgets are fixed, this results in a reduction of work quantities. Figure 3-10 below shows the actual escalation against original approved budget.

	ORIGINAL APPROVED BUDGET			ACTUAL ESCALTION		
	2021/24 AMP			2021/24 AMP		
	Yr1	Yr2	Yr3	Yr1	Yr2	Yr3
Escalation percentage	*2.5%*	*2.5%*	*2.5%*	**12.4%**	**6%**	5%
Compound increase as %	**2.5%**	**5.1%**	**7.7%**	**12.4%**	**19.1%**	**25.1%**
Average compound increase as %	**5.1%**			**18.9%**		
Increase as a % of 21-24 bid	0%			13.1%		

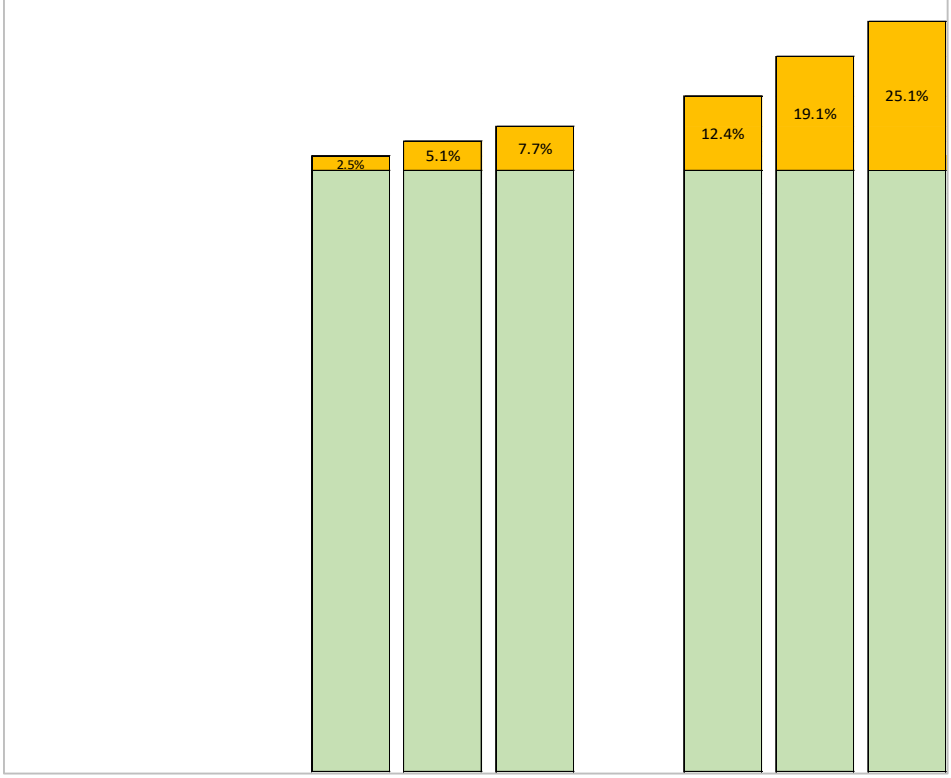


Figure 3-10: Actual escalation against original approved budget

Each maintenance contract has a proportion of Lump Sum (LS) measure items and the balance of budget is then available for measure and value works. After escalation is applied, year on year, to the maintenance contract the lump sum rates are increased in line with the revised escalated proportions. This results in a reduced proportion of budget remaining for measure and value works combined with an increase in the rates due to escalation the proportion of works is reduced. In brief, the quantity of works is exponentially reducing with the corresponding increase in escalation above originally proposed. This is creating a backlog of works.

Figure 3-11, Figure 3-12, and Figure 3-13 following indicate the summarized breakdown of the effects of the escalation on the three districts' maintenance contracts and the 'real' reduction in measure and value works, or the backlog of works.

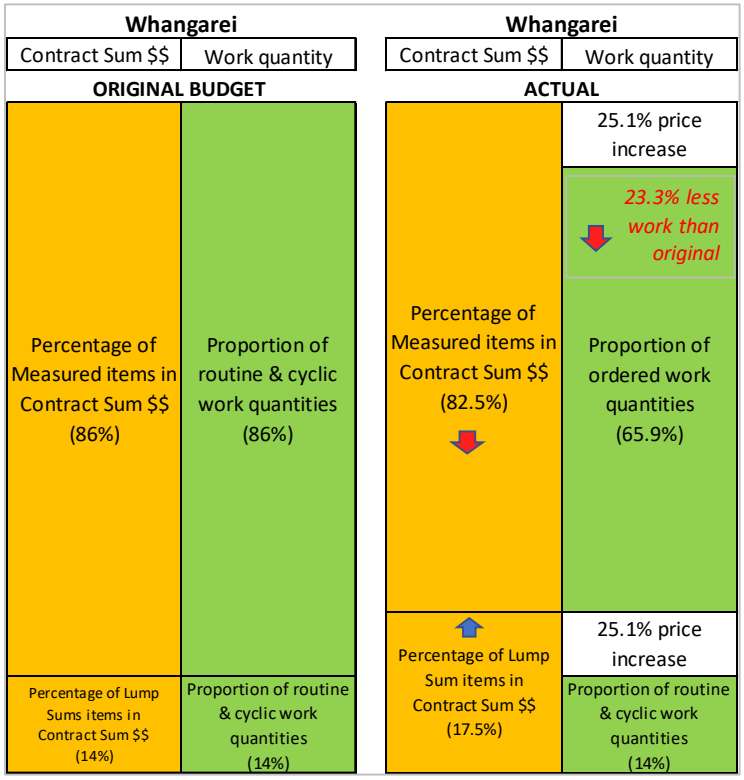


Figure 3-11: Impacts of Escalation on WDC maintenance contracts: 23.3% less measured works

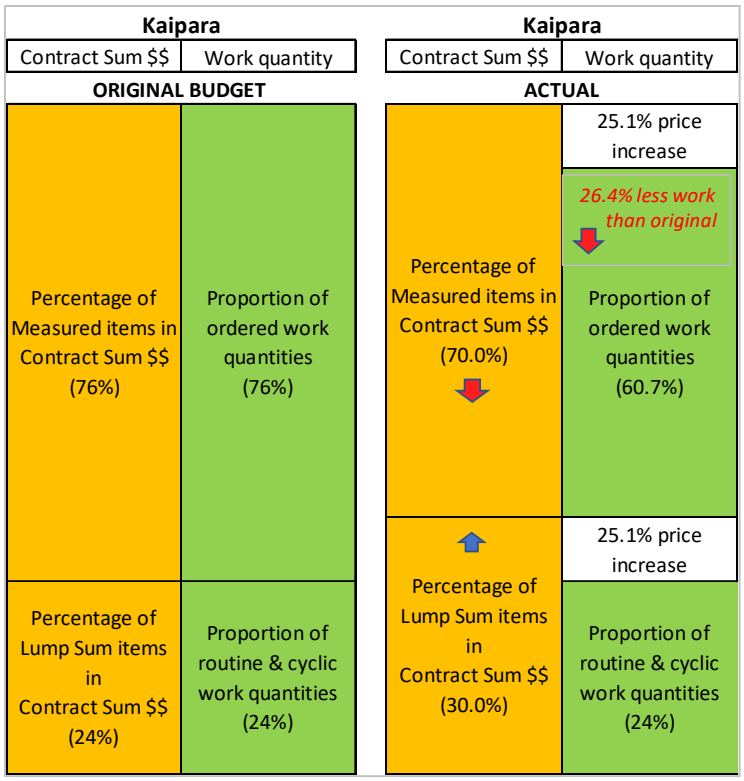


Figure 3-12: Impacts of Escalation on KDC maintenance contracts: 26.4% less measured works

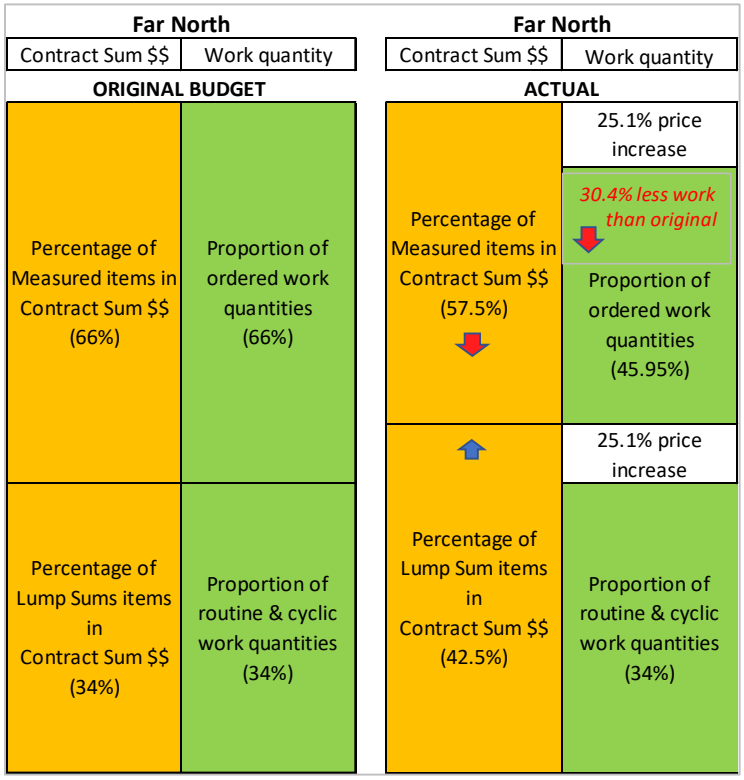


Figure 3-13: Impacts of Escalation on FNDC maintenance contracts: 30.4% less measured works

When this trend of increased escalation is extrapolated for the next three years: 2024-2027 at 4%, 3% and 3% respectively the increases due to escalation based upon the same quantities of works as approved in the last funding bid is 27.5% more. Figure 3-14 below shows the escalation breakdown.

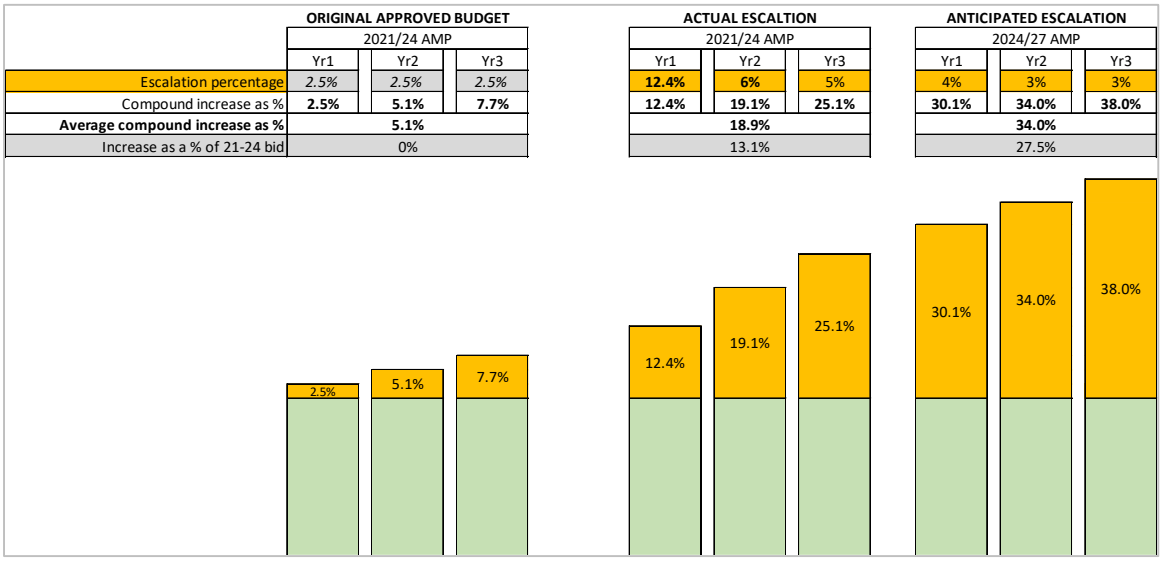


Figure 3-14: Escalation breakdown for 2024-27

3.2.4 Northland Transportation Alliance (NTA)

The Northland Transport Alliance, which was originally formed on 1 July 2016, is a shared service business unit and incorporates transport staff from WDC, KDC, FNDC and NRC. The objective of the NTA is to share services, create a centre of transport excellence, to encourage collaboration and sharing of ideas and to create efficiencies by increasing buying power and combining contracts. This should result in more consistent and efficient planning and operations being adopted across the region.

In early 2019, the NTA carried out a restructure of its organisational structure into four management teams. These teams are:

- Strategy and Planning
- Capital and Procurement
- Maintenance and Operations
- Administration and Business Development.

This business structure is intended to provide greater efficiencies, by developing "centres of excellence", breaking down the boundaries between the individual council staff and developing the right culture across the organisation. A rigorous employment campaign had been undertaken over the past year to employ the right staff in the right positions and all the required positions have now been filled. Some early "wins" through the NTA are the standardised road maintenance contracts, joint LED streetlight contracts and shared asset management planning.

In November 2023, each council is now jointly undertaking the Local Government Act 2022, Section 17A review of the delivery for transportation. "*A local authority must review the cost-effectiveness of current arrangements for meeting the needs of communities within its district or region for good-quality local infrastructure, local public services, and performance of regulatory functions.*" The final report(s) are due to be completed by early 2024.

3.2.5 Standardised Maintenance Contracts

On 1 July 2018, new standardised council MO&R contracts started across Northland. These contracts incorporate best practice principles and are fence to fence, involving most of the M&O aspects with road marking, bridge maintenance, reseals and a portion of rehabilitation work included. These contracts span the whole local road network of Northland. There are two contracts covering each of the Whangarei and Far North Districts and one contract covering the Kaipara District. The MO&R contracts have a term of 4+2+1+1 years (8 years maximum).

Separable portion 1 of the maintenance contracts ran from July 2018 to June 2022, Separable portion 2 runs from July 2022 to June 2024. Papers are being prepared to take to each council for the award of Separable portion 3 from July 2024 to June 2025, with some negotiated adjustments. The adjustments were due to the delay in awarding cost escalations under the contract (12 months of cost escalation must be borne by the Contractor until the rates are annually adjusted), and increased risk requirements for temporary traffic management.

It is unlikely that Separable portion 4 for the final one year will not be awarded and that a new maintenance contract will be tendered with a view to award in July 2025. This will involve some readjustment to the contract structure and preparation works on this will commence in early 2024. Current industry across New Zealand is indicating up to a 50% increase in rates from previous maintenance contracts tendered. While this trend in concerning, it cannot be accommodated in the

future funding bid at that rate. An estimated increase in tendered rates in Year 2, July 2025 to June 2026 of 15% has been included across all our budget bids.

Combined with the escalation (refer section above) the increase from the previous approved original bid is 40,5%. See Figure 3-15 below for a breakdown of the percentages.

	ORIGINAL APPROVED BUDGET			ACTUAL ESCALTION			ANTICIPATED ESCALATION		
	2021/24 AMP			2021/24 AMP			2024/27 AMP		
	Yr1	Yr2	Yr3	Yr1	Yr2	Yr3	Yr1	Yr2	Yr3
Escalation percentage	2.5%	2.5%	2.5%	12.4%	6%	5%	4%	3%	3%
Compound increase as %	2.5%	5.1%	7.7%	12.4%	19.1%	25.1%	30.1%	34.0%	38.0%
New Maintenance contract							0.0%	15.0%	15.0%
							30.1%	54.1%	58.7%
Average compound increase as %	5.1%			18.9%			47.6%		
Increase as a % of 21-24 bid	0%			13.1%			40.5%		

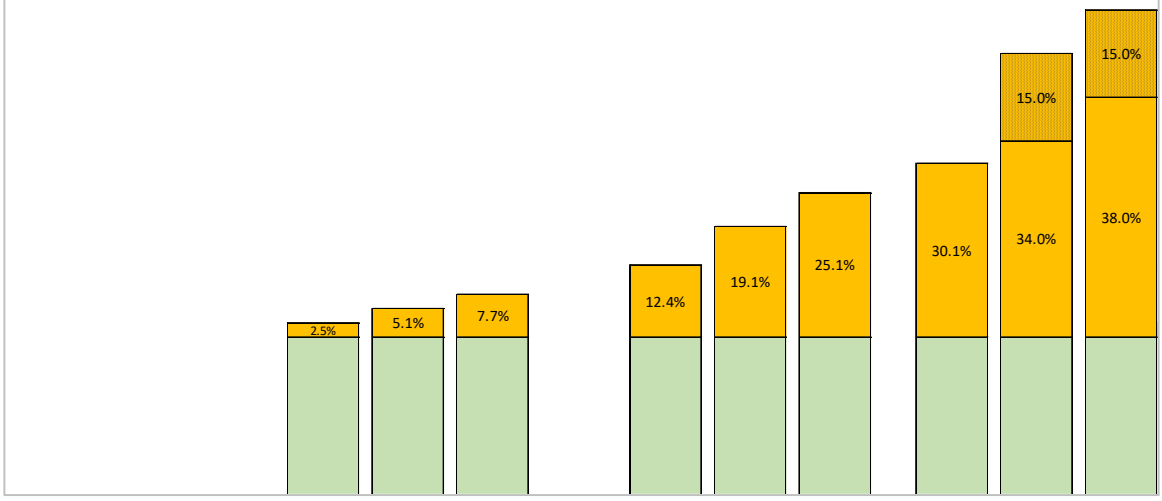


Figure 3-15: Escalation and new maintenance contracts as a percentage increase of prior approved bid

3.3 Council LTP Level of Service (what we provide now)

Levels of Service (LoS) is used as a mechanism to communicate to our customers what we promise to deliver, the rationale to which assets are managed and how funding is invested. The LoS link directly to performance measures allowing progress to be monitored and reported to our stakeholder and customers through the annual reports. They are set by legislative requirements, national and regional policies and plans and what our customers and stakeholders have told us what is important to them while being balanced with what the desired level of investment is.

The current LoS are set in the Council's Long-Term Plan and are monitored through the Annual Report prepared at the end of each financial year. The following monitoring of the LoS has been taken from the council Annual Reports over the past three years. Results shown in green indicate that the LoS was achieved or in red indicating that it was not achieved. Mandatory performance measures required by the Department of Internal Affairs are shown with (DIA) beside them.

The overall council performance against the LTP measures is detailed below and in Table 3-2 following.

- **FNDC** – Achieved 5 of its 8 LTP measures in 2021/22, three were not achieved and one could not be determined.
- **KDC** – Achieved 6 of its 7 LTP measures in 2021/22, with two not achieved.
- **WDC** – Achieved 2 of its 7 LTP measures in 2022/23, with six not achieved.

Table 3-2: Summary of latest published annual survey Performance Measures

Key Driver	Performance Measure	LG Mandatory Measure	Far North				Kaipara				Whangarei		
			Results 2019/20	Results 2020/21	Results 2021/22	Results 2022/23	Results 2019/20	Results 2020/21	Results 2021/22	Results 2022/23	Results 2020/21	Results 2021/22	Results 2022/23
Road Safety	The change from the previous financial year in the number of fatalities and serious injury crashes on local road network, expressed as a number.	Yes	+1	0	+5	+1	-4	-1	-1	+7	-3	+4	+12
Road condition	The average quality of a ride on a sealed local road network, measured by smooth travel exposure.	Yes	94% ≥88%	94% ≥85%	93% ≥85%	92% ≥85%	92% ≥90%	91% ≥90%	91% ≥90%	88% ≥90%	85% ≥87%	85%	84%
Road condition	The percentage of the sealed local road network that is resurfaced.	Yes	5.7% ≥6%	8.3% ≥6%	6.5% ≥6%	4.6% ≥6%	3.8% ≥6.7%	11.7% ≥6.7%	8.3% ≥8.0%	11.3% ≥8.0%	11.1% ≥8%	7.2% ≥9%	6.61% ≥9%
Road condition	The maintenance of the roads meet Council's level of service targets as specified in our road maintenance contracts.	No	99.7% ≥85%	98.4% ≥85%	84.2% ≥85%	65.3% ≥85%	-	-	87.1% ≥85%	83.8% ≥85%	-	91.1% ≥85%	87.9% ≥85%
Road condition	The percentage of the sealed local road network that is rehabilitated.	No	-	-	0.5% ≥0.5%	0.2% ≥0.5%	-	-	0.64% ≥0.6%	0.19% ≥0.6%	0.5% ≥0.6%	0.4% ≥0.4%	0.24% ≥0.4%
Service	The percentage of customer service requests relating to roads and footpaths to which the territorial authority responds 1 within the time frame specified in the LTP.2	Yes	93.6% ≥95%	87.1% ≥95%	90.7% ≥95%	93.2% ≥95%	46.3% ≥73%	95.28% ≥90%	87.4% ≥90%	93.7% ≥95%	78% ≥95%	76.9% ≥95%	62.09% ≥95%
Service	The Hokianga Ferry Service will run in accordance with advertised timetable.	No	99.4% ≥95%	96.8% ≥95%	97% ≥95%	95.6% ≥95%	-	-	-	-	-	-	-
Footpath condition	The percentage of footpaths within a territorial authority district that fall within the level of service or service standard for the condition of footpaths that is set out in the territorial authority's relevant document (such as its Annual Plan, Activity Management Plan, Asset Management Plan, annual works programme or LTP).	Yes	99.4% ≥90%	97% ≥90%	97.1% ≥90%	98.0% ≥90%	46.33% ≥73%	52.33% ≥73%	87.4% ≥90%	95% ≥90%	99.5% ≥80%	99% ≥90%	989% ≥90%

Mandatory Measure (Department of Internal Affairs)	
Not Achieved Target	
Achieved Target	

Northland Transportation Alliance

Transportation Activity Management Plan 2024–2054

Section 4 – Problems, Benefits, Consequences and Preferred Options

Northland Transportation Alliance

Transportation Activity Management Plan 2024–2054

Section 4

Problems, Benefits, Consequences and Preferred Options

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4 Problems, Benefits, Consequences and Preferred Options

4.1 Background

This section outlines the major problems identified, the benefits of resolving the problems and consequences of not addressing the problems. It is sectioned into the main asset groups and full details can be referred in the appendices to this document.

This section also summarises the option assessment and line of sight to the preferred strategic response and the problems they are addressing. These options have been ranked in order of preference and then have been assessed through a multi-criteria assessment (MCA) to determine the highest scoring options that are preferred and are to be adopted. Full details of the multi-criteria analysis can be sourced in the related appendices.

4.2 Sealed Roads

4.2.1 Key Issues

Problem Statement – Increasing pavement maintenance and renewal backlog through not achieving prior programmed works due to major events, such as COVID lockdowns, cost escalations, limited resources, and compounding storm events.

All three councils have a seal road cost that is at the top end of their peer group. This is demonstrated in the Waka Kotahi New Zealand Transport Agency (NZTA) cost comparison graphs for the last three-year average (2021-2023) for each sealed road work category below. There are several environmental factors in Northland that contribute to the high costs.

Due to the generally poor geology of Northland, pavement subgrades are often weak and very susceptible to moisture. This results in rutting and shove failures which means that maintenance and renewals are often required earlier than other parts of the country. It also requires new pavements to be thicker and more expensive to carry the traffic loading and more extensive drainage provisions to avoid water ingress leading to premature failure.

The geology of Northland also means that there are relatively few sources of quality aggregate suitable for road maintenance and construction activities in the region. There are few quarries that can produce aggregate to the NZTA M/4 specification and because of this the cost of producing this M/4 material is high. For this reason, most basecourses within the Northland region are constructed using inferior GAP40 aggregate which is then either lime or cement stabilized to bind up the fines. Only a few quarries (Puketona Quarry, Winstones and Atlas Quarry at Piroa) are suitable for sealing chip. This can lead to long cartage runs to truck in metal and hence increased costs for constructing and maintaining roads.

In addition, there is only one asphalt plant in Northland (located in Whangarei) and the next nearest is in Auckland (Silverdale). This again leads to higher costs due to lack of competition and cartage distances, particularly for the Far North.

The geometry on the majority of the network was built well before any standardised design was developed, thus our roads have poor alignments and inadequate road widths particularly on corners causing safety issues.

Freight and forestry traffic results in significantly higher maintenance demands on the Northland road network, particularly due to long lengths of haulage on local roads for the Far North and Kaipara Districts. It is creating significant additional maintenance costs on the network, including premature failure of pavements. This is likely to increase in the future with larger, heavier trucks being used (50 Max, HPMV). Freight demand is predicted to grow by almost 40% between 2012 and 2042. This will result in increasing levels of pavement wear and deterioration over time.

A Forestry Plan and forward works programme (FWP) has been analysed and incorporated into the existing FWP to identify the demands and needs of this network. This will help ensure that adequate long-term investment on forestry routes to maintain these in a fit for purpose condition.

For the above reasons, the sealed road costs in Northland are always expected to be in the upper half or third of its peer group.

As well as the above, lack of investment in the sealed road network in the past is influencing the current asset management decisions and costs.

4.2.1.1 FNDC

Recent Expenditure and Current Issues:

The Far North District had a reduced spend on the sealed network between 2012/13 and 2015/16. This was due to FNDC reducing the funding for sealed roads due to a tight economic climate following the global financial crisis.

There was a spike in resurfacing and rehabilitation costs in 2017/18 resulting from additional NZTA investment in a strengthening programme on the forestry road network. While this was a one-off catch up in forestry work, there needs to be an ongoing programme of work on forestry routes to keep these in a fit-for-purpose state.

The Far North District has a backlog of expensive thin asphalt surfacing to address due to cracking of some of its more important routes such as Commerce Street and North Ave in (Kaitaia), Kerikeri Road and the Kerikeri Heritage Bypass. These continue to be a focus area for 2024-27 to replace these surfacing and ensure that these pavements are kept waterproof. This also acts as a proxy for urban road rehabilitation coupled with heavy maintenance repairs.

Remaining Surface Life Profile: FNDC have a significant quantity of Primary and Secondary class roads in terms of resurfacing either beyond or approaching end of life. Due to impacts recognised with the problem statement these roads are being pushed. When surfacing does occur, these roads are often beyond pre-seal and reseal and need to be managed into the pavement rehabilitation programme. FNDC has the greatest proportion of total remaining surface life backlog at 29% of the three districts.

Rutting Profile: The network average rutting profile shows that the secondary network has the highest proportion of rutting in the network. This aligns with the rehab investment profile for year one of the programme. The profile has not moved significantly from previous years meaning the current programmes have been able to maintain static rut profile. Future programmes will need to be managed at least at current levels or slightly above to ensure this managed going forward. To do this, higher levels of funding will be required due to rising costs.

Roughness Profile: The average roughness profile shows a long tail which indicates a rougher riding network. The large majority of this is Arterial, Primary, Access Low Volume. However as

indicated by LoS analysis of Smooth Travel Exposure (STE) the peak roughness remains a focus to improve ride quality, given the vulnerable user issue.

4.2.1.2 KDC

Recent Expenditure and Current Issues:

There had been a lean period of spending between 2011/12 to 2013/14 during the rates strike, when residents in Mangawhai and some others across the District refused to pay their rates in protest of the cost over-run from the Mangawhai Sewerage Scheme. This left a significant hole in the sealed road programme, which was later recovered by additional investment in the 2014/15 – 2016/17 period.

The last plan had rebalanced the renewals programme to substantially reduce the rehabilitation programme and reinvest this money into resurfacing to reduce a significant backlog of single coat seals on the network. This also coincides with the implementation of pavement performance modelling for the Kaipara network to optimise the sealed road programme.

Remaining Surface Life Profile: The remaining surface life profile reflects the work done on applying second seal aging first coats. Resulting in reduction of overdue seals. This has removed some risk from the network but continued focus on the remaining old seals is required to avoid more expensive rehabilitation treatments or significant pre-seal maintenance.

Rutting Profile: The network average rutting profile shows that the secondary network has the highest proportion of rutting in the network. This aligns with the rehabilitation investment profile for the term of this plan. As above, the previous and current plans have been able to maintain this profile in a stable state. This would been seen as an adequate service position for a network of this sort.

Roughness Profile: The average roughness profile shows a long tail which indicates a rougher riding network. The large majority of this is Access and Low Volume. However as indicate under LoS analysis STE and peak roughness remains a focus to improve ride quality, given the vulnerable user issue.

4.2.1.3 WDC

Recent Expenditure and Current Issues:

During the 2015/18 period there was an increase in pavement rehabilitation to recover from historically low rates of rehabilitation in the preceding years. These low rates were primarily due to renewal funding being diverted by council to fund emergency works and lack of local share caused by council accounting for property sales which did not occur.

In addition, pre-reseal costs rose substantially from 2009/10 to 2015/16 as a result of reseals being at historically low levels (60km/year or an 18-year average cycle). The focus on additional reseal funding from 2015/16 had resulted in a downward trend in maintenance costs. Due cost increase impacts and weather events (reduced programme delivery) increasing levels of pre-seal resurfacing levels are increasing.

A significant focus has been given to the Whangarei City urban network over the past 4 years and this has contributed to the high renewal costs through thin asphaltic concrete (TAC) surfacing and expensive structural asphaltic concrete (SAC) pavements. Further investment in the urban network will be required in the future. Alternative more cost-effective solutions are being considered however these treatments need to be balanced with customer travel disruption impacts and possible higher risk of failure on high volume parts of the network. There remain

limited solutions to urban road rehabilitation which provide the same design certainty and speed of construction as SAC pavements.

Remaining Surface Life Profile: The current programme has treated a number of overdue seals and reduced the volume of old surfacing on the network. There remains quite tail of old surfaces some of which are old low volume residential asphalt surfaces which remain in the network and has been identified as strategic and programme response in this AMP.

Rutting Profile: The network average rutting profile shows that the secondary network has the highest proportion of rutting in the network. This aligns with the rehab investment profile for of the proposed programme. In terms of network condition, this profile is adequate and should be maintained in this position.

Roughness Profile: There are some high levels of roughness on the arterials, primary and secondary network.

4.2.1.4 Key Issues and Actions

- Pavement costs in Northland are likely to be higher than other areas due to poor geology which results in softer subgrades requiring thicker pavements, fewer good quality quarry sources which increase material cartage costs and a significant amount of forestry and freight on the local road network. Many pavements are thin and susceptible to changes in heavy vehicle traffic and weather impacts leading to higher rates of water ingress.
- An adequate level of pavement rehabilitation and chipseal surfacing needs to be sustained in the long term to preserve the pavement condition and to reduce long term maintenance costs.
- Continued investment in thin asphaltic surfacing is required in FNDC and WDC to address a backlog of overdue surfaces which are heavily cracked. This will help preserve water proofing and avoid premature failure on major arterial routes resulting in very expensive rehabilitation treatments.
- Urban rehabilitations in Whangarei City are mostly using expensive structural asphaltic

4.2.2 Benefits

- Continuation of an increased programme of pavement and surfacing renewals will enable the sealed pavement to be maintained in a fit for purpose condition while optimising the long-term maintenance costs. This needs to be coupled with a holistic drainage programme.
- Continuation of the integrated forestry FWP road programme will enable the forestry network to be maintained in a fit for purpose condition to allow safe and efficient cartage of logs to Northport, sawmills and processing plants located within the region. This will help ensure that the economic benefits from the forestry activity are sustainable in the long term.
- Maintaining other freight routes to a higher standard will make these roads better able to cope with the increasing freight loads over time, reduce continual disruptive maintenance patching and more resilient to adverse weather events.
- Further investment to replace thin asphaltic surfacing (TAC) will help preserve the pavements in the urban areas which are very expensive to otherwise rehabilitate. This needs to be coupled with an increased investment in heavy pavement maintenance repairs that are completed along with the TAC surfacing, acting as a proxy for urban structural asphaltic concrete (SAC) pavement treatments as a way to reduce the SAC programme and spread cost impact.

- Alternative solutions should be investigated for urban rehabilitations in Whangarei City to reduce the reliance on high cost SAC treatments.

4.2.3 *Consequences*

- Not increasing the current programme will see the sealed network condition deteriorate as pavements become less protected and more vulnerable to poor geological conditions and increasing traffic volume and freight demand. This will lead to reduced levels of service, reduced resilience during wet weather events, worsening pavement condition and increased road hazards (e.g. more potholes and failures), and an increase in long-term maintenance costs along with increased cost of ownership for future generations.
- Not carrying out effective maintenance and renewals of the freight and forestry routes will result in a deteriorating condition, more maintenance and costs, slower travel times and potential safety issues.
- Without addressing the poor condition thin asphaltic concrete (TAC) surfacing in the Far North and Whangarei Districts, these surfaces will allow water ingress leading to premature and expensive pavement failure.
- Continuing with expensive structural asphaltic concrete (SAC) pavements in Whangarei City will keep sealed road costs high.

4.2.4 *Preferred Options*

Table 4-1 following summarises the option assessment and line of sight to the preferred strategic response and the problems they are addressing are shown in the table below. Full details of the multi-criteria analysis can be sourced in Appendix 01 (Sealed Roads).

Table 4-1: Sealed Roads – Option Assessment and Line of Sight

Preferred Strategic Response	PBC Options to be Considered	Option Rank	MCA Score	Preferred Options
Programme Adjustment • Increase programme – surfacing and rehabilitations. • Supported through holistic drainage management programmes • Adjust the urban pavement rehabilitation risk based approach to heavy per-seal and asphalt resurfacing to spread pavement rehabilitation programme	**Programme Adjustment** **LoS Adjustments** • Option 1 - Continue to Optimise Rehabs and Reseals	1	2	Yes
	Alternative Approaches Solution/Technology • Option 4 – Implement AI Video technology to support pavement and surfacing defect identification	4	1.85	Yes
	Improve Systems Capability • Option 3 - Implement Inspection Management Change with next MO&R Contracts	3	1.4	Yes
	Managing Demand • Option 6 - LoS change to resurface low volume residential asphalt roads in lower cost surfacing solution	6	1.2	Yes
	• Option 5 – Surfacing policy change, developers to fund second coats	5	0.95	Yes
	Risk – Hold Assets Longer & LOS Adjustment • Option 2- Skid resistance risk assessments and appropriate surfacing's	2	-0.1	Yes
Funding Adjustment • Increase in targeted heavy pre-seal pavement maintenance	**Funding Adjustment** **Blending Work Categories Differently** • Option 7 - Alternative management approach for urban rehabilitations	7	0.3	Yes
	Supply Chain Improvements • Option 8 - Alternative quarry sources and/or ownership models	8	-0.3	No

Preferred Options: From the multi-criteria assessment the preferred options are:

- Option 1 – Continue to optimise Rehabs and Reseals.
- Option 4 – Implement AI video technology to support pavement and surfacing defect identification.
- Option 3 – Implement Inspection Management Change with next MO&R Contracts.
- Option 6 – LoS change to resurface low volume residential asphalt roads in lower cost surfacing solution.
- Option 5 – Surfacing policy change, developers to fund second coat seals.
- Option 7 – Alternative management approach for urban rehabilitations.
- Option 2 – Skid resistance risk assessments and appropriate surfacing's.
- Option 8 – Alternative quarry sources and/or ownership models.

4.2.5 Renewal Programme

4.2.5.1 Model Forecast Programme Analysis

The following summarise the suggested programme lengths from the pavement performance model analysis (Appendix A01-A Draft NTA Pavement Performance Analysis – 2023-24).

FNDC – Chipseal Reseal:

- The range of Optimal Model scenarios 10-year and 20-year average annual chip sealing (resealing plus second coats) is 71 to 75 km.
- The reseal treatment is a priority because it offers asset preservation and some improvement (when required) at the most economic price.
- A suggested 72 to 75 km is 8.1% to 8.5% of the chipseal network length per year. This amount is more than the past 5 years achievement. A greater amount is needed to cater for sealed network expansion, ensure second coat seals are catered for, and the age-based backlog quantity does not grow even further and become unmanageable in the future. The average of the suggested range (73.5 km/year) will result in a chipseal life cycle of 12.0 years.

FNDC – Asphalt Resurfacing:

- The range of Optimal Model scenarios 10-year and 20-year average annual asphalt surface renewal (AC) is 1.8 km to 2.5 km. There is also some additional AC quantities forecast by the model within the rehabilitation treatments.
- A suggested 2.5 km is 8.4% of the asphalt network length per year. This amount of asphalt treatments is required to cater for the existing asphalt surfaces that are currently at or near end of useful life.

FNDC – Rehabilitation (pavement renewal):

- The range of Optimal Model scenarios 10-year and 20-year average annual rehabilitation is 2.1 km to 10.3 km.
- The amount of rehabilitation treatments prioritised to the programme over the analysis period with the Normal budget is beneath the suggested range. This is a financial constraint as the model needed to cater for resurfacing needs first for the preservation and greater good of the network.
- Based on RAMM data, over the last ten years, the average annual pavement base achievement was 14.1 km (1.5% of the network). The RAMM data includes recent seal extension and new pavements completed, which will overstate the historic pavement renewal achievement. The achievement of pavement renewals is much less than what pavement age data suggests and this makes it difficult to quantify the amount of recent rehabilitation achievement.
- A suggested range of 6.0 km to 8.0 km is in line with current practice and the optimised programme with higher funding. This will result in a pavement base life cycle of 131 years at the average of the suggested range (7.0 km).

KDC – Chipseal Reseal:

- The range of Optimal Model scenarios 10-year and 20-year average annual chip sealing (resealing plus second coats) is 30 to 33 km.
- The reseal treatment is a priority because it offers asset preservation and some improvement (when required) at the most economic price.

- A suggested 31 to 35 km is 6.7% to 7.6% of the chipseal network length per year. This amount is less than the past 5 years achievement since the historic backlog of second coat seal need has been adequately addressed in recent years. An amount at the higher end of the suggested range will be needed in the future to ensure future second coat seals are catered for and the age-based backlog quantity does not grow and become unmanageable. Furthermore, KDC is having a large amount of residential and related commercial development in the Mangawhai area, which is starting to impact on the surface and pavement life. The average of the suggested range (33 km/year) will result in a chipseal life cycle of 14.0 years.

KDC – Asphalt Resurfacing:

- The range of Optimal Model scenarios 10-year and 20-year average annual asphalt surface renewal (AC) is 0.8 km to 0.9 km ($0.3 to $0.4 million). There is also some additional AC quantities forecast by the model within the rehabilitation treatments.
- A suggested 0.5 km is 6.4% of the asphalt network length per year. This amount of asphalt treatments is required to cater for the existing asphalt surfaces that are currently at or near end of useful life.

KDC – Rehabilitation (pavement renewal):

- The range of Optimal Model scenarios 10-year and 20-year average annual rehabilitation is 0.7 km to 5.5 km.
- The amount of rehabilitation treatments prioritised to the programme over the analysis period with the Normal budget is lower than the suggested range. This is a financial constraint as the model needed to cater for resurfacing needs first for the preservation and greater good of the network.
- It is not realistic to expect a network to be managed over a long period of time without the need for rehabilitation treatments. The increasing pavement age indicates the pavement capacity will inevitably be consumed over a long period of time. The pavement will become less resilient to wear and less capable of absorbing deterioration.
- Based on RAMM data, over the last ten years, the average annual pavement base achievement was 4.9 km (1.0% of the network). The RAMM data includes recent seal extension and new pavements completed, which will overstate the historic pavement renewal achievement. The achievement of pavement renewals is less than what pavement age data suggests.
- A suggested range of 3.0 km to 5.0 km is in line with current practice and identified forward work, the optimised programme with higher funding. This will result in a pavement base life cycle of 117 years at the average of the suggested range (4.0 km).

WDC – Chipseal Reseal:

- The range of Optimal Model scenarios 10-year and 20-year average annual chipsealing (resealing plus second coats) is 72 to 75 km.
- The reseal treatment is a priority because it offers asset preservation and some improvement (when required) at the most economic price.
- A suggested 72 to 75 km is 7.2% to 7.5% of the chipseal network length per year. This amount is less than the past 5 years achievement. The historic backlog of void fill/texturising seals and second coat seal need has been adequately addressed in recent years. An amount at the higher end of the suggested range will be needed in the future to ensure future second coat seals are catered for, and the age-based backlog quantity does not grow and become unmanageable.

The average of the suggested range (73.5 km/year) will result in a chipseal life cycle of 13.6 years.

WDC – Asphalt Resurfacing:

- The range of Optimal Model scenarios 10-year and 20-year average annual asphalt surface renewal (AC) is 6.4 km to 6.7 km. There is also some additional AC quantities forecast by the model within the rehabilitation treatments.
- A suggested 5.0 to 6.5 km is 6.5% to 8.5% of the asphalt network length per year. This amount is greater than the past 5 years achievement. This amount of asphalt treatments is required to cater for the existing asphalt surfaces that are currently at or near end of useful life. The average of the suggested range (5.75 km/year) will result in an asphalt life cycle of 13.3 years.

WDC – Rehabilitation (pavement renewal):

- The range of Optimal Model scenarios 10-year and 20-year average annual rehabilitation is 0.9 km to 8.8 km.
- The amount of RHAB treatments prioritised to the programme over the analysis period with the Normal budget is lower than the suggested range. This is a financial constraint as the model needed to cater for resurfacing needs first for the preservation and greater good of the network.
- It is not realistic to expect a network to be managed over a long period of time without the need for rehabilitation treatments. The increasing pavement age indicates the pavement capacity will inevitably be consumed over a long period of time. The pavement will become less resilient to wear and less capable of absorbing deterioration.
- Based on RAMM data, over the last ten years, the average annual pavement base achievement was 8.8 km (0.8% of the network). The RAMM data includes recent seal extension and new pavements completed, which will overstate the historic pavement renewal achievement. The achievement of pavement renewals is less than what pavement age data suggests and this makes it difficult to quantify the amount of recent rehabilitation achievement.
- A suggested range of 6.0 km to 8.0 km is greater than current practice, but within the identified forward work and forecast given by the optimised programme with higher funding. This will result in a pavement base life cycle of 153 years at the average of the suggested range (7.0 km).

4.2.5.2 Renewal Programme

The programmes developed through pavement performance model analysis have been field validated and refined to match the actual need of the network. As a result of this field validation, we have adopted a slightly different (and generally higher) level of renewal than shown in the modelling. This is part of our optimisation process and will be further refined through continual reviews to further test and refine the programme.

The recent storms and rainfall weather events during 2022/23 season have driven an amount of programme change not experienced previously, this has resulted in site priority changes to accommodate the events impacts.

High priority pavement renewals are undertaken based on increasing maintenance costs or to intervene on pavements where maintenance is no longer the most economic option. These will be prioritised by ONRC hierarchy, risk, and criticality. The forestry and urban Arterial/Collector road networks will be a focus of this programme over the next three years with a mix of strategic rural

sites. Access and Low Volume roads will not be treated unless they meet the criteria and are deemed a high risk to the customers.

Surface renewals are identified through pavement performance model analysis and field validation in relation to the rehabilitation programme. The process is then to review the 5 year reseal programme by assessing seals on site and prioritised based on the ONRC hierarchy, cost, the condition and risk posed, the criticality of the route and the number of wet road crashes that have occurred at the site. The renewals plan will consist of as much high priority reseals as the funding allows.

If a surface site is too expensive to repair and has a history of repeated maintenance investment, the site will not be re-surfaced and will be managed until such time as a better long-term treatment, such as a pavement rehabilitation, can be undertaken.

The current proposed programmes for the 2024-27 period were established following this optimisation process. Table 4-3 below summarises the average annual length for the renewal treatments for each district for the 2024-27 period.

Table 4-2: Renewal treatments average annual length summary

District	Chipseal Resurfacing (km)	Asphalt Resurfacing (km)	Pavement Rehabilitation (km)
FNDC	85	3.8	6.9
KDC	40	0.4	4.7
WDC	95	5.2	7.9

4.3 Unsealed Roads

4.3.1 *Key Issues*

Problem Statement

The majority of the network has poor shape, excess widths, limited functioning drains and with limited availability of specified aggregates, resulting in:

- Adverse health impacts to residents due to dust.
- High levels of community dissatisfaction due to poor road condition.
- High maintenance costs.

FNDC

Both the unsealed pavement maintenance and metalling cost are in the top quartile of the peer groups. The cost to maintain Far North's unsealed roads is high and they have heavy metalling cost is in the top quartile of their peer group. This reflects the significant amount of FNDC's unsealed network, which is subject to heavy vehicle traffic, and in particular logging trucks.

During 2017/18 there was a significant spike in spending through the additional NZTA investment in the forestry road strengthening programme and the Ngapipito and Pipiwai Road sealing. This resulted in a short-term reduction in spend in the following years (2018/19 to 2020/21). However, this effect was expected to be short lived as the gravel loss on these forestry routes is high and will require increasing levels of investment over time. Cost have begun to creep up and spend is currently similar to that prior to 2017/18, albeit with increase to the maintenance cost component and a corresponding decrease in the metalling cost component.

Far North has one of the highest total unsealed cost in their peer group. In addition to this, FNDC is currently having to spend on unsubsidised dust suppression and on seal extensions, of which a significant amount is targeted through the Low-Cost Low Risk programme with the rest being unsubsidised. Most of this work is being undertaken due to pressure from the community due to health concerns due to dust and general dissatisfaction with the unsealed road network. This demonstrates that the current approach to unsealed roads is not sustainable in the Far North.

The resident satisfaction with the unsealed road network is low due which is likely to be due to variable conditions (potholes and corrugations), that are subject to substantial change due to weather effects.

As of 2020 there was over 1,900 dwellings located on roads with a medium dust risk. This is a significant number of residents exposed to dust risk and is driving pressure from the public for dust suppression and seal extensions. This indicates that further effort is required to improve the unsealed road network.

KDC

Unsealed pavement maintenance cost is in the top quartile of its peer group. However, the unsealed road metalling cost is in the lower-mid quartile of its peer group.

The investment in Paige-Green complaint wearing courses should result in less maintenance being required in the future due to having a tightly bound surface and should see the maintenance costs decrease over time. Unsealed metalling costs are relatively low compared to the peer group because of inputs from the PGF.

There had been a step change in funding of KDC's unsealed network in the period between 2014/15 and 2017/18, which was the recovery from the impacts of the Mangawhai rates strike and also included additional investment in the sealed road network through the NZTA forestry

strengthening programme. The maintenance cost component has been relatively low and stable during the five years since then. However, metalling cost have remained at relatively high levels.

Kaipara remains one of the most expensive in its peer group for pavement maintenance and is mid-range in its peer group for road metalling. Road metalling improvement relative to the previous three-year period has been influenced by Provincial Growth Fund (PGF) contributions and that Kaipara has been piloting the initiatives from the Centre of Excellence for Unsealed Roads.

However, Kaipara is not investing in dust suppression or seal extensions, although it is noted that through the PGF Kaipara Kickstart project, the sealing of the remaining 20km of Pouto Road is complete. Over the past four or five years, Kaipara has been focusing on utilising blended materials and this has led to the roll out of Paige-Green compliant wearing courses to improve road condition, reduce maintenance costs and help control dust. The impacts of this investment are starting to be realised in reduced complaints and maintenance costs on these routes.

The resident satisfaction with the unsealed road network is low but is expected to increase with the continued roll-out of Paige-Green complaint wearing courses.

As of 2020 there was over 300 dwellings located on roads with a medium dust risk. This indicates that continuing the wearing course roll-out will also help reduce dust effects to local residents.

WDC

Unsealed pavement maintenance cost is in the top quartile of its peer group and unsealed road metalling cost is in the top third of its peer group. Whangarei has poor subgrade conditions, high freight demand and dust issues.

A spike in spending during 2017/18 was due to the investment in the Wright/McCardle seal extensions which were funded through WC 211 Unsealed Road Metalling. The overall investment into Whangarei's unsealed road network prior to 2018/19 was too low, given the spend for the other two districts and Northland's poor subgrade conditions and heavy vehicle volumes. The spending profile, starting in 2018/19, was increased to address historic under investment in maintenance and metalling of the unsealed network and is considered a more sustainable level of

WDC is one of the most expensive in its peer group for pavement maintenance and is at the high end of the range in its peer group for road metalling.

In addition, WDC is spending $1M/year on seal extensions, but this was increased to $3M for the 2019/20 financial year. Going forward, WDC will be spending $1.5M for 2024/25 and 2025/26, most of this work is being funded as unsubsidised seal extensions.

The resident satisfaction with the unsealed road network is low which is likely to be due to variable conditions (potholes and corrugations), that are subject to substantial change due to weather effects.

As of 2020 there was over 400 dwellings located on roads with a medium dust risk. This indicates that further effort is required to improve the unsealed road network.

Key Issues and Actions

- The use of General All-Passing (GAP) materials is resulting in the unsealed road network being prone to potholing, corrugations, gravel loss and dust which is leading to high levels of customer dissatisfaction, and health concerns and maintenance costs.
- Dust has become a significant concern for resident's health, particularly on freight routes, which is driving significant demand for dust suppression and sealing of roads in the Far North and Whangarei districts.

- The roll out of the use of Paige-Green compliant materials is expected to address a lot of these issues. The focus will be on providing a wearing course of Paige-Green compliant material on high and medium demand roads. Additional pavement strengthening will also be required on these routes to provide the required strength and shape. Additional funding would be required to enable this roll out to be properly implemented.
- For low demand unsealed roads, Paige-Green compliant materials should be used whenever undertaking metalling of these routes.
- Gather information on pavement depth and condition on unsealed roads to determine re-metalling programmes and to develop a proactive programme of works rather than reacting to customer complaints.
- Testing of road metal sources is recommended, and potential blending of aggregates may be required to develop Paige-Green compliant materials.
- The use of dust coat seals or dust suppression in front of houses should only be considered when Paige-Green compliant materials have been applied and excessive dust is still an issue. However, it should be recognised that dust could still be an issue on unsealed road with high demand, such as long-term heavy vehicle routes.
- Limit further residential development on unsealed roads or require dwellings on unsealed roads to be set back well away from unsealed roads (ideally greater than 80m) through relevant provision in the council district plans.

4.3.2 *Benefits*

- A fit for purpose Level of Service for our unsealed roads that improves customer satisfaction, while optimising the long-term maintenance costs. Road dust on unsealed freight routes will be controlled to minimise health impacts to residents.
- The roll out of Paige-Green compliant materials will result is less potholing, corrugations, gravel loss and dust, which will improve resident satisfaction, reduce dust and reduce maintenance costs. It should also help reduce the demand for expensive dust suppression and road sealing. In the long-term, the use of Paige-Green compliant materials should result in an optimal and sustainable unsealed road network.
- Further information on pavement depth and condition will enable a proactive programme of re-metalling and grading to be adopted.
- On high demand routes with Paige-Green materials that are still subject to excessive dust, mitigation such as dust suppression will help reduce health issues of residents inhaling fine dust particles (PM10) and road safety issues of dust blinding oncoming drivers.
- Limiting residential development on unsealed roads or ensuring new dwellings on unsealed roads are well setback will help avoid further demand for sealing roads and dust issues affecting local residents.

4.3.3 *Consequences*

- Our customers will continue to be dissatisfied with our condition and maintenance practices on unsealed roads, with continued dust issues on heavy vehicle routes and ongoing high maintenance costs.
- The continued use of GAP materials will result in ongoing dissatisfaction issues with the unsealed road network due to potholing, corrugations, gravel loss and dust. It will also

continue the high maintenance cost of the unsealed network and continue to drive demand for expensive dust suppression and sealing.

- Continuing to maintain the unsealed network without knowing the pavement depth or condition will retain the current reactive approach to customer complaints which is likely to be suboptimal and result in more customer dissatisfaction.
- On high demand routes with Paige-Green materials that are still subject to excessive dust, without addressing this dust issue, health impacts of fine dust particles on local residents will continue and crashes involving drivers becoming blinded by dust may occur. Pressure from local residents including roadblocks may also continue.
- If rural subdivisions on unsealed roads are allowed to continue or if dwelling are allowed to be built close to unsealed road frontages, there will be more demand for expensive seal extensions and more issues associated with dust.

4.3.4 *Preferred Options*

Table 4-3 following summarises the option assessment and line of sight to the preferred strategic response and the problems they are addressing are shown in the table below. Full details of the multi-criteria analysis can be sourced in Appendix 02 (Unsealed Roads).

Table 4-3: Unsealed Roads – Option Assessment and Line of Sight

Preferred Strategic Response	PBC Options to be Considered	Option Rank	MCA Score	Preferred Options
Policy Approach • Paige-Green compliant wearing courses and structural pavements. • Improved training of grader operators.	**Policy Approach** **Improve Systems and Capability** • Option 1 - Complete the Centre of Excellence, FWP and MIS.	1	1.35	Yes
	Alternative Approaches – Different Solutions/Technologies • Option 2 - Enforce Paige-Green compliant materials with training.	2	2.15	Yes
	Improve Systems and Capability, Using Assets Differently & Intervention Response Timing Change • Option 3 - Improve grading with operator training and pro-active operations based on condition.	3	1.5	Yes
	Route Management • Option 4 - Provide sufficient pavement thickness based on the FWP.	4	1.0	Yes
	Managing Demand • Option 5 - Educating the public on the appropriate level of service.	5	0.9	Yes
	• Option 7 - House frontage sealing on dusty roads.	7	0.15	No
	Extended Temporary Management and Managing Demand • Option 6 - Dust mitigation and control measures.	6	0.35	Yes

Preferred Options: From the multi-criteria assessment the preferred options are:

- Option 1 – Complete the Centre of Excellence, FWP and MIS.
- Option 2 – Enforce Paige-Green compliant materials with training.
- Option 3 – Improve grading with operator training and pro-active operations based on condition.
- Option 4 – Provide sufficient pavement thickness based on the FWP.
- Option 5 – Educating the public on the appropriate level of service.
- Option 6 – Dust mitigation and control measures – dust suppression only to be used where Paige-Green compliant materials are insufficient to control dust.

4.4 Drainage

4.4.1 Key Issues

The procurement structure of the maintenance contract combined with the major events, such as COVID lockdowns, cost escalations, limited resources and compounding storm events are creating a large increase in drainage work, which in turn results in further deterioration on all roads.

Key Issues and Actions

- The maintenance and renewals of drainage systems in the past has been inadequate to control water flows to keep pavements free of water ingress and to prevent flooding and scour of roads, particularly on the unsealed network.
- Culverts are now being inspected annually and this is addressing culvert blockages, however there is no adequate programme to address blocked watertables which make up 90% of the drainage network.
- The NTA Drainage Plan and Maintenance Intervention Strategy (MIS) is being finalised which should enable proactive treatment of high-risk areas. This needs to be rolled out to the NTA maintenance teams and maintenance contractors to ensure that the right interventions are undertaken at the right time.
- Overall, there is a general trend of increased open dispatches for both maintenance and renewals activities. Adequate drainage funding is required to ensure that these drainage renewals are able to be undertaken in a timely fashion to maximise the benefits of this work.

4.4.2 Benefits

- A fit for purpose drainage system that minimises water ingress into pavements thus extending pavement life and reduces the likelihood of flooding and slips during heavy rain events.
- The roll out of the Drainage Plan and Maintenance Intervention Strategy should result in more focus to identify inadequate watertables in areas that are high risk for water ingress, flooding and scour.
- Adequate funding of the Drainage Plan's forward works programme will enable proactive treatment of these high-risk areas which should prolong the life of the pavement and surfacing and will reduce the amount of water flooding across roads.

4.4.3 Consequences

- Pavements will continue to fail prematurely due to water ingress. Slips and flooding will continue to cause resilience issues on our roads during heavy rain events resulting in road closures that often affect freight, tourist and detour routes, key lifelines and isolated communities.
- Without the roll out of the Drainage Plan and Maintenance Intervention Strategy, maintenance teams and crews will continue to identify watertable issues only when they cause pavement failures or flooding problems.
- Without the provision of adequate funding to fund the Drainage Plan's forward works programme, watertables will carry-on being maintained in an ad-hoc manner which will continue to allow water into pavements causing premature failure and additional pavement costs.

4.4.4 *Preferred Options*

Table 4-4 below summarises the option assessment and line of sight to the preferred strategic response and the problems they are addressing are shown in the table below. Full details of the multi-criteria analysis can be sourced in Appendix 03 (Drainage).

Table 4-4: Drainage – Option Assessment and Line of Sight

Preferred Strategic Response	PBC Options to be Considered	Option Rank	MCA Score	Preferred Options
Programme Adjustment • Increase watertable maintenance and renewal programme. **Policy Approach** • Increase culvert sizes.	**Programme Adjustments** **Maintenance and Renewal Adjustments & Improve Systems and Capability** • Option 2 - Improve watertable maintenance to avoid water ingress into pavements.	2	1.85	Yes
	Route Management • Option 5 - Culverts to be properly designed. Replace culverts that are too flat, disjointed or have inadequate cover.	5	0.85	Yes
	Managing Demand • Option 6 - Provide additional culverts or cut-outs to reduce watertable flows.	6	0.45	Yes
	Policy Approach **Improve Systems and Capability** • Option 1 - Provide drainage FWP and MIS.	1	1.05	Yes
	LoS Adjustments & Improve Systems and Capability • Option 3 - Improve grading with operator training to avoid watertables being filled with gravel.	3	1.05	Yes
	Risk • Option 4 - Maintenance of drainage system where there is a high risk of flooding or slips.	4	1.3	Yes

Preferred Options: From the multi-criteria assessment the preferred options are:

- Option 1 – Provide drainage FWP and MIS.
- Option 2 – Improve watertable maintenance to avoid water ingress into pavements.
- Option 3 – Improve grading with operator training to avoid watertables being filled with gravel.
- Option 4 – Maintenance of drainage system where there is a high risk of flooding or slips.
- Option 5 – Culverts to be properly designed. Replace culverts that are too flat, disjointed or have inadequate cover.
- Option 6 – Provide additional culverts or cut-outs to reduce watertable flows.

4.5 Structures

4.5.1 *Key Issues*

Aged assets and lack of maintenance and renewals of structures in FNDC and KDC is resulting in a large number of structures prematurely reaching the end of their life, which is adversely affecting freight access and increasing demand for expensive bridge replacement.

FNDC

There has been an under investment in the FNDC bridge and major culvert stock for many years. With under investment the component replacement and renewals have been deferred, increasing maintenance need and often restrictions are imposed to limit access. We have now reached a larger demand for expensive bridge replacements and scour protection to avoid catastrophic bridge failure, or many more bridge restrictions may be required.

The general summary of the problem is:

- 22 bridges having weight and speed restrictions which limits access for normal 44 tonne trucks.
- 64 Bridges having 50MAX restrictions which limits access and reduces efficiency.
- Both of the above restrictions create diversions for HCV which increase emissions and increase impacts on our local road network increasing maintenance needs and costs.
- 61 bridges (9%) that have deteriorated to poor or very poor condition.
- 151 bridges (21%) that have significant scour.
- 67 timber decked bridges which are subject to deck failure if trucks wander from the centre of the wheel tracks.
- Kohu Ra Tuarua Hokianga Ferry service operations costs have substantially increased (doubled from 2018 to 2023) and currently uses a significant amount of the bridge maintenance budget.
- There has been a low uptake to tender on specialist structural works in the Far North, delaying works and driving rates/prices up due to lack of competitive bidding.
- There is limited data on the retaining wall assets or condition.

KDC

There was a significant under investment in the KDC bridge and major culvert stock during the period under the Chair of Commissioners – September 2012 to October 2016, which had contributed to rapid deterioration and premature failure of critical structures such as the Tomarata Road Bridge and the Kaiwaka-Mangawhai Road Bridge. There are some restricted bridges both Class 1 and 50MAX, which impact the economics of freight and in turn investment as well as increasing the maintenance needs and costs on the diversion routes.

The general summary of the major structure' problems are:

- 7 bridges having weight and speed restrictions which limits access for normal 44 tonne trucks
- 24 Bridges having 50MAX restrictions which limits access and reduces efficiency
- Both of the above restrictions create diversions for HCV which increase emissions and increase impacts on our local road network increasing maintenance needs and costs
- 9 bridges (4%) that have significant scour.

- 17 timber decked bridges which are subject to deck failure if trucks wander from the centre of the wheel tracks.
- There is limited data on the retaining wall assets or condition.

WDC

There is a bow wave of aging 'Armco' steel culverts that require replacement. There are some restricted bridges both Class 1 and 50MAX, which impact the economics of freight and in turn investment as well as increasing the maintenance needs and costs on the diversion routes.

The general summary of the major structure' problems are:

- 5 bridges having weight and speed restrictions which limits access for normal 44 tonne trucks
- 21 Bridges having 50MAX restrictions which limits access and reduces efficiency
- Both of the above restrictions create diversions for HCV which increase emissions and increase impacts on our local road network increasing maintenance needs and costs
- 17 bridges (6%) that have significant scour
- 51 timber decked bridges which are subject to deck failure if trucks wander from the centre of the wheel tracks
- There is limited data on the retaining wall assets or condition.

Key Issues and Actions

- There has been inadequate investment in the FNDC bridge stock for many years which has resulted in many structures having weight and speed restrictions.
- FNDC has 64 bridges which are 50MAX restrictive which is significantly higher than any other district in the country. This limits the productivity gains that could be achieved by the use of these vehicles. The detailed assessments of these bridges should be continued to identify bridges that can be removed from the register and a programme of strengthening work be undertaken to remove restrictions on critical freight routes.
- FNDC bridge tenders often have one or no tenderers which delays work and drives up prices due to lack of competition.
- Retaining walls should also be included in the annual inspection.
- The Kohu Ra Tuarua Hokianga Ferry service is also funded from the FNDC's structures maintenance budget and this currently uses a significant amount of the budget which leaves little funding left to carry out repair work on other structures. The Kohu Ra Tuarua Hokianga Ferry service second separable portion has just been awarded in April 2023 and the annual cost is now $2.025M/year putting further pressure on this budget.
- KDC had a period of low investment in its bridge stock due to the effects of the rates strike and this has resulted in expensive renewal work on two of its critical structures.
- WDC has a bow wave of aging 'Armco' steel culverts that require replacement.
- We have limited data on the retaining walls inventory and condition. A programme of retaining wall identification and condition rating was commenced on critical 4 and 5 routes. This work needs to be completed for the balance of the network, along with continual routine inspections being undertaken. A robust forward works maintenance and renewals programme can be developed based on this data.

4.5.2 Benefits

The benefits of address the problems identified are summarized as follows:

- A fit for purpose bridge and retaining wall asset that provide access for freight and high productivity vehicles (50Max and HPMV) on arterial, freight and detour routes.
- The provision of adequate funding for structures maintenance and component replacement for FNDC and KDC will avoid expensive bridge repairs or replacements in the future. It will also help avoid the further weight restrictions being required. This investment should also account for the increasing costs of the Hokianga Ferry service.
- The removal of bridges from the 50MAX restriction register through a strengthening programme will enable more use of these higher productivity vehicles, will reduce freight costs and reduce emissions and improve opportunities for investment.
- The packaging of structures works across the region or use of supplier panels will likely result in more competition and reduce tender prices.
- Carrying out annual inspections of critical and coastal structures, more frequent bridge inspections for and a new programme of retaining walls inspections, will enable maintenance work to be identified in a timely manner and potentially reduce more expensive repairs in the future.

4.5.3 Consequences

The consequences of not addressing the problems may result in:

- Our structures will deteriorate over time leading to further restrictions to freight and increasing risk of bridge or retaining wall failure resulting in safety issues and complete loss of access.
- Keeping funding at current levels is likely to lead to further deterioration of the FNDC and KDC bridge stock. This is particularly the case for the FNDC due to the increase in funding required to service the Hokianga Ferry.
- Without removing bridges from the 50MAX restriction register will result in Far North freight costs being higher than other areas which will reduce opportunities for investment. It will also continue with higher maintenance costs on diversion routes and increased emissions.
- Without packaging structures work across the region, or the use of supplier panels, the current lack of competition and high tender prices for Far North structural work is likely to continue.
- Keeping the current bridge inspection regime may allow bridges to deteriorate before repairs are identified. Retaining walls will also deteriorate and potentially fail during storm events if inspections are not undertaken.

4.5.4 *Preferred Options*

Table 4-5 below summarises the option assessment and line of sight to the preferred strategic response and the problems they are addressing are shown in the table below. Full details of the multi-criteria analysis can be sourced in Appendix 04 (Structures).

Table 4-5: Structures – Option Assessment and Line of Sight

Preferred Strategic Response	PBC Options to be Considered	Option Rank	MCA Score	Preferred Options
Programme Adjustment • Increase structural maintenance and renewals programmes for FNDC and KDC. • Programme of 50MAX bridge strengthening on important freight routes. **Policy Approach** • Improve frequency of bridge inspections and carry out retaining wall inspections. • Complete 50MAX detailed assessments on important freight routes. • Supplier panel.	**Programme Adjustments** **Maintenance and Renewal Adjustments & Improve Systems and Capability** • Option 3 - Provide sufficient bridge maintenance and renewal funding for FNDC and KDC, to avoid expensive bridge replacement.	3	1.4	Yes
	Route Management • Option 5 - Realign bridge approaches and reduce kerb widths on timber decked bridges.	5	0.2	No
	Policy Approach **Improve Systems and Capability & Managing Demand** • Option 1 - Develop long term bridge strategy and FWP in conjunction with Forestry Plan. Detailed 50MAX assessments to reduce restrictions.	1	1.6	Yes
	Risk • Option 2 - Increase number of bridge inspections and carry out retaining wall inspections.	2	1.5	Yes
	Supply Chain Improvements • Option 4 - Secure professional services for bridge design and create a supplier panel for bridge contractors.	4	0.9	Yes
	Managing Demand • Option 6 - Advocate for rail revitalisation to reduce freight haul distances.	6	0.25	No

Preferred Options: From the multi-criteria assessment the preferred options are:

- Option 1 – Develop long term bridge strategy and FWP in conjunction with Forestry Plan. Detailed 50MAX assessments to reduce restrictions.
- Option 2 – Increase the number of bridge inspections and carry out retaining wall inspections.
- Option 3 – Provide sufficient bridge maintenance and renewal funding for FNDC and KDC, to avoid expensive bridge replacement.
- Option 4 – Secure professional services for bridge design and create a supplier panel for bridge contractors.

4.6 Active Modes (Walking, Cycling, and Micro-Mobility)

4.6.1 Key Issues

Growth and Demand – Rapid growth and lack of suitable mode shift options are causing congestion in Whangarei during commuter peaks and in Kerikeri/Waipapa and Mangawhai during peak holiday periods. Lack of mode shift options in the more remote communities restricts access to places of employment, education and social opportunities which is leading to severance, safety issues and higher levels of social deprivation.

Lack of pathways connectivity and lack of appropriate pathway width (to current design standards).

All districts have long lengths of footpaths that are too narrow compared to the minimum design width of 1.8m as per the current councils' standards. WDC has more than 200km of footpaths with width less than 1.5m, FNDC has about 100km and KDC has about 80km. There is a need for a plan to widen footpaths to the standard width taking in account usage and condition.

4.6.2 Benefits

Providing and maintaining cycleways and footpath with strong connections and in a fit for purpose condition will encourage active mode use and reduce private vehicle dependency.

4.6.3 Consequences

Without good pedestrian and cyclist facilities, there will be lower active mode use and more dependence on private vehicles with resulting increase in vehicles emission.

4.6.4 Preferred Options

Table 4-6 below summarises the option assessment and line of sight to the preferred strategic response and the problems they are addressing are shown in the table below. Full details of the multi-criteria analysis can be sourced in Appendix 05 (Active Modes – Walking, Cycling and Micro Mobility).

Table 4-6: Walking and Cycling – Option Assessment and Line of Sight

Preferred Strategic Response	PBC Options to be Considered	Option Rank	MCA Score	Preferred Options
Programme Adjustment • Intersection and road upgrades including bus priority lanes, new link roads. • Shared path networks for Whangarei, Kerikeri/Waipapa and Mangawhai. **Policy Approach** • Increase bus frequency in Whangarei and expand rural services. **Demand Management** • Travel planning and mode shift promotion. • Increase all-day parking charges.	**Programme Adjustment** **Route Management** • Option 2 - Continue the implementation of the Whangarei shared path network. • Option 3 - Shared path networks for Kerikeri/Waipapa and Mangawhai. • Option 4 - Construct rural Heartland rides identified in the Northland Integrated Cycle Business Case. • Option 5 - Develop a network of safe cycleways between rural towns. • Option 6 - Implement footpaths and cycleways identified through Township Improvement Plans and Council Spatial Plans. **Policy Approach** **LoS Adjustments & Improve Systems and Capability** • Option 1 - Widen footpaths that are too narrow for a mobility scooter. Increase minimum footpath width in Engineering Standards.	2 3 4 5 6 1	1.4 1.0 0.4 0.6 0.8 1.05	Yes Yes Yes No Yes Yes

Preferred Options: From the multi-criteria assessment the preferred options are:

- Option 1 – Widen footpaths that are too narrow for a mobility scooter. Increase minimum footpath width in Engineering Standards.
- Option 2 – Continue the implementation of the Whangarei shared path network.
- Option 3 – Shared path networks for Kerikeri/Waipapa and Mangawhai.
- Option 4 – Construct rural Heartland rides identified in the Northland Integrated Cycle Business Case – through alternative funding (PGF etc).
- Option 6 – Implement footpaths and cycleways identified through Township Improvement Plans and Council Spatial Plans.

4.7 Network Operations – Environmental

4.7.1 Key Issues

Environmental – Activities undertaken in providing a transport network, has the potential to result in adverse effects on the environment.

- Clean-fill sites located around the network are possible pollution points.
- Roads and roadsides are subjected to excessive volumes of water arising from storm events
- Road maintenance and vegetation control practices to maintain the vegetation envelope as well as construction activities have the potential to damage surrounding flora as part of the works.
- Need to deliver good environmental and sustainability outcomes as part of the design, construction and operation of our roading network.

Safety – Northland has a narrow, winding and unforgiving rural road network which combined with poor driver behaviour has resulted in the region being a high Community at Risk for death and serious injury (DSI) crashes and the rate of DSI crashes is trending upward for FNDC and WDC. FNDC and KDC also have higher Collective Risks than their peer group.

4.7.2 Benefits

- Environmental – Delivering good environmental and sustainability outcomes on the network.
- Safety – Sightlines and roadside tree hazards will be minimised improving road safety.

4.7.3 Consequences

- Environmental – Probable adverse effects on the environment.
- Safety – Sightlines will become blocked and tree hazards in the road corridor increased resulting in increased risk of fatal and serious injuries.

4.7.4 Preferred Options

Table 4-7 following summarises the option assessment and line of sight to the preferred strategic response and the problems they are addressing are shown in the table below. Full details of the multi-criteria analysis can be sourced in Appendix 06-A (Network Operations – Environmental).

Table 4-7: Network Operations - Environmental – Option Assessment and Line of Sight

Preferred Strategic Response	PBC Options to be Considered	Option Rank	MCA Score	Preferred Options
Programme Adjustment • Increase safety programme **Policy Approach** • Additional delineation **Demand Management** • Enhanced Road Safety Promotions with active in-house management.	**Programme Adjustments** **Route Management** • Option 1 - Remove hazardous trees on HRRR routes. **Policy Approach** **Alternative Approaches – Different Solutions/Technology** • Option 2 - Replace roadside mowing with spraying in FNDC.	1 2	0.85 0.7	Yes Yes

Preferred Options: From the multi-criteria assessment the preferred options are:

- Option 1 – Remove hazardous trees on HRRR routes.
- Option 2 – Replace roadside mowing with spraying in FNDC.

Further options for consideration:

- Manage clean-fill sites according to best practices – there is a need to dispose of large quantities of soil in clean fill sites located around the network and they are possible pollution points that require close attention.
- Make use of arboriculturally best practice whilst removing vegetation – manage the removal of vegetation on roads whilst undertaking maintenance and construction works.
- Proactive and reactive programme of weed control funded and carried out annually – to ensure that weeds growth is controlled and comply with NRC requirements and to ensure that the functioning of assets is not compromised.
- Take a 'whole-of-life' approach to resources considering the overall best opportunities for resource efficiency over the asset's lifetime – there is a need to drive sustainable sourcing and use of materials and waste minimisation.

4.8 Network Operations – Traffic Services and Network Lighting

4.8.1 Key Issues

Safety – Northland has a narrow, winding and unforgiving rural road network which combined with poor driver behaviour has resulted in the region being a high Community at Risk for death and serious injury (DSI) crashes and the rate of DSI crashes is trending upward for all three councils. FNDC and KDC also have higher Collective Risks than their peer group.

FNDC

It appears that there may be an increasing trend in night-time crashes on rural Primary Collector roads and urban Collector and Low Volume roads. However, there is limited data to support trend analysis.

The maintenance contracts have resulted in line marking costs tripling for FNDC and this will further increase the cost on traffic services to achieve an annual line marking programme. The savings from the LED streetlight conversion programme will partially offset the increase in marking costs.

Further savings from the LED streetlight conversion are possible if FNDC can negotiate a more reasonable power charge with their power authority (Top Energy).

KDC

There may be an increasing trend in night-time crashes on the rural Access roads. However, there is limited data to support trend analysis.

The maintenance contracts have resulted in line marking costs doubling for KDC and this will further increase the cost on traffic services to achieve an annual line marking programme. The savings from the LED streetlight conversion programme will partially offset the increase in marking costs.

WDC

It appears that there could be an increasing trend on most of the urban road classifications. However, there is limited data to support trend analysis.

The cost for traffic services has increased in recent years to enable WDC to achieve a full annual line marking programme.

As for the other councils, the maintenance contracts have resulted in line marking costs doubling for WDC and this will further increase the cost on traffic services to achieve an annual line marking programme. The savings from the LED streetlight conversion programme will partially offset the increase in marking costs.

4.8.2 Benefits

Delineation will be improved reducing the likelihood of loss of control crashes. Streetlights will provide adequate lighting levels that provide more confidence for people to walk and cycle after dark.

4.8.3 Consequences

Loss of control crashes will continue, increasing the risk of fatal and serious injury. Less people walking and cycling at night which will limit the number of commuters taking active modes, particularly in winter when the days are shorter.

4.8.4 Preferred Options

Table 4-8 below summarises the option assessment and line of sight to the preferred strategic response and the problems they are addressing are shown in the table below. Full details of the multi-criteria analysis can be sourced in Appendix 06-B (Network Operations – Traffic Services and Network Lighting).

Table 4-8: Traffic Services and Network Lighting – Option Assessment and Line of Sight

Preferred Strategic Response	PBC Options to be Considered	Option Rank	MCA Score	Preferred Options
Programme Adjustment • Increase safety programme. **Policy Approach** • Additional delineation. **Demand Management** • Enhanced Road Safety Promotions with active in-house management.	**Programme Adjustment** **Extended Temporary Management** • Option 1 - Temporary signing of curves that have insufficient skid resistance. **Policy Approach** **Managing Demand** • Option 2 - Increase funding to allow for a full annual remark also consider Long Life markings. Supply Chain Improvements • Option 3 - Negotiate with power supplier for a better pricing structure for FNDC streetlights.	1 2 3	0.9 0.9 0.8	Yes Yes Yes

Preferred Options: From the multi-criteria assessment the preferred options are:

- Option 1 – Temporary signing of curves that have insufficient skid resistance.
- Option 2 – Increase funding to allow for a full annual remark also consider long life markings.
- Option 3 – Negotiate with power supplier for a better pricing structure for FNDC streetlights.

4.9 Network Operations – Traffic Signals and Intelligent Transport System

4.9.1 Key Issues

Growth and Demand – Rapid growth and lack of suitable mode shift options are causing congestion in Whangarei during commuter peaks and in Kerikeri/Waipapa and Mangawhai during peak holiday periods. Lack of mode shift options in the more remote communities restricts access to places of employment, education and social opportunities which is leading to severance, safety issues and higher levels of social deprivation.

FNDC

Far North does not have any operational traffic management cost.

KDC

Kaipara has the highest operational traffic management cost in their peer group. This could be attributed to the operation of the recently acquired traffic signals and operating the school zones signs (SZS).

WDC

Whangarei has the highest operational traffic management cost in their peer group. This is not surprising as it spends a large portion of the budget operating the Te Matau a Pohe bascule bridge.

4.9.2 Benefits

- Upgrading the traffic signals will result in more efficient movement of traffic reducing congestion. The provision of cameras at each site will allow issues to be addressed more quickly and enable ATOC support potentially reducing operating costs.
- Providing a remote operation for the Te Matua ā Pohe /Kotuitui Whitinga bridges would reduce ongoing operating costs.

4.9.3 Consequences

- Inconsistent levels of service from our traffic signals will continue, leading to delays and driver frustration. Signal issues will need to be solved on site which leads to longer response times to resolve issues.
- Continuing the manned operation of the Te Matua ā Pohe /Kotuitui Whitinga bridges will result in high ongoing operating costs.

4.9.4 Preferred Options

following below summarises the option assessment and line of sight to the preferred strategic response and the problems they are addressing are shown in the table below. Full details of the multi-criteria analysis can be sourced in Appendix 06-C (Network Operations – Operational Traffic Management – Traffic Signals and Intelligent Transport System).

Table 4-9: Operational Traffic Management – Traffic Signals and Intelligent Transport System – Option Assessment and Line of Sight

Preferred Strategic Response	PBC Options to be Considered	Option Rank	MCA Score	Preferred Options
Programme Adjustment • Intersection and road upgrades including bus priority lanes, new link roads. • Shared path networks for Whangarei, Kerikeri/Waipapa and Mangawhai. **Policy Approach** • Increase bus frequency in Whangarei and expand rural services. **Demand Management** • Travel planning and mode shift promotion. • Increase all-day parking charges.	**Policy Approach** **Alternative Approaches – Different Solutions/Technology** • Option 2 - Remote operation of the opening bridges in Whangarei. **Demand Management** **LoS Adjustments** • Option 1 - Improve detection and operation of signals in Whangarei.	2 1	0.8 1.05	Yes Yes

Preferred Options: From the multi-criteria assessment the preferred options are:

- Option 1 – Improve detection and operation of signals in Whangarei.
- Option 2 – Remote operation of the opening bridges in Whangarei.

4.10 Network Safety – Safety, Education & Promotion, and Demand Management

4.10.1 Key Issues

Safety – Northland has a narrow, winding, and unforgiving rural road network which combined with poor driver behaviour has resulted in the region being a high Community at Risk for death and serious injury (DSI) crashes and the rate of DSI crashes is trending upward for FNDC and WDC. FNDC and KDC also have higher Collective Risks than their peer group.

Line marking is becoming more expensive and more funding is required to comply with modern safety standards. The future challenge will be the maintenance and renewal costs for remarking.

Safety funding levels insufficient to meet national target of reducing death and serious injuries by 40% by 2030 from 2020 baseline. A step change in funding is required to meet this target.

Growth and Demand – Rapid growth and lack of suitable mode shift options are causing congestion in Whangarei during commuter peaks and in Kerikeri / Waipapa and Mangawhai during peak holiday periods. Lack of mode shift options in the more remote communities restricts access to places of employment, education and social opportunities which is leading to severance, safety issues and higher levels of social deprivation.

FNDC

Far North's collective risk is higher than its peer group for all road classes, and its personal risk is higher for the Primary and Secondary Collector and Access roads.

FNDC has many areas of high risk on the communities at risk register including death and serious injury (DSI), young drivers, alcohol/drugs, speed, rural road loss of control/head on, cyclists, pedestrians, and restraints. This indicates that there is significant need for on-going road safety improvement and effective road safety promotion in the Far North District.

Night-time crashes appear to be increasing on FNDC's rural Primary Collector roads and urban Collector roads. Intersection crashes appear to be increasing on the rural Primary Collector and Access roads and urban Collector roads.

Vulnerable user crashes appear to be increasing on FNDC's urban Secondary Collector and Low Volume roads. During the last ten years, approximately 70% of vulnerable user crashes involved motorcyclists or mopeds.

There is an increasing trend in DSI crashes on all of FNDC's road classes, apart from the Arterial roads.

The number of DSI crashes has increased on FNDC's network over the past five years by an average of 2.0 per year. The average rate of increase is similar over a longer, 10-year, period. The long-term period of sustained and high rate of increase is a serious concern.

KDC

Kaipara's collective risk is higher than its peer group for all road classes and is significantly higher for Primary and Secondary Collector roads. The personal risk of the KDC network is higher than the peer group for its Secondary Collector and Access roads.

KDC has many areas of high risk on the communities at risk register including DSI, young drivers, alcohol/drugs, speed, rural road loss of control/head on, motorcyclist, pedestrians, and restraints.

This indicates that there is significant need for on-going road safety improvement and effective road safety promotion in the Kaipara District.

Night-time crashes appear to be increasing on KDC's rural Access roads. Intersection crashes appear to be increasing on the rural Primary Collector roads and urban Primary Collector and Low Volume roads.

Vulnerable user crashes appear to be increasing on KDC's urban Secondary Collector roads. During the last ten years, approximately 80% of vulnerable user crashes involved motorcyclists or mopeds.

There appears to be a slightly increasing trend in DSI crashes on KDC's Primary Collector and Access roads. The other road classes appear to be static or decreasing.

The number of DSI crashes has increased on KDC's network over the past five years by an average of 0.8 per year. The average change is flatter over a longer, 10-year, period and the trend over this longer term indicates that change is near static. However, taking in account the latest five years, the result is not optimistic, and the trends remain a cause for concern.

WDC

Whangarei's collective risk is generally equal to its peer group but slightly higher for its Arterial, Secondary Collector roads, and Low Volume roads. However, the personal risk is higher than the peer group for most road classes, with exception for the Arterial roads, which is comparable.

WDC has two areas of High Risk on the communities at risk register, which is cyclists and pedestrians. Alcohol/drugs also presents as medium risk. While the need for road safety promotion is less in Whangarei than for the other two districts, there is still a need for a sustained road safety programme to address these issues.

Night-time crashes appear to be increasing on most of WDC's urban road classifications. Intersection crashes appear to be increasing on the rural Arterial and Primary Collector roads.

Vulnerable user crashes appear to be increasing on WDC's urban Secondary Collector roads. During the last ten years, approximately 80% of vulnerable user crashes involved motorcyclists or mopeds.

There appears to be an increasing or static trend in DSI crashes on all of WDC's roads, apart from the Low Volume roads. However, the Arterial roads have rapidly increased during the last year which is a significant concern.

The number of DSI crashes has increased on WDC's network over the past five years by an average of 0.8 per year. The changes over a longer, 10-year, period indicate there is a generally increasing trend and there is a greater rate of increase during the past five years. The long-term period of sustained increase along with the recent changes during the past two years are a significant concern.

Key Issues and Actions

- Prioritise treatments for high-risk rural roads and high-risk intersections.
- Target road safety promotion to address the issues identified in the Communities at Risk register and focus areas from the Northland Road Safety Action Plan.
- Ensuring that roads are widened to adequate widths and traversable shoulders provided when roads are rehabilitated, particularly for arterial/collector roads, freight routes and tourist routes. Where widening cannot be accommodated, consider roadside barrier treatment.
- Implement speed management across Northland to set speeds that are safe and appropriate in accordance with speed management guidelines.
- Providing safe and convenient crossing points and routes for pedestrians and cyclists, particularly for Whangarei City and Far North rural towns and travel planning to encourage use of these routes.

4.10.2 Benefits

- Fatal and serious injury crashes will decrease on our network, reducing the harm to our customers and communities.
- Providing treatments on high-risk rural roads and high-risk intersections will target investment on the areas with the highest safety risk and have the greatest opportunity to reduce crash rates.
- The continuation of the road safety promotion programme will help reduce high risk areas identified in the Communities at Risk register.
- Widening and improving the general road network through the pavement rehabilitation programme will provide a recovery zone for vehicles, that is, providing an errant vehicle an opportunity to return to the roadway or to come to a safe stop thus making the network more forgiving in nature. The additional road space will also provide more space for cyclists and pedestrians.
- Speed management may also have significant impact on road safety, particularly in rural areas where the road network does not safely provide for an open road speed.
- Provision of safe walking and cycling routes and travel planning to encourage use of these routes will reduce crashes involving vulnerable active road users. In particular, safe crossing points in Whangarei City are required.

4.10.3 Consequences

Fatal and serious injury crashes will continue increasing and will continue to cause significant harm to our customers and communities.

Without adequate investment into road safety measures, the increasing trend in fatal and serious injury crashes on the Northland local road network is likely to continue. This is contrary to the objectives of the GPS and the Road to Zero strategy which is to have "A New Zealand where no one is killed or seriously injured in road crashes".

4.10.4 Preferred Options

Table 4-10 following below summarises the option assessment and line of sight to the preferred strategic response and the problems they are addressing are shown in the table below. Full details of the multi-criteria analysis can be sourced in Appendix 07 (Network Safety).

Table 4-10: Network Safety – Safety, Education & Promotion, and Demand Management – Option Assessment and Line of Sight

Safety – Improvements

Preferred Strategic Response	PBC Options to be Considered	Option Rank	MCA Score	Preferred Options
Programme Adjustment • Increase safety programme. **Policy Approach** • Additional delineation. **Demand Management** • Enhanced Road Safety Promotions with active in-house management.	**Programme Adjustment** **Route Management** • Option 2 - Curve warning signage and marking upgrades on HRRR.	2	1.3	Yes
	• Option 4 - Prioritise safe pedestrian and cyclist crossing points.	4	1.0	Yes
	• Option 5 - Hazard removal or protection on HRRR. Provide compliant sight rails.	5	0.9	Yes
	• Option 6 - Minor alignment improvements on HRRR.	6	0.8	Yes
	• Option 7 - Upgrade programme for old, obsolete or non-compliant guardrails.	7	0.3	No
	Policy Approach **Risk** • Option 1 - Speed management programme.	1	1.3	Yes
	Route Management • Option 3 - Audible Tactile Profile (ATP) markings on HRRR.	3	1.0	Yes

Safety Promotion and Demand Management

Preferred Strategic Response	PBC Options to be Considered	Option Rank	MCA Score	Preferred Options
Programme Adjustment • Increase safety programme. **Policy Approach** • Additional delineation. **Demand Management** • Enhanced Road Safety Promotions with active in-house management.	**Policy Approach** **Improve Systems and Capability** • Option 1 - NTA inhouse road safety coordinator.	1	0.85	Yes
	Demand Management **Managing Demand** • Option 2 - Continue existing road safety promotion campaigns.	2	0.8	Yes
	• Option 3 - Enhance the speed education programme.	3	0.9	Yes
	• Option 5 - Promote vehicle maintenance and safer vehicles.	5	0.5	Yes

Preferred Strategic Response	PBC Options to be Considered	Option Rank	MCA Score	Preferred Options
Programme Adjustment • Intersection and road upgrades including bus priority lanes, new link roads. • Shared path networks for Whangarei, Kerikeri/Waipapa and Mangawhai. **Policy Approach** • Increase bus frequency in Whangarei and expand rural services. **Demand Management** • Travel planning and mode shift promotion. • Increase all-day parking charges.	**Demand Management** **Managing Demand** • Option 4 - Implement travel planning such as New Plymouth's LetsGo programme. • Option 6 - Travel demand management in Kerikeri and Mangawhai during summer peak traffic.	4 6	1.1 0.6	Yes Yes

Preferred Options

From the multi-criteria assessment the preferred options are:

Safety – Improvements

- Option 1 – Speed management programme.
- Option 2 – Curve warning signage and marking upgrades on HRRR.
- Option 3 – Audible Tactile Profile (ATP) markings on HRRR.
- Option 4 – Prioritise safe pedestrian and cyclist crossing points.
- Option 5 – Hazard removal or protection on HRRR. Provide compliant sight rails.
- Option 6 – Minor alignment improvements on HRRR.

Safety Promotion and Demand Management

- Option 1 – NTA inhouse road safety coordinator.
- Option 2 – Continue existing road safety promotion campaigns.
- Option 3 – Enhance the speed education programme.
- Option 4 – Implement travel planning such as New Plymouth's LetsGo programme.
- Option 5 – Promote vehicle maintenance and safer vehicles.
- Option 6 – Travel demand management in Kerikeri and Mangawhai during summer peak traffic.

4.11 Climate Change – Mitigation and Adaptation

4.11.1 Key Issues

Poor geology, a subtropical climate and poor drainage systems make our roads susceptible to slips and flooding during heavy rain events, resulting in road closures that often affect critical routes. This is only expected to get worse over time due to the effects of climate change.

Northland's road network has been subject to many slips over the years due to its weak predominantly clayey soils and high rainfall events. There are numerous slips on the road network that are either "slow creeps" or are in the road shoulder and have therefore not been eligible for emergency works funding. These slips are vulnerable to failure during storm events and should be repaired proactively to avoid catastrophic failure. Flooding is also an issue on roads in river valleys or flat coastal plains and will only get worse as a result of climate change, particularly in low-lying coastal areas that may face inundation through sea level rise.

Security of access is a key issue for Northland because there is no warehousing and so often essential supplies are freighted up multiple times a week to stock shelves etc. There are also several products produced in Northland that require same day delivery, such as fresh cut flowers and some live aquaculture, which require secure access. Also, when a flood event occurs, it normally affects the whole region putting many key routes at risk of slips and flooding at the same time. This was demonstrated clearly during the 2022 and 2023 storm events where Northland was effectively cut off from the rest of the country resulting in severe shortages of food, fuel and medical supplies.

The NTA has undertaken an exercise to define the individual road criticality across Northland's local roading network. Roads are categorised according to several criteria, such as: forestry, quarries, schools, marae/churches, living zones, the width rating, remoteness (if detour route), and land use. Based upon all the criteria, an overall rating was defined, and that rating was then validated by staff who are familiar with the network.

Key Issues and Actions

Develop FWP – Through the Resilience Improvement Plan, develop a prioritised programme of slip repairs and flood mitigation required on key arterial routes, tourist routes and on roads that form the only vehicle access to isolated communities.

Diversion Routes – The State Highway network in Northland forms the key means of access within the Northland region. This was recognised in the Northland Lifelines Group Infrastructure Resilience Plan. This plan identified that the State Highway networks were critical lifelines that provide access for people and emergency vehicles as well as for food and fuel to Northland communities. The Resilience Plan identified the top 5 risks for the transport network as:

- Flooding
- Land instability
- Tsunami/Surge
- High Winds
- Chemical Spills.

In addition to these top 5 risks, State Highway closure due to a vehicle accident is a very real risk. Because of the criticality of these highways, bypass routes have been agreed should an emergency event require the highway to be closed.

4.11.2 Benefits

- Our road network will be more robust during emergency events with reduced likelihood of delay and travel disruption due to road closures on freight, tourist, and detour routes and key lifelines. Access to isolated communities will be safeguarded.
- A resilient transport system (that proactively addresses current and emergent risks) that is available for customers to use is fundamental to economic and social resilience of communities. Disruptions undermine economic growth and social well-being of communities and businesses. Resilience is critical for the availability of the national and regional transport system that carries freight, supports tourism, and that links regions to the wider transport system and markets. Poor resilience can impede critical and emergency services providing response and recovery support after significant events.
- The following activities would make for a more resilient transport system:
- Addressing slips and flood mitigation in a proactive manner will reduce the likelihood of catastrophic failure and will reduce ongoing maintenance costs. This will minimise delay and disruption on key arterials, tourist routes and will provide security of access for isolated coastal communities. It will help ensure that access for essential supplies such as food, fuel, and medical supplies can be maintained. The proactive treatment of known slips and flood susceptible areas will also help mitigate the increased intensity of storm events in the future that are expected to occur due to the effects of climate change.
- Providing fit for purpose detour routes for the state highway network and key local arterials would enable traffic and freight flows to negotiate the detour efficiently and safely.
- Considering the impacts of climate change in low-lying coastal areas will help planning of new roads and coastal protection in these areas. This will help future proof the road network from potential sea level rise.
- Use maintenance and renewal opportunities to implement improvements to prevent reoccurrence of failures at sites and carry out a program preventative maintenance on assets that contribute to road failures.
- Understand where the quick fix to make passable, versus permanent reinstatement principles apply. Advocate to build back better where economically justified.

4.11.3 Consequences

Road closures during emergency events, such as heavy rain events, will continue jeopardising key freight and tourist routes, lifelines and access to isolated communities. When a road is closed due to poor resilience, diversions can be long with a lower level of service and diverted traffic loading can accelerate deterioration on the diversion routes. In addition, VKT (Vehicle Kilometres travelled) increase.

Without a proactive resilience programme, historic slips and flood susceptible areas will continue to be at risk of premature failure or flooding and will require ongoing costly maintenance to repair during storm events. Access on key supply routes and to isolated coastal communities may be cut-off during significant storm events which may result in shortages of essential supplies such as food, fuel, and medical supplies. Also access on key tourist routes could be blocked resulting in tourists unfamiliar with the area being sent down back roads and getting lost leading to potential safety concerns.

Detour routes will continue to be below the required standard for state highway and arterial traffic flows and will be a major constraint for 50Max and HPMV freight movements when detours are in place resulting in delays, safety concerns and increased freight costs.

Slips and flooding will become more of an issue in the future with climate change likely to result in more significant rainfall events. It is also likely to result in inundation of low-lying coastal communities.

4.11.4 Preferred Options

Table 4-11 following below summarises the option assessment and line of sight to the preferred strategic response and the problems they are addressing are shown in the table below. Full details of the multi-criteria analysis can be sourced in Appendix 08 (Climate Change – Mitigations and Adaptation)

Table 4-11: Climate Mitigations, Adaptation, Resilience and Reliability – Option Assessment and Line of Sight

Preferred Strategic Response	PBC Options to be Considered	Option Rank	MCA Score	Preferred Options
Programme Adjustment • Increase programme of resilience work on the FNDC, KDC and WDC networks.	**Programme Adjustment** **Route Management** • Option 4 - Strengthen the resilience of routes serving isolated communities. • Option 5 - Raise/Protect/ Retreat roads subject to coastal inundation.	4 5	1.0 0.85	Yes Yes
Policy Approach • Prioritise critical routes at the expense of lower priority routes.	**Policy Approach** **LoS Adjustments** • Option 2 - Upgrade the culvert sizes in areas that are high risk for flooding or slips.	2	1.05	Yes
Demand Management • Preventative maintenance programme	**Demand Management** **Risk** • Option 1 - Programme of crack sealing on slip sites. • Option 3 - Repair historic slips on high priority routes.	1 3	1.35 1.05	Yes Yes

Preferred Options: From the multi-criteria assessment the preferred options are:

- Option 1 - Programme of crack sealing on slip sites.
- Option 2 - Upgrade the culvert sizes in areas that are high risk for flooding or slips.
- Option 3 - Repair historic slips on high priority routes.
- Option 4 - Strengthen the resilience of routes serving isolated communities.
- Option 5 - Raise/Protect/ Retreat roads subject to coastal inundation.

4.12 Growth and Demand

4.12.1 Key Issues

Rapid growth and lack of suitable mode shift options are causing congestion in Whangarei during commuter peaks and in Kerikeri/Waipapa and Mangawhai during peak holiday periods. Lack of mode shift options in the more remote communities restricts access to places of employment, education and social opportunities which is leading to severance, safety issues and higher levels of social deprivation.

Key Issues and Actions

- The constrained road network in Whangarei City and high dependence on private vehicle use results in higher traffic volumes on its arterial road network and is resulting in congestion in the commuter peaks. The high traffic growth rate in Whangarei is expected to continue for the near future due to high population, freight and tourism growth.
- There is also low uptake in public transport and walking and cycling in Whangarei City which is increasing the reliance on private vehicles.
- The Kerikeri/Waipapa area has grown rapidly for many years and the road network is under pressure from increasing traffic flows. These traffic flows increase in summer due to an influx of visitors and tourists. There are few bus services, cycle paths or pedestrian links between Kerikeri and Waipapa and this increases private vehicle use.
- Mangawhai is one of the fastest growing towns in the country and is a summer holiday destination which swells the population by up to 3 times normal. During summer holiday periods, there is congestion in several areas. Mangawhai also has few bus services, cycle paths or pedestrian links between Mangawhai Village and Mangawhai Heads, which again increases the reliance on private vehicle use.
- Rural towns are often located on State Highways or other arterial routes which result in severance of the community. There are also few bus services and cycleways linking these communities which reduce access to employment, education and social opportunities.
- Traffic congestion at known problem areas should be addressed.
- Improvements to the public transport and walking and cycling infrastructure should be made to encourage mode shift from private vehicle use. This should be supported by education and promotion campaigns.

4.12.2 Benefits

- Addressing capacity issues at known problem areas identified through the Whangarei City Transportation Network Strategy PBC will minimise delays to freight and improve access during peak periods.
- Improving the attractiveness of the bus service and infrastructure in Whangarei will encourage higher passenger numbers and would reduce private vehicle use and congestion. Rural bus services would reduce rural commuter traffic on key arterials servicing the city.
- Providing cycleway connections in Whangarei with good infrastructure and supported by travel plans to schools, parks and businesses will encourage cycle use and maximise the full potential of the current cycleway network.
- Developing and implementing the Kerikeri/Waipapa Strategic Road Network and the Mangawhai Network Operating Framework would remove current pinch points in these areas,

would cater for long term growth and would provide pedestrian and cyclist links which will reduce reliance on private vehicles and improve active mode use.

- Improved walking and cycling connections in rural towns and the potential for rural bus services will provide transport choice to the transport disadvantaged in these communities, which will reduce severance, improve safety and lower social deprivation.

4.12.3 *Consequences*

- Without addressing capacity issues at know problem areas in Whangarei, there will continue to cause delays to freight and frustration to road users due to lack of access on these arterial routes. These delays will continue to grow as the city increases in population.
- Without change to improve the current bus service in Whangarei, public transport will have limited impact on reducing private vehicle use and congestion in Whangarei.
- Without adequate cycleway connections in Whangarei, potential cyclists may be put off from using the cycleway network which will result in lower uptake of users and less health and congestion relief benefits being achieved.
- Without developing and implementing the Kerikeri/Waipapa Strategic Road Network and the Mangawhai Network Operating Framework congestion in peak holiday periods will continue, growth will continue to exacerbate existing pinch points, and there will be a continued high reliance on private vehicle use due to lack of alternative transport choices.
- Without improving walking and cycling links and bus services to rural towns, these communities will continue to suffer from community severance, safety issues and lack of access to employment, education and social opportunities which will result in continuing high levels of social deprivation.

4.12.4 *Preferred Options*

Full details of the multi-criteria analysis can be sourced from:

- Section 4.6 and Appendix 05 – Active Modes (Walking, Cycling, and Micro-Mobility)
- Section 4.7 and Appendix 06-A – Network Operations - Environmental
- Section 4.8 and Appendix 06-B – Network Operations – Traffic Services and Network Lighting
- Section 4.9 and Appendix 06-C – Network Operations – Traffic Signals and Intelligent Transport System
- Section 4.10 and Appendix 07 – Network Safety – Safety, Education & Promotion, and Demand Management

4.13 Growth and Demand – Public Transport

4.13.1 Key Issues

Growth and Demand – Rapid growth and lack of suitable mode shift options are causing congestion in Whangarei during commuter peaks and in Kerikeri/Waipapa and Mangawhai during peak holiday periods. Lack of mode shift options in the more remote communities restricts access to places of employment, education and social opportunities which is leading to severance, safety issues and higher levels of social deprivation.

4.13.2 Benefits

Increase in public transport use and less dependency on private vehicles resulting in lower levels of congestion and less vehicle emissions.

4.13.3 Consequences

Continued dependency on private vehicle use with increasing levels of congestion and vehicle emissions.

4.13.4 Preferred Options

Table 4-12 below summarises the option assessment and line of sight to the preferred strategic response and the problems they are addressing are shown in the table below. Full details of the multi-criteria analysis can be sourced in Appendix 09.A (Growth and Demand – Public Transport).

Table 4-12: Public Transport

Preferred Strategic Response	PBC Options to be Considered	Option Rank	MCA Score	Preferred Options
Programme Adjustment • Intersection and road upgrades including bus priority lanes, new link roads • Shared path networks for Whangarei, Kerikeri/Waipapa and Mangawhai **Policy Approach** • Increase bus frequency in Whangarei and expand rural services **Demand Management** • Travel planning and mode shift promotion. • Increase all-day parking charges	**Programme Adjustment** **Route Management** • Option 1 - Provide bus priority lanes in Whangarei. **Policy Approach** **LoS Adjustments** • Option 2 - Increase the frequency of bus services in Whangarei. • Option 3 - Provide rural commuter bus services in Whangarei. • Option 4 - Develop shuttle bus services or ride share schemes in rural towns. **Demand Management** **Managing Demand** • Option 5 - Consider mobility options (e.g. Uber/pub taxi) to avoid impaired driving.	1 2 3 4 5	0.95 0.9 0.8 0.6 0.3	Yes Yes Yes Yes No

Preferred Options: From the multi-criteria assessment the preferred options are:

- Option 1 – Provide bus priority lanes in Whangarei.
- Option 2 – Increase the frequency of bus services in Whangarei.
- Option 3 – Provide rural commuter bus services in Whangarei.
- Option 4 – Develop shuttle bus services or ride share schemes in rural towns.

4.14 Growth and Demand – Parking

4.14.1 Key Issues

WDC – There is no active signage to advise customers where parking is available which leads to people aimlessly driving around looking for a park in the CBD. Many of the parking meters use old technology which will soon be obsolete. Tension between providing sufficient parking with new developments and encouraging public transport use. Also demand for free parking in the CBD to compete with other "big box" developments which offer free parking.

4.14.2 Benefits

WDC – Advising where parking is available in real-time will reduce vehicle circulation in the CBD. Replacement of old parking machines will avoid problems with replacement parts etc when these become obsolete

4.14.3 Consequences

WDC – Without carrying out any changes to the parking in the CBD, customers will still be frustrated in driving around looking for a park. Obsolete parking machines will result in difficulty maintaining these machines, lowering the level of service and potentially increasing costs.

4.14.4 Preferred Options

As per the preferred options for Public Transport, the promotion of bus use will result in reduced demand on day parking in the Whangarei City centre.

4.15 Network Asset Management

4.15.1 Key Issues

Lack of adequate resourcing is a major issue for the transport industry in Northland which extends right through the supply chain from Council's ability to hire staff, to having enough consultants to provide technical support. These resourcing issues may mean the work may cost more due to lack of competition or may not be done to the same quality.

A key issue for customers is lack of communication of road works and the delays these cause motorists, freight operators and bus users.

Climate change and resilience is putting additional pressure on the asset management team and the available funding.

4.15.1.1 Recent Innovations

While there has been some innovation within the asset management practice, there are still tasks remaining others that are ongoing that need to be done to keep abreast with technological developments. We need to keep up to date in order to maintain current best practice.

Some of the recent and ongoing innovations include:

Forestry Strategy Study and Model Updates

The forestry strategy gathered information on forestry related heavy vehicle trips on the road network for the current use and make a forecast for the future demands. The forestry strategy then used pavement performance model analyses to predict future pavement condition and assess the associated financial impact from forestry trucks.

Long Term Pavement Performance (LTPP) Sites Data Analysis

The aim of this study was to analyse the data from the Northland WDC and state highway LTPP sites and explore the options of using the analysis results for refinement of pavement performance modelling and the use of high-speed cracking data.

Trend outcomes for each of the conditions have been analysed and summarised in tables that show initialisation points, condition progression, and reset condition after treatment. There are key differences in performance depending upon site parameters.

The review of data correlations and strength of relationships between parameters and conditions has highlighted areas where further analysis can be directed, to explore the cause and effect of meaningful correlated parameters and conditions.

Adoption of High Speed Data (HSD) Crack Data and Analysis Models

The NTA has a strategic approach to data acquisition. Two recent innovations have been the adoption of high-speed crack data (Laser Crack Measuring System - LCMS) and studies of heavy vehicle forestry truck movements around the network. Data is important to the asset management decision making and this data has also been incorporated into the pavement performance model to provide optimised forecasts of future pavement conditions and likely impacts to funding requirements for renewals and maintenance.

The NTA has completed a comprehensive study of high-speed crack data and implemented this into the annual modelling processes. The NTA recognised the need to embrace this new technology as the potential advantages that could improve the understanding of the network pavement performance and long-term trends.

Maintenance Cost Data and Model Calibration

A review of this historic data was done in 2022 to ensure the model is suitably set up and calibrated. Historic maintenance cost (MC) is the recorded cost of routine maintenance over the past four years for each contract area within the NTA.

Unsealed Centre of Excellence

The NTA has been in developing a Centre of Excellence for Unsealed Roads and this includes a draft regional unsealed road strategy Maintenance Management Plan (MMP, attached Appendix 02.A). The vision for the Centre of Excellence for Unsealed Roads and the MMP is an asset management led proactive approach to all unsealed road maintenance work. It is the intention that all work undertaken will be programmed, planned, and have the appropriate intervention that is weighed up against all other programmes and activities to achieve the best value for money investment decisions and the optimum life cycle return on a given asset.

An asset management led structured approach to maintenance work will enable the district councils to invest in renewals work along with any required operational maintenance work. Councils will be able to systematically work through the networks and build an appropriate level of service that meets the needs of all road users. This will be achieved by focusing capital (Capex) investment in granular pavements, Paige-Green compliant bound wearing courses and culvert & drainage renewals while focusing operational (Opex) investment on appropriate drainage maintenance and keeping unsealed carriageways within the specification of the maintenance contract through better grading/blading frequencies.

Included in this work are the activities like forestry and dairy freight which from vehicle kilometres travelled (VKT) affect small portions of the network, but, if not included and the appropriate level of service catered for, lead to significant damage and maintenance expenditure. However, it is the intent that, rather than catering specifically to industry, the wider needs of all the community will be met through improved and sometimes decreased levels of service that will be a direct outcome of appropriately timed Interventions and treatment types led by asset management strategy.

Unsealed FWP and Future Prediction Models

The unsealed roads Centre of Excellence work enables model forecast programmes to be implemented. To date, the unsealed road programme has been validated for the majority of higher volume roads. An outcome of this validation was the realisation of the need to use a model framework to help manage the field work and forecast subsequent treatments based on the validated first treatment and using decision tree logic. Therefore, the team is currently trialling JunoViewer forward work programme and prediction software.

4.15.2 Benefits

Improving resourcing would result in better quality staff making better decisions, shorter lead times for professional services and more competition resulting in reduced costs.

4.15.3 Consequences

Without addressing the resourcing gaps in the industry there will continue to be shortages of appropriately qualified staff, lack of competition in the market and potentially poorer quality workmanship.

4.15.4 AMP Improvement

The following improvements will be considered:

Sealed Roads

- Investigate alternative seal designs such as: emulsion seals to reduce the health and safety risk to workers; Fibredek-type seals to extend the life of cracked surfaces; the use of plastic in asphalt mix design; and seal rejuvenation techniques to extend the seal life.
- Development of AI video analysis to assist in the capture of pavement defects and asset capture/validation.

Unsealed Roads

- Air monitoring of adjoining unsealed sections with and without Paige-Green compliant material to determine the reduction in PM10 dust emissions.
- Change unsealed Lump Sum items for pothole patching and grading in Maintenance Contracts to measure and value items to realise the savings through the Unsealed Centre of Excellence.
- Improve unsealed road data collection including implementing regular roughness monitoring through RoadRoid or similar, and visual dust assessment tool that can determine likely PM10 dust emission.
- Continue with the project level GPR testing and plan to do the testing work for the first two years of the FWP, this will allow adequate time to cost and plan the renewals work.
- Continued development of a Centre of Excellence for Unsealed Roads (CoE) and the FWP.
- Development of an Unsealed Road Maintenance Intervention Strategy (MIS) and visual guide.
- Finalise development of a standardised dust matrix scoring system that will build upon NZTA General Circular 16/04 Assessment.
- The planning rules in the FNDC and KDC districts should be reviewed and rules developed similar to WDC to either limit the development of houses on unsealed roads or to require new dwellings to be located well back (ideally greater than 80m) from unsealed road frontages.

Drainage

- Create new drainage strategy with consistent approach across the three districts.
- Currently KDC add potential renewals & improvements from inspections and Customer Request Management (CRM) and add it to a list of dispatches, this work can be used by the asset management team to build a FWP. The same approach could be applied by FNDC & WDC.

Structures

- Continue to carry out full assessment on key bridges that have current 50Max restrictions to determine whether these restrictions are necessary.
- Seismic assessments to be carried out on structures on key lifelines, arterials and freight routes. Develop a programme of remedial work as required.
- Annual inspections of weight/speed restricted timber bridges, retaining walls should also be included in the inspection programme.

- Bridge and retaining wall asset data to be broken into their component parts in RAMM. Bridge and retaining wall condition, maintenance dispatches (including photos) and repairs to be stored in RAMM.
- Implement bridges into Forward Works Programming software.
- Carry out an audit of existing guardrails to determine their condition and compliance with current safety standards.

Active Modes – Walking, Cycling and Micro-Mobility

- Update the three District Councils Walking and Cycling Strategies.
- Develop business cases for urban active transport for Whangarei City and all large towns in Northland (over 5,000 population).
- Create assessment criteria for shared paths and cycleways, which considers a combination of asset condition rating and effective level of service, which would consider (among other criteria) connectivity, CPTED principles and width – i.e. current usage versus potential usage.

Network Operations – Environmental

- Climate Change - Carry out a stock take of assets likely to impacted by climate change and include in RAMM and carry out Dynamic Adaptive Planning Pathway (DAPP) on these assets to determine adaptation strategies. This could be done as part of the Resilience Strategy.
- Climate Change - Develop a strategy to identify and implement initiatives that reduce the greenhouse gas emissions from transport related maintenance and construction activities.
- Investigate and develop a programme of sediment control measures for roadside drainage systems and maintenance practices to minimise sediment runoff into harbour catchments (particularly the Kaipara Harbour).
- Manage clean-fill sites according to best practices – there is a need to dispose of large quantities of soil in clean fill sites located around the network and they are possible pollution points that require close attention.
- Make use of arboriculturally best practice whilst removing vegetation – manage the removal of vegetation on roads whilst undertaking maintenance and construction works.
- Proactive and reactive programme of weed control funded and carried out annually – to ensure that weeds growth is controlled and comply with NRC requirements and to ensure that the functioning of assets is not compromised.
- Take a 'whole-of-life' approach to resources considering the overall best opportunities for resource efficiency over the asset's lifetime – there is a need to drive sustainable sourcing and use of materials and waste minimisation.

Network Operations – Traffic Services and Network Lighting

- Collect data relevant to define policy for level of service for signs and road markings.
- Develop work programme to achieve specified levels of service.
- Undertake an assessment of long-life markings to determine where and when these should be used.

- Undertake cyclic night-time inspections with safety engineers to determine improvements to signs, markings, RRPMs and edge marker posts.
- Develop forward works programme of high priority "black" areas resulting from the lux mapping survey (HISLAT survey) of the P-Category (local road) lights.

Network Operations – Traffic Signals and Intelligent Transport System

- Determine the feasibility of carrying out signal and bridge operations remotely through a Northland regional control centre similar to Auckland Transport Operation Centre (ATOC) including assessment of ongoing operating costs.
- Determine a suitable central management system for streetlight control and other "smart" technologies.

Network Safety – Safety, Education & Promotion, and Demand Management

- Complete the NTA Regional Speed Management Plan
  - Incorporate Northland Road Safety Management Strategy
  - Wet Road Curve Strategy.
- Guardrail end terminal and length of need assessment.
- Road safety promotion measures.

Climate Change – Mitigation and Adaptation

- Database of vulnerable sites.
- Link Resilience database to RAMM.
- Implement Standard Operating Procedure for emergency response.

Growth and Demand – Public Transport

- Determine the feasibility of rural commuter bus services to rural towns in the Whangarei District.

Growth and Demand – Parking

- Continue to monitor parking meters condition data.
- Collect/ estimate parking meters age data and update RAMM.

Network Asset Management

- Determine which Council department has ownership and maintenance responsibilities for the Council-owned assets such as carparks, street furniture, shared paths, amenity lighting etc.
- Standardise the Annual Achievement Return reporting process using RAMM data, TIO data and council financial accounts.
- Implement the Asset Data Management System (ADMS).
- Improve KDC customer request (CRM) data to include asset type which will enable year-on-year tracking of trends.
- Carry out annual assessment of customer requests (CRMs) and requests for service (RFS) to determine trends.

- Procurement Strategy – Update the NTA Procurement Strategy.
- Application of the One Network Framework (ONF) including implementation of the ONF performance measures and levels of service into the AMP and maintenance contracts.
- Development of an electronic "living" AMP document that is simple to understand and easy to update.
- Continue innovation work within the asset management innovation within the asset management practice, there are still tasks remaining others that are ongoing that need to be done to keep abreast with technological developments. We need to keep up to date in order to maintain current best practice.

Northland Transportation Alliance

Transportation Activity Management Plan 2024–2054

Section 5 – Continuous Maintenance Programme

Northland Transportation Alliance

Transportation Activity Management Plan 2024–2054

Section 5

Continuous Maintenance Programme

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5 Continuous Maintenance Programme of Works

5.1 Overview

This chapter will provide the financial summary of the proposed continuous maintenance programme as defined from the previous chapters and Appendices. The tables will be summarised by Council.

Each of the three tables per Council will define the following:

- Summary of Funding Request 2024-2027, divided by Work Codes. The difference between the two figures is provided as a sum and as a percentage. The final numeric column lists a quantity (if any) which is an increase above the escalated figures of the previous approved funding bid. The final column is a list of comments relating to each work code.
- Supporting Information relating to the significant changes or the increase above the escalated figures of the previous funding bid, by work code.
- Details of the proposed renewals programme of works.

The escalation figure used in the tables (details of the build-up were provided in Chapter 3 Setting the Scene) is 42.5%.

This is the difference from the 47.6% anticipated escalation including new maintenance contract rates, less the escalation included in the prior approved bid of 5.1%.

	ORIGINAL APPROVED BUDGET			ACTUAL ESCALTION			ANTICIPATED ESCALATION		
	2021/24 AMP			2021/24 AMP			2024/27 AMP		
	Yr1	Yr2	Yr3	Yr1	Yr2	Yr3	Yr1	Yr2	Yr3
Escalation percentage	2.5%	2.5%	2.5%	12.4%	6%	5%	4%	3%	3%
Compound increase as %	2.5%	5.1%	7.7%	12.4%	19.1%	25.1%	30.1%	34.0%	38.0%
New Maintenance contract							0.0%	15.0%	15.0%
							30.1%	54.1%	58.7%
Average compound increase as %	5.1%			18.9%			47.6%		

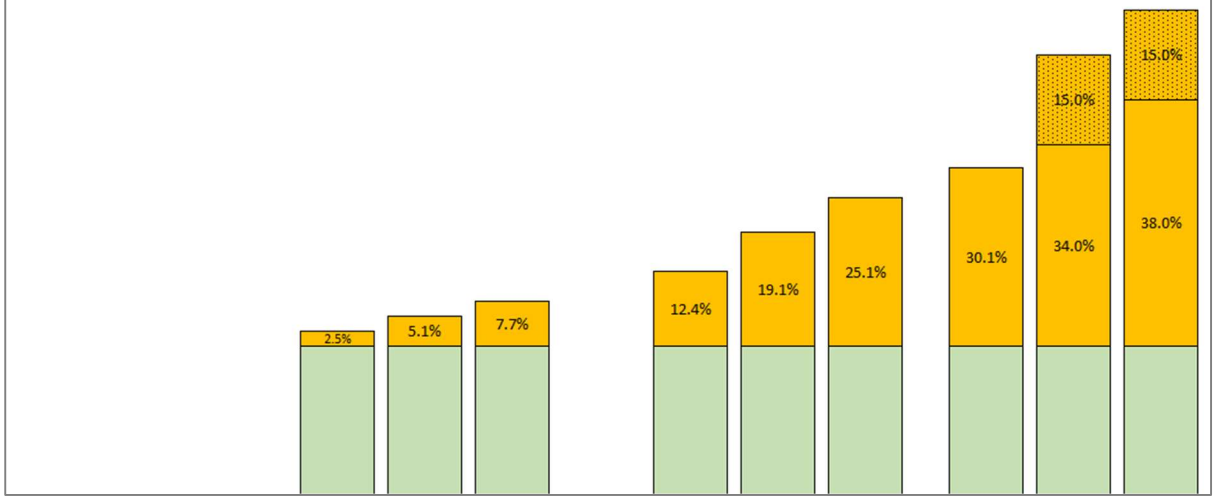

Figure 5-1: Escalation and cost increases for 2024-27

Briefings and moderation with elected council members is a process which will continue up to April/May 2024 with public consultation prior to their final approval of their Long-Term plans. For this reason, the programmes of works listed in the following tables are DRAFT as originally identified through our planning process.

5.2 Far North District Continuous funding request 2024-2027

5.2.1 *Summary of Continuous funding request 2024-2027*

FNDC Maintenance, Operations and Renewals

W/C	Description	2024/27 Requested Budget	2021/24 Approved Subsidy	Difference of 2021/24 vs 2024/27 Bids		Difference above 42.5% escalation	Comments
111	Sealed Pavement Maintenance	10,076,802	7,028,410	3,048,392	43.4%	61,318	Minor increase for increased quantities of pre-seal repairs required due to storm effects and deteriorating road surfaces being deferred longer than recommended.
112	Unsealed Pavement Maintenance	16,127,580	11,242,347	4,885,233	43.5%	107,236	Minor increase for dust suppression
113	Routine Drainage Maintenance	11,156,764	4,876,051	6,280,713	128.8%	4,208,392	There is a significant increase (backlog) in drainage maintenance dispatches which requires increased funding to resolve.
114	Structures Maintenance	11,620,641	6,267,302	5,353,339	85.4%	2,689,736	Increase cost are for retaining sea wall maintenance and Hokianga Ferry costs.
121	Environmental Maintenance	7,974,571	5,574,465	2,400,106	43.1%	30,958	Minor increase is to allow for annual frequency of spraying as per current contract. (previously moderated in last funding bid)
122	Network Services Maintenance	9,552,886	5,692,965	3,859,921	67.8%	1,440,411	The increase is based upon a complete remarking of road marking (previously moderated in the previous bid due to significant increase in unit costs: price doubled so quantity halved)
123	Network Operations	0	0	0	0.0%	0	Nil
124	Cycleway Maintenance	0	0	0	0.0%	0	Nil
125	Footpath Maintenance	480,000	320,001	159,999	50.0%	23,999	A minor increase in relation of the increasing footpath network
131	Level Crossing Warning Devices	0	0	0	0.0%	0	Nil
140	Minor Events	300,000	0	300,000		300,000	$100K applied for each year, which was previously removed due to moderation of the previous application for 2021/2024.
151	Network and Asset Management	12,314,706	6,732,000	5,582,706	82.9%	2,721,606	Staff costs have increased by $600K pa, There are now dedicated Bridge inspection and traffic counting contracts. Testing and survey costs have increased 50% and allowances have been made for strategy development and network modelling
211	Unsealed Road Metalling	20,813,868	14,069,408	6,744,460	47.9%	764,962	Budget assigned against network prioritization - CoE model
212	Sealed Road Resurfacing	24,179,544	12,876,578	11,302,966	87.8%	5,830,420	Increase in quantities and costs are to cover the +28km p.a. backlog of chipseal and the +1km p.a. of TAC resurfacing.
213	Drainage Renewals	5,545,749	1,987,200	3,558,549	179.1%	2,713,989	An increase in quantities and associated costs for culvert renewals, including upsizing where required/possible.
214	Sealed Road Pavement Rehabilitations	15,207,125	9,606,000	5,601,125	58.3%	1,518,575	Increase in quantities and costs to cover the +2km p.a. backlog of rehabilitations (generally rural with some high value urban sites)
215	Structures Component Replacement	10,026,357	3,544,500	6,481,857	182.9%	4,975,445	Minimal increases in retaining wall replacements (based off dispatched outstanding works). Major increase is for the Hokianga Ferry Major refurbishment / replacement of the deck
216	Bridge and Structures Renewals	11,540,045	3,310,000	8,230,045	248.6%	6,823,295	Significant increase required to deal with the proposed bridge renewals and minor increase for retaining renewals.
221	Environmental Renewals	0	0	0	0.0%	0	Nil
222	Traffic Services Renewals	2,164,309	1,350,000	814,309	60.3%	240,559	Increase required to cover the newly marked Road to Zero projects, which used long-life paint products (5year design life) so an increase for these more costly products
225	Footpath Renewals	2,510,987	1,500,000	1,010,987	67.4%	373,487	Budget based on renewal of 8km of footpaths
	TOTAL 3 YEAR BUDGET	**171,591,934**	**95,977,227**	**75,614,707**	**78.8%**		

FNDC Road Safety Promotions

W/C	Description	2024/27 Requested Budget	2021/24 Approved Subsidy	Difference of 2021/24 vs 2024/27 Bids		Comments
432	Road Safety Educational Promotions	6,036,762	5,679,084	357,678	6.3%	Minimal increase, less than inflation
	TOTAL 3 YEAR BUDGET	**6,036,762**	**5,679,084**	**357,678**	**6.3%**	

Waitangi Special Purpose Road - Maintenance, Operations and Renewals

W/C	Description	2024/27 Requested Budget	2021/24 Approved Subsidy	Difference of 2021/24 vs 2024/27 Bids		Comments
111	Sealed Pavement Maintenance	58,000	58,000	0	0.0%	Heavy Sealed Maintenance programme based on forward works programme
112	Unsealed Pavement Maintenance	33,000	33,000	0	0.0%	Unsealed road maintenance activities on Haruru Falls Road prior to the activities of Waitangi Celebrations in February each year to ensure that dust mitigation through watercarts and wet grade and rolling is undertaken. This has been requested in prior years by the police as this road is utilised by dignitaries and needs to be considered into the events that surround the Celebrations of Waitangi Day.
113	Routine Drainage Maintenance	2,400	2,400	0	0.0%	Routine works to maintain appropriate level of service on this Special Purpose Road.
114	Structures Maintenance	0	0	0	0.0%	
121	Environmental Maintenance	2,400	2,400	0	0.0%	Routine works to maintain appropriate level of service on this Special Purpose Road.
122	Network Services Maintenance	2,400	2,400	0	0.0%	Routine works to maintain appropriate level of service on this Special Purpose Road.
123	Network Operations	2,400	2,400	0	0.0%	Routine works to maintain appropriate level of service on this Special Purpose Road.
124	Cycleway Maintenance	2,400	2,400	0	0.0%	Routine works to maintain appropriate level of service on this Special Purpose Road.
125	Footpath Maintenance	2,400	2,400	0	0.0%	Routine works to maintain appropriate level of service on this Special Purpose Road.
131	Level Crossing Warning Devices	0	0	0	0.0%	
140	Minor Events	0	0	0		
151	Network and Asset Management	19,500	19,500	0	0.0%	Allocation of budget to this category for planning and Asset preservation and detail can be addressed appropriately.
211	Unsealed Road Metalling	0		0	0.0%	
212	Sealed Road Resurfacing	0		0	0.0%	
213	Drainage Renewals	0		0	0.0%	
214	Sealed Road Pavement Rehabilitations	0		0	0.0%	
215	Structures Component Replacement	0		0	0.0%	
216	Bridge and Structures Renewals	0		0	0.0%	
221	Environmental Renewals	0		0	0.0%	
222	Traffic Services Renewals	0		0	0.0%	
225	Footpath Renewals	0		0	0.0%	
	TOTAL 3 YEAR BUDGET	**124,900**	**124,900**	**0**	**0.0%**	

Waitangi Special Purpose Road - Low Cost - Low Risk Improvements

W/C	Description	2024/27 Requested Budget	2021/24 Approved Subsidy	Difference of 2021/24 vs 2024/27 Bids		Comments
341	Walking & Cycling Improvements (SPR)	800,000	450,000		0.0%	Tau Henare Drive - extension of 380m of footpath
341	Local Road Improvements (SPR)	900,000	850,000		0.0%	Tau Henare Drive - new guardrail, footpath lighting and new kerb & channel
	TOTAL 3 YEAR BUDGET	**1,700,000**	**1,300,000**	**0**	**0.0%**	

5.2.2 Supporting Information for 2024-2027 funding bid

W/C	Description	2024/27 vs 2021/24 (Programme Difference)	Justification – FNDC
111	Sealed Pavement Maintenance	+$3.0M	The increase in costs are primarily due escalation and estimated increases in new contract rates but it also covers the increase in pre-seal repairs. The increase in pre-seal repairs are due to two issues, firstly an increase in reseals due to a backlog that needs to be dealt with (refer to W/C_212), and secondly due to the storms of 2022/2023 which have exacerbated the deterioration of the road surfaces increasing the number of defects that require pre-sealing repairs.
112	Unsealed Pavement Maintenance	+$4.9M	The increase in costs is primarily due escalation and there has been a minor increase to allow for more dust suppression on roads with a dust risk score of 12 or more (using the NZTA General Circular 16/04 matrix). This allowance is to manage dusty roads which are currently creating health problems for local residents. The dust suppression also helps reduce the resident requests for sealing their roads. Should this work not be funded, there will be ongoing health issues for local residents due to PM_{10} dust emission, leading to complaints. Over time the use of Paige-Green compliant materials may reduce this demand, but there is always likely to be a need for some level of dust suppression on persistently dusty roads.
113	Routine Drainage Maintenance	+$6.2M	This significant increase is based upon the exponential increase in drainage dispatches that have accumulated during the last LTP period, combined with the increase in escalation. In brief the 2021/24 budget that was approved for drainage maintenance has been totally used up by the escalated lump sum activities and cyclic drainage activities resulting in no budget available for ordered drainage maintenance works. The drainage maintenance work identified as watertable maintenance, culvert maintenance and installation of subsoil drains is undertaken to help reduce water ingress into pavements. Water ingress causes premature failure as well as making the roads more susceptible to slips and flooding which are likely to be more frequent due to the impacts of climate change.
114	Structures Maintenance	+$5.4M	There are two major components of this increase, the first being the escalation and anticipated increase in maintenance contract rates in year 2 in the order of $2,6M, the second major component cost is the replacement of the Hokianga Ferry deck in year 3 at 2,5M. The balance of minor increases is the increase in known retaining wall repairs and maintenance and the large quantity of known bridge and abutment scour repairs.
121	Environmental Maintenance	+$2.4M	This cost increase is primarily due to the increase in escalated rates. A minor adjustment has been made to return the quantities to that as before moderation of the previous funding bid. There has been no progress with changing the berm mowing with spraying as there is significant community concerns about spraying, particularly with the growing ground toxicity concerns with glyphosate sprays, may make spraying unsustainable in the future.
122	Network Services Maintenance	+$3.8M	This cost increase is primarily due to increase the line marking quantities. The intent is to try and at least achieve one full annual line mark per annum (with some urban markings such as flush medians and parking being marked once every two years). Options such as long-life markings will continue to be investigated to see whether these can reduce ongoing line marking costs. The amount of line marking will be reviewed on urban roads and Access and Low Volume roads following previous NZTA Technical Audit and this may result in a reduction in the proposed budget. This needs to be weighed up against the need for good delineation in rural areas given that FNDC has is a High-Risk community for Death and Serious Casualties and for Rural Road Loss of Contract and/or Head On Crashes. FNDC also has an increasing trend of Death and Serious Injury crashes on all of its road classes except for Arterials, so reducing the level of delineation on rural routes may not be desirable as it may lead to further DSI crashes which is contrary to the Road to Zero strategy outcomes and the GPS Safety priority.
151	Network and Asset Management	+$5.6M	Through the continued development of the NTA there have been several new staff employed by FNDC. While some of these positions replace vacant staff positions from previous staff leaving many are new positions. For a budgeting perspective the basis for the staff component has been based off the average staff costs for the prior two years. This is an increase of $600K p.a. As part of the Asset Management Improvement activities a 3-year professional services contract for the Bridge inspections, Asset management and HPMV and overweight permits was awarded in October 2023. This has increased the costs that were previously budgeted for by up to $600k p.a. An increase of $150k over 3-years has been allowed for our pavement strength testing and High-Speed Data collection. Other budgetary allowance has been made for our RAMM / MAX / JunoViewer licenses ($100Kp.a.), Strategies and support ($100K p.a.) Network Modelling and Forward Works Programme management (100K p.a.) Crash Reduction studies, investigations ($100k p.a.) and Traffic model maintenance ($15k p.a.)
211	Unsealed Road Metaling	+$6.7M	This increase is due to the cost escalation and new anticipated maintenance cost rates on the continued implementation of the Unsealed Road Centre of Excellence being developed by the NTA. This is to implement Paige-Green compliant wearing courses and provide adequate pavement strength for the loading. This will

W/C	Description	2024/27 vs 2021/24 (Programme Difference)	Justification – FNDC
			see an increase in renewal costs (wearing courses and heavy metaling), but a decrease in maintenance costs over time (less inspections, grading and pothole patching/spot metaling). Far North has by far and away the largest proportion of heavily laden forestry traffic travelling on the unsealed road network in Northland and this has resulted in FNDC having a higher cost impact from the Centre of Excellence than the other two councils. The overall cost profile for FNDC over the next 30 years is shown in Appendix 2 (Unsealed Roads) Figure 3-10 (current approach versus Centre of Excellence). Figure 3-10 indicates the overall long term cost profile for implementing the Centre of Excellence is almost identical to the current maintenance practices. However, there will be significant Level of Service gains resulting from this change as described below: • Improved and more stable pavement condition (less corrugations and potholes) • Enables a move from a reactive to a proactive maintenance regime • Less susceptibility to weather impacts (this was demonstrated for the Kaipara roads during and after the significant storm events of 2022/23, as they performed very well with minimal repairs required.) • Lower dust generation which will reduce health impacts to residents and demands for dust suppression and seal extensions • Improved overall user and resident satisfaction The savings in maintenance costs will be realised by converting the current lump sum rates for grading and unsealed pothole patching into measure and value rates at the first maintenance contract roll-over in 2022. Options to accelerate or slow the roll out of the Centre of Excellence programme have also been considered. Accelerating the programme (to say a 5-year roll-out) would result in a higher upfront renewal cost which would be even less affordable to NZTA, and this is not warranted based on the available forestry harvest information. Slowing the programme (to say a 15-year roll-out) would result in only 2/3rds of the Band 3 and Band 2 Commercial length being achieved before the 10-year life of these roads is reached which would then require another round of treatment. This would reduce the renewal cost but only achieve 2/3rds of the maintenance savings on these high-risk roads. A way to get around this problem would be to design the 'rebuild' roads to last 15 years so that the full maintenance savings on these roads can be achieved. This would require a higher upfront renewal cost for the extra metal depth which would mostly negate the savings from the longer programme. In addition, the Forestry Strategy is indicating harvest forecasts which would suit a 10-year cycle. Using a 15-year cycle would mean that about half of these high-risk roads would be untreated when the harvest is undertaken, leading to a risk of much higher maintenance costs due to pavement failure than even the current maintenance practice would achieve. It would also result in these logging routes being subject to more failures which would not achieve the GPS priority of Improving Freight Connections. From the above assessment, the proposed 10-year programme for rebuild sites appears to be the right timing based on the forecast harvest and best balances the additional cost of the renewal's vs the risk of higher maintenance costs caused by pavement failure of these high-risk roads.
212	Sealed Road Resurfacing	+$11.3M	The significant increase, which nearly doubles the three-year funding bid is due to the escalation of the bids as previously discussed in combination of dealing with a growing backlog of reseals and TAC. To overcome this backlog the proposed plan is to undertake an additional 28Km per annum of Reseals and an additional 1km of TAC per annum. While this will not completely alleviate the growing challenge it will address in significant manner the growing issue. It is worth noting that based upon our predictive modelling, "The range of Optimal Model scenarios 10-year and 20-year average annual chip sealing (RSEAL plus 2ndCoat) is 71 to 75 km ($4.3 to $4.5 million). The reseal quantities reached a steady level (where there is diminishing additional quantities with increased funding) at the Low scenario funding level. The reseal treatment is a priority because it offers asset preservation and some improvement (when required) at the most economic price. A suggested 72 to 75 km is 8.1% to 8.5% of the chipseal network length per year. This amount is more than the past 5 years achievement. A greater amount is needed to cater for sealed network expansion, ensure second coat seals are catered for, and the age-based backlog quantity does not grow even further and become unmanageable in the future. The average of the suggested range (73.5 km/year) will result in a chipseal life cycle of 12.0 years. The suggested amount of chipseal treatments is affordable at the current budget of $8.14 million." These surfacings are now in a condition where resurfacing is really the only viable option left and is required to maintain waterproofing on these high stress seals. If this work is not undertaken, there is the very

W/C	Description	2024/27 vs 2021/24 (Programme Difference)	Justification – FNDC
			real risk of the pavements failing due to excessive water ingress leading to very expensive urban rehabilitations.
213	Drainage Renewals	+$3.5M	With reference to the backlog of drainage maintenance, a similar scenario has developed with the drainage renewals and over double the prior budget is being requested to deal with the cost of escalations and the growing number of drainage renewals that are annually undertaken. Historically the quantities are based on the average for the last six years of drainage renewals undertaken when rehabilitations are done.
214	Sealed Road Pavement Rehabilitation	+$5.6M	The increase in costs is for the cost escalations and for the increase in backlog of rehabilitations of +2km per annum. If this can be achieved, it will result in a pavement base life cycle of 131 years (ref Pavement performance analysis 2023/24)
215	Structures Component Replacement	+$6.5M	The costs included in this work category are the bridge structure component replacement programme, which is based upon the identified faults noted from the bridge inspections, the retaining walls component replacements, which is identified off dispatches and the costs of the Hokianga Ferry. The ferry is due to have a major deck refurbishment in year 3 which is estimated as $2,5M.
216	Bridge and Structures Renewals	+$8.2M	As with the structure component replacement work code, the Bridge and Structures renewals are based off inspections and dispatches. Details of the proposed bridge renewal programme is included in the sext section. There is a growing backlog of bridge renewals due to significant historical underfunding of bridge maintenance and renewals.

5.2.3 *Draft Programmes for Roads and Structures*

FNDC - Thin Asphalt

Forward Work Year	Class Code	ONRC	Road Name	Start m	End m	Total (m)
2024/25	5	ARTERIAL	COMMERCE STREET (KAITAIA)	553	1031	478
2024/25	5	ARTERIAL	LANDING ROAD (KERIKERI)	681	731	50
2024/25	4	PRIMARY COLLECTOR	KAITAIA-AWAROA ROAD	0	56	56
2024/25	4	PRIMARY COLLECTOR	MELBA STREET	0	160	160
2024/25	4	PRIMARY COLLECTOR	MEMORIAL AVENUE	0	304	304
2024/25	4	PRIMARY COLLECTOR	PUNGAERE ROAD	969	1175	206
2024/25	4	PRIMARY COLLECTOR	RAIHARA STREET	0	247	247
2024/25	4	PRIMARY COLLECTOR	REDAN ROAD	150	515	365
2024/25	4	PRIMARY COLLECTOR	REDAN ROAD	515	887	372
2024/25	4	PRIMARY COLLECTOR	REDAN ROAD	887	993	106
2024/25	4	PRIMARY COLLECTOR	REDAN ROAD	993	1065	72
2024/25	4	PRIMARY COLLECTOR	STATION ROAD (KAIKOHE)	0	457	457
2024/25	3	SECONDARY COLLECTOR	PUKEPOTO ROAD (KAITAIA)	1517	1598	81
2024/25	2	ACCESS	SETTLERS WAY	45	103	58
2024/25	2	ACCESS	SETTLERS WAY	103	264	161
					2024/25 Total	**3173**
2025/26	5	ARTERIAL	FAIRWAY DRIVE	0	130	130
2025/26	5	ARTERIAL	HOMESTEAD ROAD	0	232	232
2025/26	5	ARTERIAL	HOMESTEAD ROAD	232	324	92
2025/26	5	ARTERIAL	KERIKERI ROAD	2515	2908	393
2025/26	5	ARTERIAL	KERIKERI ROAD	3200	3688	488
2025/26	4	PRIMARY COLLECTOR	HONE HEKE ROAD	869	1235	366
2025/26	4	PRIMARY COLLECTOR	RECREATION ROAD	567	597	30
2025/26	4	PRIMARY COLLECTOR	SELWYN ROAD (PAIHIA)	0	169	169
2025/26	4	PRIMARY COLLECTOR	SELWYN ROAD (PAIHIA)	169	239	70
2025/26	4	PRIMARY COLLECTOR	WATERFRONT DRIVE (MANGONUI)	240	436	196
2025/26	4	PRIMARY COLLECTOR	WILLIAMS ROAD	114	393	279
2025/26	3	SECONDARY COLLECTOR	BUTLER ROAD	0	154	154
2025/26	3	SECONDARY COLLECTOR	DONALD LANE	180	250	70
2025/26	3	SECONDARY COLLECTOR	DONALD LANE	318	387	69
2025/26	3	SECONDARY COLLECTOR	DONALDS ROAD (EAST)	0	30	30
2025/26	3	SECONDARY COLLECTOR	KERIKERI ROAD	4110	4296	186
2025/26	3	SECONDARY COLLECTOR	KLINAC LANE	193	304	111
2025/26	3	SECONDARY COLLECTOR	POKAPU ROAD	6964	6998	34
2025/26	3	SECONDARY COLLECTOR	PUCKEY AVENUE	440	500	60
2025/26	3	SECONDARY COLLECTOR	SCHOOL ROAD (PAIHIA)	0	505	505
2025/26	3	SECONDARY COLLECTOR	TAAFFE STREET	0	140	140
2025/26	3	SECONDARY COLLECTOR	WAIMATE NORTH ROAD	9160	9437	277
2025/26	3	SECONDARY COLLECTOR	WAIMATE NORTH ROAD	9826	9871	45
2025/26	3	SECONDARY COLLECTOR	WHANGATANE DRIVE	0	388	388
2025/26	2	ACCESS	THE LOOKOUT	0	103	103
					2025/26 Total	**4617**
2026/27	5	ARTERIAL	COBHAM ROAD	0	241	241
2026/27	4	PRIMARY COLLECTOR	AUCKS ROAD	0	50	50
2026/27	4	PRIMARY COLLECTOR	GILLIES STREET (EAST)	0	44	44
2026/27	4	PRIMARY COLLECTOR	REDCLIFFS ROAD	3264	3295	31
2026/27	4	PRIMARY COLLECTOR	REDCLIFFS ROAD	3295	3495	200
2026/27	4	PRIMARY COLLECTOR	RUSSELL-WHAKAPARA ROAD	2892	2971	79
2026/27	3	SECONDARY COLLECTOR	ALLEN BELL DRIVE	0	152	152
2026/27	3	SECONDARY COLLECTOR	DICKESON STREET	0	99	99
2026/27	3	SECONDARY COLLECTOR	EMPIRE STREET	0	190	190
2026/27	3	SECONDARY COLLECTOR	KOHUKOHU ROAD	0	34	34
2026/27	3	SECONDARY COLLECTOR	MANGAMUKA ROAD	10285	10304	19
2026/27	3	SECONDARY COLLECTOR	MARINO PLACE	0	124	124
2026/27	3	SECONDARY COLLECTOR	RANGITANE ROAD	0	35	35
2026/27	3	SECONDARY COLLECTOR	RUSSELL-WHAKAPARA ROAD	7495	7559	64
2026/27	3	SECONDARY COLLECTOR	RUSSELL-WHAKAPARA ROAD	7666	7934	268
					2026/27 Total	**1630**
					Grand Total	**9420**

FNDC – Rehabilitation

Forward Work Year	Class Code	ONRC	Road Name	Start m	End m	Total (m)
2024/25	5	ARTERIAL	KERIKERI ROAD	1430	1660	230
2024/25	4	PRIMARY COLLECTOR	KAITAIA-AWAROA ROAD	28540	30140	1600
2024/25	3	SECONDARY COLLECTOR	BROADWOOD ROAD	6540	7440	900
2024/25	3	SECONDARY COLLECTOR	BROADWOOD ROAD	11220	11820	600
2024/25	3	SECONDARY COLLECTOR	FAIRBURN ROAD	4700	5836	1136
2024/25	3	SECONDARY COLLECTOR	KEMPTHORNE ROAD	135	1768	1633
2024/25	3	SECONDARY COLLECTOR	KEMPTHORNE ROAD	1780	1840	60
2024/25	3	SECONDARY COLLECTOR	KOHUKOHU ROAD	14500	15172	672
2024/25	3	SECONDARY COLLECTOR	LARMER ROAD	2180	3080	900
2024/25	3	SECONDARY COLLECTOR	NGAPIPITO ROAD	13065	13507	442
2024/25	3	SECONDARY COLLECTOR	NGAPIPITO ROAD	13507	13996	489
2024/25	3	SECONDARY COLLECTOR	RANGIAHUA ROAD	3150	3970	820
2024/25	3	SECONDARY COLLECTOR	TAUPO BAY ROAD	3610	4083	473
					2024/25 Total	**9955**
2025/26	4	PRIMARY COLLECTOR	RECREATION ROAD	370	567	197
2025/26	3	SECONDARY COLLECTOR	MATAWAIA-MAROMAKU ROAD	912	957	45
2025/26	3	SECONDARY COLLECTOR	MATAWAIA-MAROMAKU ROAD	2552	2559	7
2025/26	3	SECONDARY COLLECTOR	OPITO BAY ROAD	35	815	780
2025/26	3	SECONDARY COLLECTOR	OPITO BAY ROAD	1403	2206	803
2025/26	3	SECONDARY COLLECTOR	OTIRIA ROAD	0	506	506
2025/26	1	LOW VOLUME	HILLCREST ROAD (KAIKOHE)	0	335	335
2025/26	1	LOW VOLUME	HILLCREST ROAD (KAIKOHE)	335	835	500
					2025/26 Total	**3173**
2026/27	4	PRIMARY COLLECTOR	KAPIRO ROAD	0	1494	1494
2026/27	4	PRIMARY COLLECTOR	KAPIRO ROAD	1494	2503	1009
2026/27	4	PRIMARY COLLECTOR	KAPIRO ROAD	2503	3400	897
2026/27	4	PRIMARY COLLECTOR	KAPIRO ROAD	4398	4748	350
2026/27	4	PRIMARY COLLECTOR	ORURU ROAD	6252	7296	1044
2026/27	4	PRIMARY COLLECTOR	RAWENE ROAD	1159	1460	301
2026/27	4	PRIMARY COLLECTOR	RAWENE ROAD	1460	1985	525
2026/27	4	PRIMARY COLLECTOR	RAWENE ROAD	1985	2525	540
2026/27	3	SECONDARY COLLECTOR	PARK ROAD	22	384	362
2026/27	1	LOW VOLUME	FRANTOIO RIDGE RD	0	1240	1240
					2026/27 Total	**7762**
					Grand Total	**20890**

Structural Component Replacement Programme (W/C 215)

Year	Location	Project	Hierarchy (ONRC)	Value
2024/2025	Kaitaia-Awaroa Road (D42)	Major concrete repairs/pile jacketing	Primary Collector	$362,500
2024/2025	Kaitaia-Awaroa Road (D47)	Major concrete repairs/pile jacketing	Primary Collector	$362,500
2024/2025	Te Karuwha Parade Bridge (T19)	Major Concrete Repairs. Corrosion Reinstatement. Replacement of minor structural components. From original 10-year plan.	Secondary Collector	$500,000
2024/2025	Inland Road Bridge (C11)	Corrosion reinstatement. Major concrete repairs	Primary Collector	$167,000
2024/2025	KohuKohu Road (H20)	Major Concrete Repairs/Pile Jacketing.	Secondary Collector	$233,000
2025/2026	Wekaweka Road (J14)	Structural analysis of beam details due to unusual design and heavy corrosion loss. Check the following: 1. Bearing capacity 2. Angle capacity due to horizontal force. Subsequently repair corrosion and apply coating	Access	$200,000
2025/2026	Lovatt Road (W01)	Deck needs repairs and replacements, detailed inspection required to determine the extent.	Low Volume	$200,000
2025/2026	Jordan Road (L01)	Major concrete repairs	Access	$285,450
2025/2026	Jennings Road (R01)	Beam replacement	Access	$285,450
2025/2026	Waiare Road (R24)	Replacement of Diaphragms. Steel Beam Repairs.	Access	$285,450
2026/2027	Graham Road (N35)	Investigate options to seal the topside of the deck where it joins around midway of the bridge. Currently moisture is seeping through causing top flange corrosion of the beams. After sealing apply corrosion protection to top flange locations. Cost to repair if allowed to corrode badly would be significant. Deck joint not visible from topside, will require water blasting	Low Volume	$200,000
2026/2027	Kohukohu Road (H32)	Major concrete repairs	Secondary Collector	$190,300
2026/2027	Matawherohia Road (I48)	Abutments Replacement, from previous 10 year plan, works originally planned for 24/25.	Low Volume	$302,750

Structural Renewal Programme (W/C 216)

Year	Location	Project	Hierarchy (ONRC)	Value
2024/2025	Russell-Whakapara Road (X18)	Due to culvert being 75 years, whole replace to be considered.	Primary Collector	$400,000
2024/2025	Russell-Whakapara Road (X11)	Replacement of poor condition bridge	Secondary Collector	$576,400
2024/2025	Rakauwahia Road (I08)	Replacement of poor condition culvert	Access	$432,000
2025/2026	Wireless Road (B15)	Replacement of poor condition culvert	Secondary Collector	$432,000
2025/2026	Wekaweka Road (j01)	If this bridge is true 118 years old, we should look at replacing this. The "Age" column states its 118 years old and the "Construction Date" is 1905, however, in "Notes" its states "Built 1947" and it doesn't look 118 years old to me.	Access	$1,500,000
2025/2026	Horeke Road (M36)	Due to culvert being 73 years, whole replacement to be considered.	Access	$400,000
2025/2026	Jordan Road (L10)	Due to culvert being 73 years, whole replacement to be considered.	Access	$400,000
2026/2027	Lake Road (okaihau) (M33)	Due to culvert being 93 years, whole replace to be considered.	Access	$400,000
2026/2027	Picadilly Road (P17)	Replacement of poor condition culvert	Access	$360,350
2026/2027	Taemaro Road (F15)	Replacement of poor condition culvert		$360,350

5.3 Kaipara District Continuous funding request 2024-2027

5.3.1 *Summary of Continuous funding request 2024-2027*

KDC Maintenance, Operations and Renewals

W/C	Description	2024/27 Requested Budget	2021/24 Approved Subsidy	Difference 2021/24 vs 2024/27		Difference above 42.5% escalation	Comments
111	Sealed Pavement Maintenance	9,348,318	6,536,939	2,811,379	43%	33,180	Minor increase for increased pre-seal quantities
112	Unsealed Pavement Maintenance	7,447,620	5,207,850	2,239,770	43%	26,434	Minor increase for dust supression
113	Routine Drainage Maintenance	6,342,858	2,757,097	3,585,761	130%	2,413,995	There is a significant increase (backlog) in drainage maintenance dispatches which requires increased funding to resolve.
114	Structures Maintenance	1,215,589	814,413	401,176	49%	55,051	minor increase for retianing wall increased maintnenace requirements
121	Environmental Maintenance	3,800,391	1,608,579	2,191,812	136%	1,508,166	Addition of dust suppression, previously not undertaking.
122	Network Services Maintenance	6,342,858	2,757,097	3,585,761	130%	2,413,995	The increase is based upon a complete remarking of road marking (previously moderated in the previous bid due to significant increase in unit costs: price doubled so quantity halved)
123	Network Operations	385,740	122,538	263,202	215%	211,124	Minor increase for increase in power supply costs
124	Cycleway Maintenance	59,805	15,000	44,805	299%	38,430	Minor increase for increase in shared paths to maintain
125	Footpath Maintenance	349,308	162,840	186,468	115%	117,261	Increase to reinstate footpath maintenance back to required levels.
131	Level Crossing Warning Devices	136,010	70,630	65,380	93%	35,362	Minor increase to cover increase in costs for rail crossings
140	Minor Events	438,095	100,000	338,095	338%	295,595	Increase to reinstate funding which was moderated down in the prior funding bid.Back to levels required for minor events
151	Network and Asset Management	12,795,000	5,873,192	6,921,808	118%	4,425,701	There are now dedicated Bridge inspection and traffic counting contracts. Testing and survey costs have increased 50% and allowances have been made for strategy development and network modelling
211	Unsealed Road Metalling	13,687,928	8,254,717	5,433,211	66%	1,924,956	Budget assigned against network prioritization - CoE Model, with increased rates @ $25/m3 for compliant wearing course material.
212	Sealed Road Resurfacing	16,261,906	6,126,882	10,135,024	165%	7,531,099	Increase in quantities and costs are to cover the +5km p.a. backlog of chipseal, along with AC surfacing which due to age and condition is requiring renewals in Mangawhai.
213	Drainage Renewals	5,013,103	1,760,269	3,252,834	185%	2,504,720	Draiange renewals quantities revised to reflec average for last 6 years of reahbilitaitons
214	Sealed Road Pavement Rehabilitations	12,858,000	4,007,850	8,850,150	221%	7,146,814	Increase in quantities and costs to cover the +2km p.a. backlog of rehabilitations (generally rural with some high value urban sites to be treated)
215	Structures Component Replacement	6,374,453	3,063,441	3,311,012	108%	2,009,050	Increase in component replacements required based upon network inspections and deteriorating bridges.
216	Bridge and Structures Renewals	9,450,000	3,063,441	6,386,559	208%	5,084,597	Significant increase required to deal with the proposed bridge renewals and minor increase for retaining renewals.
221	Environmental Renewals	0	0	0		0	Nil
222	Traffic Services Renewals	810,476	566,737	243,739	43%	2,876	Minor increase for the newly marked Road to Zero safety projects, which used long-life paint products (5year design life) so an increase for these more costly products
225	Footpath Renewals	232,872	162,839	70,033	43%	826	Nil
	TOTAL 3 YEAR BUDGET	**113,350,330**	**53,032,350**	**60,317,980**	114%		

5.3.2 Supporting Information for 2024-2027 funding bid

W/C	Description	2024/27 vs 2021/24 (Programme Difference)	Justification – KDC
111	Sealed Pavement Maintenance	+$2.8M	The increase in costs are primarily due escalation and estimated increases in new contract rates but it also covers a minor increase in pre-seal repairs. The increase in pre-seal repairs is due to two issues, firstly an increase in reseals due to a backlog that needs to be dealt with (refer to W/C_212), and secondly due to the storms of 2022/2023 which have exacerbated the deterioration of the road surfaces increasing the number of defects that require pre-sealing repairs.
112	Unsealed Pavement Maintenance	+$2.2M	The increase in costs is primarily due escalation and there has been a minor increase to allow for more dust suppression on roads with a dust risk score of 12 or more (using the NZTA General Circular 16/04 matrix). This allowance is to manage dusty roads which are currently creating health problems for local residents. The dust suppression also helps reduce the resident requests for sealing their roads. Should this work not be funded, there will be ongoing health issues for local residents due to PM10 dust emission, leading to complaints. Over time the use of Paige-Green compliant materials may reduce this demand, but there is always likely to be a need for some level of dust suppression on persistently dusty roads.
113	Routine Drainage Maintenance	+$3.6M	This significant increase is based upon the exponential increase in drainage dispatches that have accumulated during the last LTP period, combined with the increase in escalation. In brief the 2021/24 budget that was approved for drainage maintenance has been totally used up by the escalated lump sum activities and cyclic drainage activities resulting in no budget available for ordered drainage maintenance works. The drainage maintenance work identified as watertable maintenance, culvert maintenance and installation of subsoil drains is undertaken to help reduce water ingress into pavements. Water ingress causes premature failure as well as making the roads more susceptible to slips and flooding which are likely to be more frequent due to the impacts of climate change. The increase of open dispatches during 2021/24 has crept up from $12M to just over $16M. Based upon the current funding levels there is no available funding to reduce this deficit, putting our road network at risk. Our recommendation is to increase this work activity substantially to commence a programme to reduce the faults identified on the network.
114	Structures Maintenance	+$0.4M	There are two components of this increase, the first being the escalation and anticipated increase in maintenance contract rates in year 2, the second component cost is the increase in known retaining wall repairs and maintenance based off of dispatch history.
121	Environmental Maintenance	+$1.5M	A major component of this cost increase is due to the increase in escalated rates, the second major component is the additional of using proprietary dust suppression on the unsealed network, not previously carried out.
122	Network Services Maintenance	+$3.6M	This cost increase is primarily due to increase the line marking quantities. The intent is to try and at least achieve one full annual line mark per annum (with some urban markings such as flush medians and parking being marked once every two years). Options such as long-life markings will continue to be investigated to see whether these can reduce ongoing line marking costs. The amount of line marking will be reviewed on urban roads and Access and Low Volume roads following previous NZTA Technical Audit and this may result in a reduction in the proposed budget. This needs to be weighed up against the need for good delineation in rural areas given that FNDC has is a High-Risk community for Death and Serious Casualties and for Rural Road Loss of Contract and/or Head On Crashes. FNDC also has an increasing trend of Death and Serious Injury crashes on all of its road classes except for Arterials, so reducing the level of delineation on rural routes may not be desirable as it may lead to further DSI crashes which is contrary to the Road to Zero strategy outcomes and the GPS Safety priority.
123	Network Operations	+$0.2M	The minor cost increase is due to escalated power supply costs.
151	Network and Asset Management	+$6.9M	Through the continued development of the NTA there have been several new staff employed by WDC. While some of these positions replace vacant staff positions from previous staff leaving many are new positions. For a budgeting perspective the basis for the staff component has been based off the average staff costs for the prior two years. As part of the Asset Management Improvement activities a 3-year professional services contract for the Bridge inspections, Asset management and HPMV and overweight permits was awarded in October 2023. This has increased the costs that were previously budgeted for by up to $600k p.a. An increase of $150k over 3-years has been allowed for our pavement strength testing and High-Speed Data collection. Other budgetary allowance has been made for our RAMM / MAX / JunoViewer licenses ($100Kp.a.), Strategies and support ($100K p.a.) Network Modelling and Forward Works Programme management (100K p.a.) Crash Reduction studies, investigations ($100k p.a.) and Traffic model maintenance ($15k p.a.)

W/C	Description	2024/27 vs 2021/24 (Programme Difference)	Justification – KDC
211	Unsealed Road Metaling	+$5.4M	This increase is due to the cost escalation and new anticipated maintenance cost rates on the continued implementation of the Unsealed Road Centre of Excellence being developed by the NTA. This is to implement Paige-Green compliant wearing courses and provide adequate pavement strength for the loading. This will see an increase in renewal costs (wearing courses and heavy metaling), but a decrease in maintenance costs over time (less inspections, grading and pothole patching/spot metaling). The overall cost profile for KDC over the next 30 years is shown in Appendix 2 (Unsealed Roads) Figure 3-10 (current approach versus Centre of Excellence). Figure 3-10 indicates the overall long term cost profile for implementing the Centre of Excellence is almost identical to the current maintenance practices. However, there will be significant Level of Service gains resulting from this change as described below: • Improved and more stable pavement condition (less corrugations and potholes) • Enables a move from a reactive to a proactive maintenance regime • Less susceptibility to weather impacts (this was demonstrated for the Kaipara roads during and after the significant storm events of 2022/23, as they performed very well with minimal repairs required.) • Lower dust generation which will reduce health impacts to residents and demands for dust suppression and seal extensions • Improved overall user and resident satisfaction The savings in maintenance costs will be realised by converting the current lump sum rates for grading and unsealed pothole patching into measure and value rates at maintenance contract roll-over. Options to accelerate or slow the roll out of the Centre of Excellence programme have also been considered. Accelerating the programme (to say a 5-year roll-out) would result in a higher upfront renewal cost which would be even less affordable to NZTA, and this is not warranted based on the available forestry harvest information. Slowing the programme (to say a 15-year roll-out) would result in only 2/3rds of the Band 3 and Band 2 Commercial length being achieved before the 10-year life of these roads is reached which would then require another round of treatment. This would reduce the renewal cost but only achieve 2/3rds of the maintenance savings on these high-risk roads. A way to get around this problem would be to design the 'rebuild' roads to last 15 years so that the full maintenance savings on these roads can be achieved. This would require a higher upfront renewal cost for the extra metal depth which would mostly negate the savings from the longer programme. In addition, the Forestry Strategy is indicating harvest forecasts which would suit a 10-year cycle. Using a 15-year cycle would mean that about half of these high-risk roads would be untreated when the harvest is undertaken, leading to a risk of much higher maintenance costs due to pavement failure than even the current maintenance practice would achieve. It would also result in these logging routes being subject to more failures which would not achieve the GPS priority of Improving Freight Connections. From the above assessment, the proposed 10-year programme for rebuild sites appears to be the right timing based on the forecast harvest and best balances the additional cost of the renewal's vs the risk of higher maintenance costs caused by pavement failure of these high-risk roads.
212	Sealed Road Resurfacing	+$10.1M	The significant increase, in funding bid is due to the escalation of the bids as previously discussed in combination of dealing with a growing backlog of reseals and some aging TAC in Mangawhai that is reaching renewal stage. To overcome this backlog the proposed plan is to undertake an additional 5Km per annum. While this will not completely alleviate the growing challenge it will address in significant manner the growing issue. It is worth noting that based upon our predictive modelling, "The range of Optimal Model scenarios 10-year and 20-year average annual chip sealing (RSEAL plus 2ndCoat) is 30 to 33 km ($1.8 to $2.0 million). The reseal quantities reached a steady level (where there is diminishing additional quantities with increased funding) at the Low scenario funding level. The reseal treatment is a priority because it offers asset preservation and some improvement (when required) at the most economic price. A suggested 31 to 35 km is 6.7% to 7.6% of the chipseal network length per year. This amount is less than the past 5 years achievement since the historic backlog of second coat seal need has been adequately addressed in recent years. An amount at the higher end of the suggested range will be needed in the future to ensure future second coat seals are catered for, and the age-based backlog quantity does not grow and become unmanageable. Furthermore, KDC is having a large amount of residential and related commercial development in the Mangawhai area, which is starting to impact on the surface and pavement life." These surfacing's are now in a condition where resurfacing is really the only viable option left and is required to

W/C	Description	2024/27 vs 2021/24 (Programme Difference)	Justification – KDC
			maintain waterproofing on these high stress seals. If this work is not undertaken, there is the very real risk of the pavements failing due to excessive water ingress leading to very expensive urban rehabilitations.
213	Drainage Renewals	+$3.2M	With reference to the backlog of drainage maintenance, a similar scenario has developed with the drainage renewals and over double the prior budget is being requested to deal with the cost of escalations and the growing number of drainage renewals that are annually undertaken. Historically the quantities are based on the average for the last six years of drainage renewals undertaken when rehabilitations are done.
214	Sealed Road Pavement Rehabilitation	+$8.9M	The increase in costs is for the cost escalations and for the increase in backlog of rehabilitations of +2km per annum. If this can be achieved, it will result in a pavement base life cycle of 117 years (ref Pavement performance analysis 2023/24)
215	Structures Component Replacement	+$3.3M	The costs included in this work category are the bridge structure component replacement programme, which is based upon the identified faults noted from the bridge inspections, the retaining walls component replacements, which is identified off dispatches.
216	Bridge and Structures Renewals	+$6.4M	As with the structure component replacement work code, the Bridge and Structures renewals are based off inspections and dispatches. Details of the proposed bridge renewal programme is included in the sext section. There is a growing backlog of bridge renewals due to significant historical underfunding of bridge maintenance and renewals.
222	Traffic Services Renewals	+$0.2M	The previously long-life marked Road-to-Zero projects will require renewal in years 2 and 3 and there is a cost increase for the specialist paint.
225	Footpath Renewals	+$0.1M	Cost increase is for cost escalation and no significant quantity changes

5.3.3 Draft Programmes for Roads and Structures

KDC - Thin Asphalt

Forward Work Year	Class Code	ONRC	Road Name	Start m	End m	Total (m)
2024/25	3	SECONDARY COLLECTOR	POTO ST	0	10	10
2024/25	3	SECONDARY COLLECTOR	POUTO RD	20031	20942	911
2024/25	2	ACCESS	ARARUA RD	9508	9531	23
2024/25	2	ACCESS	SEABREEZE ROAD	0	674	674
					2024/25 Total	**1618**
2025/26	4	PRIMARY COLLECTOR	VICTORIA ST	250	423	173
2025/26	4	PRIMARY COLLECTOR	VICTORIA ST	423	559	136
2025/26	4	PRIMARY COLLECTOR	VICTORIA ST	559	671	112
2025/26	3	SECONDARY COLLECTOR	GLADSTONE ST	102	135	33
2025/26	1	LOW VOLUME	OPOUTEKE RD	98	136	38
					2025/26 Total	**492**
2026/27	1	LOW VOLUME	HILLSIDE AVENUE	74	93	19
2026/27	1	LOW VOLUME	KAHU DRIVE	0	156	156
2026/27	1	LOW VOLUME	KAHU DRIVE	156	351	195
2026/27	1	LOW VOLUME	KAHU DRIVE	351	383	32
2026/27	1	LOW VOLUME	MATUKU PLACE	0	81	81
2026/27	1	LOW VOLUME	MATUKU PLACE	81	114	33
2026/27	1	LOW VOLUME	PARITAI PLACE	0	141	141
2026/27	1	LOW VOLUME	PARITAI PLACE	141	198	57
					2026/27 Total	**714**
					Grand Total	**2824**

KDC - Rehabilitation

Forward Work Year	Class Code	ONRC	Road Name	Start m	End m	Total (m)
2024/25	4	PRIMARY COLLECTOR	POUTO RD	1750	2025	275
2024/25	4	PRIMARY COLLECTOR	POUTO RD	2025	4371	2346
2024/25	4	PRIMARY COLLECTOR	POUTO RD	4371	4833	462
2024/25	3	SECONDARY COLLECTOR	DUNN RD	2980	3383	403
2024/25	3	SECONDARY COLLECTOR	PARORE WEST RD	0	940	940
2024/25	3	SECONDARY COLLECTOR	POUTO RD	40552	40791	239
					2024/25 Total	**4665**
2025/26	4	PRIMARY COLLECTOR	INSLEY ST	569	639	70
2025/26	4	PRIMARY COLLECTOR	POUTO RD	5204	5455	251
2025/26	4	PRIMARY COLLECTOR	POUTO RD	6252	6298	46
2025/26	4	PRIMARY COLLECTOR	POUTO RD	6298	7044	746
2025/26	4	PRIMARY COLLECTOR	POUTO RD	7044	7420	376
2025/26	4	PRIMARY COLLECTOR	POUTO RD	7420	7632	212
2025/26	4	PRIMARY COLLECTOR	POUTO RD	7632	7654	22
2025/26	4	PRIMARY COLLECTOR	POUTO RD	7654	7852	198
2025/26	3	SECONDARY COLLECTOR	PUKEHUIA RD	3109	3300	191
2025/26	3	SECONDARY COLLECTOR	PUKEHUIA RD	3300	3323	23
2025/26	3	SECONDARY COLLECTOR	PUKEHUIA RD	3323	3457	134
2025/26	3	SECONDARY COLLECTOR	PUKEHUIA RD	3939	4243	304
2025/26	3	SECONDARY COLLECTOR	PUKEHUIA RD	6550	6678	128
2025/26	3	SECONDARY COLLECTOR	TANGOWAHINE VALLEY RD	1647	3205	1558
2025/26	2	ACCESS	MOUNTAIN RD	7666	7740	74
					2025/26 Total	**4333**
2026/27	3	SECONDARY COLLECTOR	POUTO RD	9708	9884	176
2026/27	3	SECONDARY COLLECTOR	POUTO RD	20942	23884	2942
					2026/27 Total	**3118**
					Grand Total	**12116**

Structural Component Replacement Programme (W/C 215)

Year	Location	Project	Hierarchy (ONRC)	Value
2024/2025	Pahi Road (310_1056)	Abutment replacement, instead of full repair	Secondary Collector	TBC
2024/2025	Tomarata Road (604_215)	Pile jacketing	Primary Collector	$215,000
2024/2025	PAPAROA OAKLEIGH Road (315_9406)	Abutments - Repair abutment backfill & concrete spalls elsewhere to protect the backfill. Needs design/retaining	Secondary Collector	$100,000
2024/2025	WAIHUE RD (269_26345)	Investigate options for outer spans (steel & timber). Construct revetments and address scouring under Pier C	Access	$519,000
2024/2025	Pukehuia Road (165_8637)	Investigate the cause of the failed wingwall (seems like the active pressure has exceeded the design demand) to abutment connection and then patch repair the failed area to protect the exposed steel. Backfill the cavities under the abutments and/or install scour protection	Access	$50,000
2025/2026	Pouto Road (163_32630)	Major concrete repairs	Secondary Collector	$173,000
2025/2026	Waoku Road (276_3435)	Replace deteriorating superstructure with similar design (use 4 beams).	Low Volume	$346,000
2025/2026	Te Kowhai Road (439_3846)	Pile jacketing of the worst piles.	Access	$173,000
2025/2026	Avoca Road (205_7177)	Further investigation required. Large cracking throughout.	Low Volume	$50,000
2025/2026	TAIPUHA STATION RD (436_2074)	Upgrade superstructure, deteriorated deck.	Low Volume	$519,000
2025/2026	Paradise Road (258_6574)	Wingwall replacement and scour works	Low Volume	$200,000
2026/2027	Shepherd Road (263_522)	Further investigation is to be carried out to design & build a new backwall	Low Volume	$75,000
2026/2027	Swamp Road (KDC) (434_1056)	Pile replacement & corrosion/painting treatment of beams	Access	TBC
2026/2027	ARANGA STATION RoaD (204_5696)	Investigate options for outer spans (steel & timber). Construct revetments and address scouring under Pier C.	Low Volume	$519,000
2026/2027	TE TONGA RoaD (910_330)	Confirm future use of the structures and whether it needs to be maintained or can be removed once deteriorated.	Secondary Collector	TBC

Structural Renewal Programme (W/C 216)

Year	Location	Project	Hierarchy (ONRC)	Value
2024/2025	Donnelys Station Road (196_246)	Bridge is 108 years old with deck replacement planned originally in 2027+. Due to age, whole bridge replacement should be considered.	Low Volume	$1,200,000
2024/2025	Bob Taylor Road (215_421)	No viable ford option. Existing timber piles end of life. (91years old) PVEoL	Low Volume	TBC
2025/2026	MAMARANUI RD (236_569)	Replace old steel & timber railway bridge, timber substructure. Deterioration favour replacement to repair/upgrade. From original 10 year plan, planned for 25/26.	Low Volume	$1,414,800
2026/2027	WAIMATENUI EAST Road (271_7547)	Replace corroding corrugated steel arch culvert. Previously lined, now beyond repair	Low Volume	$393,000

5.3.4 Moderated Continuous Funding Request for 2024-27

Kaipara Elected Members through their Long-Term Plan (LTP) process have selected to amend the funding requests to minimise their potential rates increase. A secondary feature of the amended funding request is deferral of some year 1 budget into years 2 and 3.

The final amended budget figures were agreed to be used in the LTP consultation and submitted into Transport Investment Online (TIO) for subsidy funding at Council LTP briefing meeting of 21st February 2024.

KDC Moderated Funding Request
Summary of Funding Request for 2021/2024

KDC Maintenance, Operations and Renewals		Dec'23 BID	Moderated BID - March 2024		
W/C	Description	2024/27 Requested Budget (Dec'23)	2024/27 Moderated Budget (Mar'24)	Moderated value	Comments
111	Sealed Pavement Maintenance	9,348,318	9,348,318	0	
112	Unsealed Pavement Maintenance	7,447,620	7,447,620	0	
113	Routine Drainage Maintenance	6,342,858	4,775,000	(1,567,858)	extend tiem to complete backlog of draiange dispatches
114	Structures Maintenance	2,922,714	1,200,000	(1,722,714)	An error in the original budget ($2M)
124	Cycleway Maintenance	59,805	59,805	0	
125	Footpath Maintenance	349,308	349,308	0	
140	Minor Events	438,095	438,095	0	
		26,908,718	**23,618,146**	**(3,290,572)**	
121	Environmental Maintenance	3,800,391	3,050,391	(750,000)	redcut dust suppresion by 50%
122	Network Services Maintenance	6,342,858	5,342,858	(1,000,000)	redcuce full remarking of road network to critical areas
123	Network Operations	385,740	385,740	0	
131	Level Crossing Warning Devices	150,010	150,010	0	
151	Network and Asset Management	12,795,000	12,795,000	0	
		23,473,999	**21,723,999**	**(1,750,000)**	
211	Unsealed Road Metalling	13,687,928	8,000,000	(5,687,928)	reduced work to match current produciton rates and extend roll out beyond 10 years
212	Sealed Road Resurfacing	16,261,906	11,001,000	(5,260,906)	Programme finetuned and savings on improvements in LoS (i.e. removed Asphalt)
213	Drainage Renewals	5,013,103	3,900,000	(1,113,103)	Recognised that renewals are more often improvements and will look to fund form alt. funding bucket
214	Sealed Road Pavement Rehabilitations	12,858,000	12,000,000	(858,000)	minor adjustments, any further decrease will increase maintenance costs
215	Structures Component Replacement	6,374,453	4,420,000	(1,954,453)	based on current spend plus escalation plus $250K in Yrs 2 & 3 for retaining walls
216	Bridge and Structures Renewals	9,450,000	17,000,000	7,550,000	budget based on 10/11 bridges (2/4/4). 350 bridge structures => 3,5 replacement per annum or 11 per 3 yr LTP
221	Environmental Renewals	0	0	0	
222	Traffic Services Renewals	810,476	810,476	0	
225	Footpath Renewals	232,872	232,872	0	
		64,688,738	**57,364,348**	**(7,324,390)**	
	TOTAL 3 YEAR BUDGET	**115,071,455**	**102,706,493**	**(12,364,962)**	

5.4 Whangarei District Continuous funding request 2024-2027

5.4.1 *Summary of Continuous funding request 2024-2027*

WDC Maintenance, Operations and Renewals

W/C	Description	2024/27 Requested Budget	2021/24 Approved Subsidy	Difference of 2021/24 vs 2024/27 Bids		Difference above 42.5% escalation	Comments
111	Sealed Pavement Maintenance	14,562,984	8,656,425	*5,906,559*	*68%*	2,227,578	Due to an increased reseal programme and an increase in preseal quantities, the preseal programme has been increased.
112	Unsealed Pavement Maintenance	8,539,857	5,088,887	*3,450,970*	*68%*	1,288,193	With the prediction of a dry summer there is a greater need for dust suppressions and wet roll & grade works.
113	Routine Drainage Maintenance	7,334,398	3,324,202	*4,010,196*	*121%*	2,597,410	There is a significant increase (backlog) in drainage maintenance dispatches which requires increased funding to resolve.
114	Structures Maintenance	2,602,172	1,538,982	*1,063,190*	*69%*	409,123	Minor increase required for retaining wall maintenace
121	Environmental Maintenance	4,996,420	2,935,625	*2,060,795*	*70%*	813,154	Increased costs for managing cleanfill sites and othe environemtal initiatives
122	Network Services Maintenance	8,201,425	5,232,539	*2,968,886*	*57%*	745,057	The increase is based upon a complete remarking of road marking (previously moderated in the previous bid due to significant increase in unit costs: price doubled so quantity halved)
123	Network Operations	4,908,347	3,139,524	*1,768,823*	*56%*	434,525	Increased costs for bascule bridge operations and traffic lights
124	Cycleway Maintenance	337,064	161,521	*175,543*	*109%*	106,897	Minor increase to cover the increase in cycle and shared path quantities.
125	Footpath Maintenance	1,750,707	718,287	*1,032,420*	*144%*	727,148	Increase to reinstate footpath maintnence back to required levels.
131	Level Crossing Warning Devices	244,920	184,678	*60,242*	*33%*	-18,246	No significant increase above escaltion
140	Minor Events	932,954	153,898	*779,056*	*506%*	713,649	Due to large number of historic events, many minor works are backlogged
151	Network and Asset Management	13,501,188	8,426,030	*5,075,158*	*60%*	1,494,095	There are now dedicated Bridge inspection and traffic counting contracts. Testing and survey costs have increased 50% and allowances have been made for strategy development and network modelling
211	Unsealed Road Metalling	11,567,751	6,333,071	*5,234,680*	*83%*	2,543,125	Budget assigned against network prioritization - CoE Model, with increased rates @ $25/m3 for compliant wearing course material.
212	Sealed Road Resurfacing	28,938,367	15,301,505	*13,636,862*	*89%*	7,133,722	Increase in quantities and costs are to cover the +15km p.a. backlog of chipseal and the +2km p.a. of TAC resurfacing, along with additioanl focus on old AC surfcaaing on arterial roads in Whanagrei.
213	Drainage Renewals	7,823,373	3,947,500	*3,875,873*	*98%*	2,198,186	Draiange renewals quantities revised to reflec average for last 6 years of reahbilitaitons
214	Sealed Road Pavement Rehabilitations	20,123,960	10,093,323	*10,030,637*	*99%*	5,740,975	Increase in quantities and costs to cover the +2.5km p.a. backlog of rehabilitations (generally rural with growing need for high value urban sites to be treated)
215	Structures Component Replacement	8,410,402	4,734,537	*3,675,865*	*78%*	1,663,687	Increase in component replacements required based upon network inspections and deteriorating bridges.
216	Bridge and Structures Renewals	12,479,254	5,041,854	*7,437,400*	*148%*	5,294,612	Significant programe to replage aging and significanlty corrorded armco corrugated culvert barrels.
221	Environmental Renewals	0	0	*0*		0	
222	Traffic Services Renewals	4,486,317	2,616,270	*1,870,047*	*71%*	758,132	Minor increase for renewal of traqffic signals to ensure efficiency
224	Cycle Path Renewals	0	0	*0*		0	
225	Footpath Renewals	4,057,797	1,323,525	*2,734,272*	*207%*	2,171,774	Increase for deteriorating footpaths and backlog of needed works primarily in urban Whangarei.
	TOTAL 3 YEAR BUDGET	**165,799,657**	**88,952,183**	***76,847,474***	***86.4%***		

5.4.2 Supporting Information for 2024-2027 funding bid

W/C	Description	2024/27 vs 2021/24 (Programme Difference)	Justification – WDC
111	Sealed Pavement Maintenance	+$9.6M	The increase in costs are primarily due escalation and estimated increases in new contract rates but it also covers the increase in pre-seal repairs. The increase in pre-seal repairs is due to two issues, firstly an increase in reseals due to a backlog that needs to be dealt with (refer to W/C_212), and secondly due to the storms of 2022/2023 which have exacerbated the deterioration of the road surfaces increasing the number of defects that require pre-sealing repairs.
112	Unsealed Pavement Maintenance	+$3.4M	The increase in costs is primarily due escalation and there has been a minor increase to allow for more dust suppression on roads with a dust risk score of 12 or more (using the NZTA General Circular 16/04 matrix). This allowance is to manage dusty roads which are currently creating health problems for local residents. The dust suppression also helps reduce the resident requests for sealing their roads. Should this work not be funded, there will be ongoing health issues for local residents due to PM10 dust emission, leading to complaints. Over time the use of Paige-Green compliant materials may reduce this demand, but there is always likely to be a need for some level of dust suppression on persistently dusty roads.
113	Routine Drainage Maintenance	+$4.0M	This significant increase is based upon the exponential increase in drainage dispatches that have accumulated during the last LTP period, combined with the increase in escalation. In brief the 2021/24 budget that was approved for drainage maintenance has been totally used up by the escalated lump sum activities and cyclic drainage activities resulting in no budget available for ordered drainage maintenance works. The drainage maintenance work identified as watertable maintenance, culvert maintenance and installation of subsoil drains is undertaken to help reduce water ingress into pavements. Water ingress causes premature failure as well as making the roads more susceptible to slips and flooding which are likely to be more frequent due to the impacts of climate change. The increase of open dispatches during 2021/24 has crept up from $8M to just under $10M. Based upon the current funding levels there is no available funding to reduce this deficit, putting our road network at risk. Our recommendation is to increase this work activity substantially to commence a programme to reduce the faults identified on the network.
114	Structures Maintenance	+$1.1M	There are two components of this increase, the first being the escalation and anticipated increase in maintenance contract rates in year 2, the second component cost is the increase in known retaining wall repairs and maintenance based off of dispatch history.
121	Environmental Maintenance	+$2.1M	This major component of this cost increase is primarily due to the increase in escalated rates. A minor adjustment has been made to deal with the increasing issues relating to the clean fil sites and other associated environmental initiatives.
122	Network Services Maintenance	+$2.9M	This cost increase is primarily due to increase the line marking quantities. The intent is to try and at least achieve one full annual line mark per annum (with some urban markings such as flush medians and parking being marked once every two years). Options such as long-life markings will continue to be investigated to see whether these can reduce ongoing line marking costs. The amount of line marking will be reviewed on urban roads and Access and Low Volume roads following previous NZTA Technical Audit and this may result in a reduction in the proposed budget. This needs to be weighed up against the need for good delineation in rural areas given that FNDC has is a High-Risk community for Death and Serious Casualties and for Rural Road Loss of Contract and/or Head On Crashes. FNDC also has an increasing trend of Death and Serious Injury crashes on all of its road classes except for Arterials, so reducing the level of delineation on rural routes may not be desirable as it may lead to further DSI crashes which is contrary to the Road to Zero strategy outcomes and the GPS Safety priority.
123	Network Operations	+$1.8M	This cost increase is primarily due to the cost escalation of the prior rates, but a small proportion is for the increase in maintenance needs for the bascule lifting bridge in Whangārei and some aging traffic light systems.
151	Network and Asset Management	+$5.1M	Through the continued development of the NTA there have been several new staff employed by WDC. While some of these positions replace vacant staff positions from previous staff leaving many are new positions. For a budgeting perspective the basis for the staff component has been based off the average staff costs for the prior two years. As part of the Asset Management Improvement activities a 3-year professional services contract for the Bridge inspections, Asset management and HPMV and overweight permits was awarded in October 2023. This has increased the costs that were previously budgeted for by up to $600k p.a. An increase of $150k over 3-years has been allowed for our pavement strength testing and High-Speed Data collection. Other budgetary allowance has been made for our RAMM / MAX / JunoViewer licenses ($100Kp.a.), Strategies and support ($100K p.a.) Network Modelling and Forward Works Programme

W/C	Description	2024/27 vs 2021/24 (Programme Difference)	Justification – WDC
			management (100K p.a.) Crash Reduction studies, investigations ($100k p.a.) and Traffic model maintenance ($15k p.a.)
211	Unsealed Road Metaling	+$5.2M	This increase is due to the cost escalation and new anticipated maintenance cost rates on the continued implementation of the Unsealed Road Centre of Excellence being developed by the NTA. This is to implement Paige-Green compliant wearing courses and provide adequate pavement strength for the loading. This will see an increase in renewal costs (wearing courses and heavy metaling), but a decrease in maintenance costs over time (less inspections, grading and pothole patching/spot metaling). The overall cost profile for WDC over the next 30 years is shown in Appendix 2 (Unsealed Roads) Figure 3-10 (current approach versus Centre of Excellence). Figure 3-10 indicates the overall long term cost profile for implementing the Centre of Excellence is almost identical to the current maintenance practices. However, there will be significant Level of Service gains resulting from this change as described below. This indicates that the overall long term cost profile for implementing the Centre of Excellence is almost identical to the current maintenance practices. However, there will be significant Level of Service gains resulting from this change as described below: • Improved and more stable pavement condition (less corrugations and potholes) • Enables a move from a reactive to a proactive maintenance regime • Less susceptibility to weather impacts (this was demonstrated for the Kaipara roads during and after the significant storm events of 2022/23, as they performed very well with minimal repairs required.) • Lower dust generation which will reduce health impacts to residents and demands for dust suppression and seal extensions • Improved overall user and resident satisfaction The savings in maintenance costs will be realised by converting the current lump sum rates for grading and unsealed pothole patching into measure and value rates at the first maintenance contract roll-over in 2022. Options to accelerate or slow the roll out of the Centre of Excellence programme have also been considered. Accelerating the programme (to say a 5-year roll-out) would result in a higher upfront renewal cost which would be even less affordable to NZTA, and this is not warranted based on the available forestry harvest information. Slowing the programme (to say a 15-year roll-out) would result in only 2/3rds of the Band 3 and Band 2 Commercial length being achieved before the 10-year life of these roads is reached which would then require another round of treatment. This would reduce the renewal cost but only achieve 2/3rds of the maintenance savings on these high-risk roads. A way to get around this problem would be to design the 'rebuild' roads to last 15 years so that the full maintenance savings on these roads can be achieved. This would require a higher upfront renewal cost for the extra metal depth which would mostly negate the savings from the longer programme. In addition, the Forestry Strategy is indicating harvest forecasts which would suit a 10-year cycle. Using a 15-year cycle would mean that about half of these high-risk roads would be untreated when the harvest is undertaken, leading to a risk of much higher maintenance costs due to pavement failure than even the current maintenance practice would achieve. It would also result in these logging routes being subject to more failures which would not achieve the GPS priority of Improving Freight Connections. From the above assessment, the proposed 10-year programme for rebuild sites appears to be the right timing based on the forecast harvest and best balances the additional cost of the renewal's vs the risk of higher maintenance costs caused by pavement failure of these high-risk roads.
212	Sealed Road Resurfacing	+$13.6	The significant increase, which nearly doubles the three-year funding bid is due to the escalation of the bids as previously discussed in combination of dealing with a growing backlog of reseals and TAC. To overcome this backlog the proposed plan is to undertake an additional 15Km per annum of Reseals and an additional 2km of TAC per annum. While this will not completely alleviate the growing challenge it will address in significant manner the growing issue. It is worth noting that based upon our predictive modelling, "The range of Optimal Model scenarios 10-year and 20-year average annual chip sealing (RSEAL plus 2ndCoat) is 72 to 75 km ($3.6 to $3.8 million). The reseal quantities reached a steady level (where there is diminishing additional quantities with increased funding) at the Low scenario funding level. The reseal treatment is a priority because it offers asset preservation and some improvement (when required) at the most economic price. A suggested 72 to 75 km is 7.2% to 7.5% of the chipseal network length per year. This amount is less than the past 5 years achievement. The historic backlog of void fill/texturizing seals and second coat seal need has been adequately addressed in recent years. An amount at the higher end of the suggested range will be

W/C	Description	2024/27 vs 2021/24 (Programme Difference)	Justification – WDC
			needed in the future to ensure future second coat seals are catered for, and the age-based backlog quantity does not grow and become unmanageable. The average of the suggested range (73.5 km/year) will result in a chipseal life cycle of 13.6 years. The suggested amount of chipseal treatments is affordable at the current budget of $9.06 million." These surfacing's are now in a condition where resurfacing is really the only viable option left and is required to maintain waterproofing on these high stress seals. If this work is not undertaken, there is the very real risk of the pavements failing due to excessive water ingress leading to very expensive urban rehabilitations.
213	Drainage Renewals	+$3.9M	With reference to the backlog of drainage maintenance, a similar scenario has developed with the drainage renewals and over double the prior budget is being requested to deal with the cost of escalations and the growing number of drainage renewals that are annually undertaken. Historically the quantities are based on the average for the last six years of drainage renewals undertaken when rehabilitations are done.
214	Sealed Road Pavement Rehabilitation	+$10.0M	The increase in costs is for the cost escalations and for the increase in backlog of rehabilitations of +2.5km per annum. If this can be achieved, it will result in a pavement base life cycle of 153 years (ref Pavement performance analysis 2023/24)
215	Structures Component Replacement	+$3.7M	The costs included in this work category are the bridge structure component replacement programme, which is based upon the identified faults noted from the bridge inspections, the retaining walls component replacements, which is identified off dispatches.
216	Bridge and Structures Renewals	+$7.4M	As with the structure component replacement work code, the Bridge and Structures renewals are based off inspections and dispatches. Details of the proposed bridge renewal programme is included in the sext section. There is a growing backlog of bridge renewals due to significant historical underfunding of bridge maintenance and renewals and an increasing ageing corroded Armco pipe culvert challenge resulting in an increase of culver renewals.
222	Traffic Services Renewals	+$1.9M	The predominant increase is due to escalation and the proposed maintenance rates increase in years 2. There is a slight increase in quantities to cater for the renewal of a few traffic signals to ensure efficiency for signalization at intersections in Whangarei.
225	Footpath Renewals	+$2.7M	There is growing backlog of deteriorating footpaths in urban Whangarei that required renewals.

5.4.3 Draft Programmes for Roads and Structures

WDC - Thin Asphalt

Forward Work Year	Class Code	ONRC	Road Name	Start m	End m	Total (m)
2024/25	5	ARTERIAL	BANK ST	128	170	42
2024/25	5	ARTERIAL	BANK ST	170	395	225
2024/25	5	ARTERIAL	BANK ST	395	600	205
2024/25	5	ARTERIAL	KIRIPAKA RD	1684	1854	170
2024/25	5	ARTERIAL	OKARA DR	0	60	60
2024/25	5	ARTERIAL	POROWINI AVE	82	196	114
2024/25	5	ARTERIAL	PORT RD	0	25	25
2024/25	5	ARTERIAL	RAB BANK/DENT ST	0	50	50
2024/25	5	ARTERIAL	RAB OKARA DR/PORT RD	0	83	83
2024/25	5	ARTERIAL	RAB REYBURN ST/OKARA DR/HEREKINO ST	0	72	72
2024/25	4	PRIMARY COLLECTOR	CARRUTH ST	0	180	180
2024/25	4	PRIMARY COLLECTOR	CARRUTH ST	180	309	129
2024/25	4	PRIMARY COLLECTOR	MARUA RD	3558	3568	10
2024/25	4	PRIMARY COLLECTOR	MARUA RD	3784	3800	16
2024/25	4	PRIMARY COLLECTOR	MATAPOURI RD	3361	3457	96
2024/25	4	PRIMARY COLLECTOR	MATAPOURI RD	3585	3750	165
2024/25	4	PRIMARY COLLECTOR	PATAUA NORTH RD	5806	5860	54
2024/25	4	PRIMARY COLLECTOR	PATAUA NORTH RD	6622	6713	91
2024/25	4	PRIMARY COLLECTOR	PATAUA NORTH RD	7615	7701	86
2024/25	3	SECONDARY COLLECTOR	CAIRNFIELD RD	490	506	16
2024/25	3	SECONDARY COLLECTOR	CAIRNFIELD RD	506	546	40
2024/25	3	SECONDARY COLLECTOR	KEYTE ST	318	323	5
2024/25	3	SECONDARY COLLECTOR	LAURIE HALL LANE	0	92	92
2024/25	3	SECONDARY COLLECTOR	NGUNGURU FORD RD	1620	1675	55
2024/25	3	SECONDARY COLLECTOR	PARK AVE	678	694	16
2024/25	3	SECONDARY COLLECTOR	RAB FAIRWAY DR/TE PUIA ST	0	59	59
2024/25	3	SECONDARY COLLECTOR	RAB KEYTE ST/CURTIS ST	0	30	30
2024/25	3	SECONDARY COLLECTOR	RURUMOKI ST	0	216	216
2024/25	3	SECONDARY COLLECTOR	RUSSELL RD (CTL)	14252	14595	343
2024/25	3	SECONDARY COLLECTOR	RUSSELL RD (CTL)	14990	15020	30
2024/25	3	SECONDARY COLLECTOR	RUSSELL RD (CTL)	15290	15324	34
2024/25	3	SECONDARY COLLECTOR	RUSSELL RD (CTL)	15990	16026	36
2024/25	3	SECONDARY COLLECTOR	RUSSELL RD (CTL)	16277	16304	27
2024/25	3	SECONDARY COLLECTOR	RUSSELL RD (CTL)	16557	16593	36
2024/25	3	SECONDARY COLLECTOR	RUSSELL RD (CTL)	16693	16750	57
2024/25	3	SECONDARY COLLECTOR	RUSSELL RD (CTL)	16895	16914	19
2024/25	3	SECONDARY COLLECTOR	TE PUIA ST	350	356	6
2024/25	3	SECONDARY COLLECTOR	WRIGHT RD	2913	2972	59
2024/25	2	ACCESS	KAIATEA RD	4715	4760	45
2024/25	2	ACCESS	RAB BALMACEWAN DR	0	197	197
2024/25	2	ACCESS	RAB BREAM BAY DR/SURFSIDE LANE	0	54	54
2024/25	2	ACCESS	SEACREST BLVD	0	340	340
2024/25	1	LOW VOLUME	BOOTMAKER AVE	0	135	135
2024/25	1	LOW VOLUME	BRENTWOOD AVE	235	256	21
2024/25	1	LOW VOLUME	FARMERS SERVICE LANE	0	29	29
2024/25	1	LOW VOLUME	GEORGIA LANE	0	242	242
2024/25	1	LOW VOLUME	HALCYON PL	0	95	95
2024/25	1	LOW VOLUME	HALCYON PL	95	157	62
2024/25	1	LOW VOLUME	KINGSWOOD PL	0	46	46
2024/25	1	LOW VOLUME	KINGSWOOD PL	46	81	35
2024/25	1	LOW VOLUME	KINGSWOOD PL DECREASE	46	80	34
2024/25	1	LOW VOLUME	LANG RD	137	400	263
2024/25	1	LOW VOLUME	MOA PL	45	72	27
2024/25	1	LOW VOLUME	NOONE CL	75	90	15
2024/25	1	LOW VOLUME	RAB KARO ST/FLAX ST	0	40	40
2024/25	1	LOW VOLUME	RAB KARO ST/WEKA ST	0	40	40
2024/25	1	LOW VOLUME	RUST AVE SERVICE LANE	0	38	38
2024/25	1	LOW VOLUME	STATION RD SERVICE LANE	0	46	46
2024/25	1	LOW VOLUME	STATION RD SERVICE LANE	46	83	37
2024/25	1	LOW VOLUME	WILLOW PL	85	110	25
					2024/25 Total	**4915**

WDC - Thin Asphalt (cont.)

Forward Work Year	Class Code	ONRC	Road Name	Start m	End m	Total (m)
2025/26	5	ARTERIAL	CAMERON ST	239	352	113
2025/26	5	ARTERIAL	CENTRAL AVE	0	21	21
2025/26	5	ARTERIAL	CENTRAL AVE	350	475	125
2025/26	5	ARTERIAL	CHURCH ST	0	20	20
2025/26	5	ARTERIAL	DENT ST	0	12	12
2025/26	5	ARTERIAL	DENT ST	441	588	147
2025/26	5	ARTERIAL	DENT ST	588	652	64
2025/26	5	ARTERIAL	GREAT NORTH RD	0	70	70
2025/26	5	ARTERIAL	GREAT NORTH RD	77	104	27
2025/26	5	ARTERIAL	JAMES ST	70	152	82
2025/26	5	ARTERIAL	JAMES ST	168	170	2
2025/26	5	ARTERIAL	JAMES ST	170	337	167
2025/26	5	ARTERIAL	JOHN ST	0	152	152
2025/26	5	ARTERIAL	JOHN ST	172	346	174
2025/26	5	ARTERIAL	KAMO RD	920	1830	910
2025/26	5	ARTERIAL	KAMO RD	1830	1930	100
2025/26	5	ARTERIAL	KAMO RD	2020	2094	74
2025/26	5	ARTERIAL	KAMO RD	2094	2247	153
2025/26	5	ARTERIAL	KAMO RD	4806	5084	278
2025/26	5	ARTERIAL	KAMO RD	5084	5112	28
2025/26	5	ARTERIAL	KAMO RD	5112	5256	144
2025/26	5	ARTERIAL	KIRIPAKA RD	0	50	50
2025/26	5	ARTERIAL	MAUNU RD	0	22	22
2025/26	5	ARTERIAL	MILL RD	615	737	122
2025/26	5	ARTERIAL	MILL RD	737	852	115
2025/26	5	ARTERIAL	MILL RD	1330	1390	60
2025/26	5	ARTERIAL	ONERAHI RD	1968	1985	17
2025/26	5	ARTERIAL	PIPIWAI RD CTRL	0	18	18
2025/26	5	ARTERIAL	PORT RD	985	1143	158
2025/26	5	ARTERIAL	PORT RD	1182	1288	106
2025/26	5	ARTERIAL	RAB DENT ST/REYBURN ST/CARRUTH ST/LOWER DENT ST	0	96	96
2025/26	5	ARTERIAL	RAB JAMES ST/ROBERT ST	0	30	30
2025/26	5	ARTERIAL	RAB JOHN ST/ROBERT ST	0	30	30
2025/26	5	ARTERIAL	RAB KAMO RD/GREAT NORTH RD/PIPIWAI RD/SPRINGS FLAT RD	0	52	52
2025/26	5	ARTERIAL	RAB ONERAHI RD/WHANGAREI HEADS RD/CHURCH ST	0	59	59
2025/26	5	ARTERIAL	REYBURN ST	0	113	113
2025/26	5	ARTERIAL	REYBURN ST	152	214	62
2025/26	5	ARTERIAL	REYBURN ST	214	275	61
2025/26	5	ARTERIAL	REYBURN ST	275	374	99
2025/26	5	ARTERIAL	ROBERT ST	0	184	184
2025/26	5	ARTERIAL	ROBERT ST	200	262	62
2025/26	5	ARTERIAL	ROBERT ST	282	330	48
2025/26	5	ARTERIAL	TAREWA RD	860	918	58
2025/26	5	ARTERIAL	WAIATAWA RD	0	344	344
2025/26	5	ARTERIAL	WAIATAWA RD	344	461	117
2025/26	5	ARTERIAL	WHANGAREI HEADS RD CTRL	0	20	20
2025/26	5	ARTERIAL	WHAU VALLEY RD	0	50	50
2025/26	4	PRIMARY COLLECTOR	LOWER DENT ST	0	38	38
2025/26	3	SECONDARY COLLECTOR	ALEXANDER ST	0	15	15
2025/26	3	SECONDARY COLLECTOR	ALEXANDER ST	15	115	100
2025/26	3	SECONDARY COLLECTOR	CEMETERY RD	3510	3584	74
2025/26	3	SECONDARY COLLECTOR	FINLAYSON ST	0	25	25
2025/26	3	SECONDARY COLLECTOR	KEYTE ST	0	12	12
2025/26	3	SECONDARY COLLECTOR	KING ST	0	16	16
2025/26	3	SECONDARY COLLECTOR	MAINS AVE	0	26	26
2025/26	3	SECONDARY COLLECTOR	MAINS AVE	736	764	28
2025/26	3	SECONDARY COLLECTOR	MURDOCH CRES	20	65	45
2025/26	3	SECONDARY COLLECTOR	PERCY ST	0	23	23
2025/26	3	SECONDARY COLLECTOR	WHAREORA RD CTRL	209	362	153
2025/26	3	SECONDARY COLLECTOR	WHAREORA RD NTH	6415	6454	39
2025/26	2	ACCESS	MOODY AVE	0	14	14
2025/26	2	ACCESS	SIMONS ST	0	15	15
2025/26	2	ACCESS	TAWHAI PL	413	653	240
2025/26	2	ACCESS	TOWN HALL SERVICE LANE	0	91	91
2025/26	1	LOW VOLUME	AARTS PL	0	82	82
2025/26	1	LOW VOLUME	AARTS PL	82	146	64
2025/26	1	LOW VOLUME	ALBERT ST SERVICE LANE	0	120	120
2025/26	1	LOW VOLUME	BUTTER FACTORY LANE	0	161	161
2025/26	1	LOW VOLUME	ELGIN PL	128	153	25
2025/26	1	LOW VOLUME	HOME CENTRE SERVICE LANE	0	44	44
2025/26	1	LOW VOLUME	OXFORD AVE	0	66	66
2025/26	1	LOW VOLUME	RAUPO PL	74	96	22
2025/26	1	LOW VOLUME	ST ANDREWS PL	0	83	83
2025/26	1	LOW VOLUME	ZEALANDIA ST	0	16	16
					2025/26 Total	**6653**

WDC - Thin Asphalt (cont.)

Forward Work Year	Class Code	ONRC	Road Name	Start m	End m	Total (m)
2026/27	5	ARTERIAL	CAMERON ST	0	22	22
2026/27	5	ARTERIAL	KAMO RD	2247	2757	510
2026/27	5	ARTERIAL	KAMO RD	2757	2914	157
2026/27	5	ARTERIAL	MAUNU RD	680	820	140
2026/27	5	ARTERIAL	NGUNGURU RD NTH	15885	15922	37
2026/27	5	ARTERIAL	NGUNGURU RD NTH	16322	16372	50
2026/27	5	ARTERIAL	NIXON ST	205	322	117
2026/27	5	ARTERIAL	NIXON ST	322	493	171
2026/27	5	ARTERIAL	NIXON ST	493	545	52
2026/27	5	ARTERIAL	PUNA RERE DR	0	180	180
2026/27	5	ARTERIAL	PUNA RERE DR	784	1214	430
2026/27	5	ARTERIAL	PUNA RERE DR	1214	1276	62
2026/27	5	ARTERIAL	RAB PUNA RERE DR/SPEDDING RD/DENBY CRES	0	56	56
2026/27	5	ARTERIAL	REWA REWA RD	627	827	200
2026/27	5	ARTERIAL	RUST AVE	0	22	22
2026/27	5	ARTERIAL	RUST AVE	22	384	362
2026/27	5	ARTERIAL	SELWYN AVE	20	76	56
2026/27	5	ARTERIAL	SELWYN AVE	76	160	84
2026/27	5	ARTERIAL	STATION RD	1271	1308	37
2026/27	5	ARTERIAL	WATER ST	0	22	22
2026/27	5	ARTERIAL	WATER ST	22	43	21
2026/27	4	PRIMARY COLLECTOR	MANSE ST	835	857	22
2026/27	4	PRIMARY COLLECTOR	RAUIRI DR	0	645	645
2026/27	3	SECONDARY COLLECTOR	AUBREY ST	0	17	17
2026/27	3	SECONDARY COLLECTOR	GUMDIGGER PL	390	441	51
2026/27	3	SECONDARY COLLECTOR	GUMDIGGER PL	441	456	15
2026/27	3	SECONDARY COLLECTOR	HEREKINO ST	0	434	434
2026/27	3	SECONDARY COLLECTOR	HUNT ST	15	214	199
2026/27	3	SECONDARY COLLECTOR	MAIR RD	117	144	27
2026/27	3	SECONDARY COLLECTOR	MAIR RD	411	438	27
2026/27	3	SECONDARY COLLECTOR	NORFOLK ST	150	185	35
2026/27	3	SECONDARY COLLECTOR	POMPALLIER ESTATE DR	0	590	590
2026/27	3	SECONDARY COLLECTOR	RALPH TRIMMER DR	416	598	182
2026/27	3	SECONDARY COLLECTOR	WRACK ST	0	15	15
2026/27	2	ACCESS	CLARK RD SERVICE LANE NO. 1	0	258	258
2026/27	2	ACCESS	CLARK RD SERVICE LANE NO. 2	0	90	90
2026/27	2	ACCESS	OTAIKA RD	86	101	15
2026/27	2	ACCESS	RAB PEBBLE BEACH BLVD/PROVISIONAL DR	0	63	63
2026/27	2	ACCESS	TANIA PL	0	120	120
2026/27	2	ACCESS	TARANGA RD	119	335	216
2026/27	2	ACCESS	VINERY LANE	0	124	124
2026/27	1	LOW VOLUME	CLARK RD SERVICE LANE NO. 3	0	47	47
2026/27	1	LOW VOLUME	HALL AVE	0	137	137
2026/27	1	LOW VOLUME	JAMES ST SERVICE LANE NO.2	0	40	40
2026/27	1	LOW VOLUME	MARSDEN BAY DR	1556	1582	26
2026/27	1	LOW VOLUME	ONE TREE POINT RD	8347	8418	71
2026/27	1	LOW VOLUME	RAB CASEY RD/THEODORE DR	0	48	48
2026/27	1	LOW VOLUME	RAB CASEY RD/WAIWARAWARA DR	0	48	48
2026/27	1	LOW VOLUME	RAB ROOSEVELT RD/THEODORE DR	0	48	48
2026/27	1	LOW VOLUME	RAB WAIWARAWARA DR/THEODORE DR	0	48	48
					2026/27 Total	**6446**
					Grand Total	**18014**

WDC - Rehabilitation

Forward Work Year	Class Code	ONRC	Road Name	Start m	End m	Total (m)
2024/25	5	ARTERIAL	KIOREROA RD	1142	1700	558
2024/25	5	ARTERIAL	PIPIWAI RD CTRL	18	580	562
2024/25	5	ARTERIAL	PIPIWAI RD CTRL	580	867	287
2024/25	4	PRIMARY COLLECTOR	APOTU RD	0	269	269
2024/25	4	PRIMARY COLLECTOR	APOTU RD	269	879	610
2024/25	4	PRIMARY COLLECTOR	THREE MILE BUSH RD STH	47	608	561
2024/25	3	SECONDARY COLLECTOR	MCCARDLE RD	300	1200	900
2024/25	3	SECONDARY COLLECTOR	RAUMANGA VALLEY RD	145	540	395
2024/25	3	SECONDARY COLLECTOR	WAIOTIRA RD	5857	6206	349
2024/25	3	SECONDARY COLLECTOR	WHAREORA RD CTRL	390	1050	660
2024/25	3	SECONDARY COLLECTOR	WHAREORA RD NTH	7510	7700	190
2024/25	2	ACCESS	FLYGER RD	0	86	86
2024/25	2	ACCESS	FLYGER RD	110	235	125
					2024/25 Total	**5552**
2025/26	5	ARTERIAL	PIPIWAI RD NTH	1781	1865	84
2025/26	5	ARTERIAL	PIPIWAI RD NTH	1865	2900	1035
2025/26	5	ARTERIAL	PIPIWAI RD NTH	2900	3257	357
2025/26	5	ARTERIAL	PIPIWAI RD NTH	3770	4230	460
2025/26	4	PRIMARY COLLECTOR	MANGAPAI RD	140	845	705
2025/26	4	PRIMARY COLLECTOR	PATAUA NORTH RD	16400	16863	463
2025/26	4	PRIMARY COLLECTOR	THREE MILE BUSH RD STH	2397	3432	1035
2025/26	3	SECONDARY COLLECTOR	JORDAN VALLEY RD	1866	2227	361
2025/26	3	SECONDARY COLLECTOR	JORDAN VALLEY RD	2227	2886	659
2025/26	3	SECONDARY COLLECTOR	JORDAN VALLEY RD	2886	3143	257
2025/26	3	SECONDARY COLLECTOR	PIPIWAI RD NTH	15177	15572	395
2025/26	3	SECONDARY COLLECTOR	PIPIWAI RD NTH	15572	16037	465
2025/26	3	SECONDARY COLLECTOR	PORT RD	2506	3296	790
2025/26	3	SECONDARY COLLECTOR	WAIOTIRA RD	9188	9642	454
2025/26	3	SECONDARY COLLECTOR	WAIOTIRA RD	9642	10889	1247
					2025/26 Total	**8767**
2026/27	5	ARTERIAL	PUNA RERE DR	180	784	604
2026/27	4	PRIMARY COLLECTOR	NOVA SCOTIA DR	319	1095	776
2026/27	4	PRIMARY COLLECTOR	RUAKAKA BEACH RD	145	253	108
2026/27	4	PRIMARY COLLECTOR	RUAKAKA BEACH RD	265	456	191
2026/27	3	SECONDARY COLLECTOR	PIPIWAI RD NTH	24119	24950	831
2026/27	3	SECONDARY COLLECTOR	PIPIWAI RD NTH	24950	25378	428
2026/27	3	SECONDARY COLLECTOR	RUAKAKA BEACH RD	456	835	379
2026/27	3	SECONDARY COLLECTOR	RUAKAKA BEACH RD	870	1275	405
2026/27	3	SECONDARY COLLECTOR	WAIOTIRA RD	1978	2700	722
2026/27	3	SECONDARY COLLECTOR	WAIOTIRA RD	2700	3238	538
2026/27	2	ACCESS	MCGILL RD	0	24	24
2026/27	2	ACCESS	MCGILL RD	24	124	100
2026/27	2	ACCESS	MCGILL RD	124	182	58
2026/27	2	ACCESS	MCGILL RD	182	650	468
2026/27	2	ACCESS	TAIPUHA RD	2598	2963	365
2026/27	2	ACCESS	WHATITIRI RD	3023	4500	1477
2026/27	2	ACCESS	WHATITIRI RD	4500	4856	356
					2026/27 Total	**7830**
					Grand Total	**22149**

Structural Component Replacement Programme (W/C 215)				
Year	**Location**	**Project**	**Hierarchy (ONRC)**	**Value**
2024/2025	**Mcbeth Road (194)**	Deck replacement	Access	$340,000
2024/2025	**Ngahau Bay Road (448)**	Replace substructure	Low Volume	$400,000
2024/2025	**Rosythe Road (559)**	TBD, this may become whole bridge replacement or improvement to allow heavy vehicles	Secondary Collector	TBC
2024/2025	**Waipu Caves Road (106)**	Deck replacement, patch painting	Low Volume	$880,000
2024/2025	**Nova Scotia Bridge (102)**	Pile jacketing (prestressed) of 12 piles	Arterial	$800,000
2024/2025	**Kershaw Road (282)**	Diaphragms and beam refurbishment.	Low Volume	$400,000
2024/2025	**Cove Road (53)**	Major guardrail replacement	Primary Collector	$160,000
2025/2026	**Cove Road (57)**	Major Pier Repairs	Primary Collector	$302,750
2025/2026	**NOVA SCOTIA Drive (606)**	Pile Jacketing to remaining unjacketed piles.	Primary Collector	$600,000
2025/2026	**The Centre (607)**	Pile Jacketing of another 8-10 piles.	Primary Collector	$294,100
2025/2026	**RAILWAY Road (710)**	Pile Jacketing of another 3-5 piles.	Primary Collector	$103,800
2025/2026	**GLENMOHR Road (75)**	Repaint of entire structure	Secondary Collector	$75,000
2026/2027	**RUAKAKA BEACH Road (102)**	Repaint of entire structure	Arterial	$160,000
2026/2027	**HAYWARD Road (131)**	Replace Abutments, Deck and Piers	Low Volume	$535,750
2026/2027	**PUKETITOI Road (474)**	Diaphragms. Beam refurb	Access	$147,050
2026/2027	**LOWER TAREWA Road (711)**	Major Pier Repairs/Jacketing	Arterial	$147,050
2026/2027	**MILLBROOK ROAD (78)**	Concrete deck replacement	Access	$605,500
2026/2027	**RIVERSIDE DRIVE (836)**	Pile Jacketing of 3 piles	Arterial	$129,750
2026/2027	**Brooks Road (76)**	Repaint or coating of entire structure	Access	$75,000
2026/2027	**DOCTORS HILL Road (557)**	Repaint or coating of entire structure	Secondary Collector	$75,000
2026/2027	**DOCTORS HILL Road (558)**	Repaint or coating of entire super structure & investigate integrity of beam ends, cut out and replace sections as necessary	Secondary Collector	$150,000
2026/2027	**WILSON Road (115)**	Treat areas of corrosion and repaint entire steel superstructure	Access	$220,000
2026/2027	**LOVELL Road (284)**	Abutments. Beam refurb. Diaphragms.	Access	$259,500
2026/2027	**ARARUA Road (166)**	Major Concrete Deck Repairs	Low Volume	$224,900
2026/2027	**EDGE Road (431)**	Abutments. Beam refurb	Low Volume	$207,600
2026/2027	**MCINNES Road (424)**	Beam refurb. HD Bolts. Diaphragms. Spiking pieces. Abutments	Low Volume	$224,900
2026/2027	**RIVERSIDE Drive (705)**	Major Pier Repairs	Arterial	$147,050
2026/2027	**SP CANOPY BRIDGE (PARKS) (704)**	Major Pier Repairs	N/A	$190,300
2026/2027	**PORT Road (707)**	Major Pier Repairs/Jacketing	Arterial	$285,450
2026/2027	**WHANANAKI NORTH Road (497)**	Pile Jacketing of all 4 piles	Secondary Collector	$147,050

Structural Renewal Programme (W/C 216)				
Year	**Location**	**Project**	**Hierarchy (ONRC)**	**Value**
2024/2025	**White road culvert (555)**	Culvert steel shell corroding under lining. Replace with concrete box culvert.	Low Volume	$560,000
2024/2025	**PEACH ORCHARD Road (442)**	Replace older deteriorating structure	Access	$504,350
2024/2025	**MURRAY Road (240)**	Culvert steel shell corroding under lining. Replace culvert.	Secondary Collector	$360,250
2024/2025	**VINEGAR HILL Road NTH (528)**	Culvert steel shell corroding under lining. Replace culvert.	Primary Collector	$360,250
2024/2025	**PUKETITOI Road (472)**	Culvert steel shell corroding under lining. Replace culvert.	Access	$432,300
2024/2025	**BINT Road (189)**	Culvert steel shell corroding under lining. Replace culvert.	Access	$432,300
2025/2026	**MOUNTFIELD Road (85)**	Culvert steel shell corroding under lining. Replace culvert	Access	$432,300
2025/2026	**TAIPUHA Road (159)**	Culvert steel shell corroding under lining. Replace culvert.	Access	$360,250
2025/2026	**PATAUA SOUTH Road (F383)**	Piers of the structure deteriorating at the very fast pace. Replace the structure.	Primary Collector	$2,500,000
2025/2026	**OTAKAIRANGI Road (480)**	Culvert steel shell corroding under lining. Replace culvert.	Access	$432,300
2025/2026	**GRAHAM Road (123)**	Culvert steel shell corroding under lining. Replace culvert.	Access	$360,250
2025/2026	**MANGAPAI CAVES Road (128)**	Culvert steel shell corroding under lining. Replace culvert.	Access	$360,250
2026/2027	**WAIPU CAVES Road (107)**	Culvert steel shell corroding under lining. Replace culvert.	Access	$360,250
2026/2027	**MORGAN Road (469)**	Bridge steel superstructure is under water most of the time. Replace structure	Low Volume	$504,350
2026/2027	**NGAHAU BAY Road (449)**	Replace older deteriorating abutments or the entire structure (with culvert)	Low Volume	$504,350
2026/2027	**PAIAKA Road (564)**	Culvert steel shell corroding under lining. Replace culvert.	Access	$330,000
2026/2027	**ODY Road (14)**	Culvert steel shell corroding under lining. Replace culvert.	Low Volume	$360,250
2026/2027	**PATAUA NORTH Road (B386)**	Culvert steel shell corroding under lining. Replace culvert.	Primary Collector	$360,250

Northland Transportation Alliance

Transportation Activity Management Plan 2024–2054

Section 6 – Improvement Programme

Northland Transportation Alliance

Transportation Activity Management Plan 2024–2054

Section 6

Improvement Programme

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6 Improvement Programme of works

6.1 Overview

The focus of this activity management plan is on recovery and reinstating the roads to the desired levels of service expected, while consideration for new design standards is incorporated.

The improvement programmes for the three council districts have been identified in the separate Appendices, collated, and presented to Council for inclusion in their respective Long-Term Plans.

Briefings and moderation with elected council members is a process which will continue up to April/May 2024 with public consultation prior to their final approval of their Long-Term plans. For this reason, the programmes of works listed in the following tables are DRAFT as originally identified through our planning process.

6.2 Far North District Improvement Funding Request 2024-2027

6.2.1 Summary of FNDC Improvement Funding Request 2024-2027

FNDC Low Cost - Low Risk Improvement Plan

W/C	Description	2024/25	2025/26	2026/27	2024/27 Requested Budget
341	**Local road improvements**				
	50MAX/HPMV Bridge Resilience	2,500,000	2,500,000	2,500,000	7,500,000
	Associated Improvements	480,000	480,000	480,000	1,440,000
	Kerikeri Road Network Projects - Hobson Road RAB	100,000	100,000	0	200,000
	Local Area Traffic Management (LATM)	0	0	0	0
	New Streetlighting programme - P Cat	398,647	797,294	797,294	1,993,235
	New Streetlighting programme - V Cat	0	0	0	0
	Resilience Improvements	0	4,000,000	4,000,000	8,000,000
	Resilience Improvements Pavement Rehabilitation	430,345	430,927	545,630	1,406,902
	Road Widening	50,000	1,050,000	300,000	1,400,000
	RtZ - High Risk Rural Intersection (HRRI)	0	0	400,000	400,000
	RtZ - High Risk Rural Roads (HRRR)	450,000	2,000,000	2,170,000	4,620,000
	RtZ - High Risk Urban Intersection (HRUI)	0	0	100,000	100,000
	RtZ - Pedestrian Improvements	1,300,000	560,000	0	1,860,000
	Safety - High Risk Rural Roads (HRRR)	0	0	0	0
	Safety - Intersection Improvements	1,800,000	0	0	1,800,000
	Safety - Pedestrian Improvements	0	0	0	0
	Safety - Speed Management	1,385,000	625,000	585,000	2,595,000
	Seal Extensions - Bridge Approach and Intersection seals	300,000	300,000	300,000	900,000
	Stock Effluent Disposal	100,000	400,000	500,000	1,000,000
	Streetlight Infill programme - P Cat	720,160	1,440,319	1,440,319	3,600,798
	Streetlight Infill programme - V Cat	888,409	1,776,819	1,776,819	4,442,047
	Traction Seals	600,000	600,000	600,000	1,800,000
	Travel Demand Management	20,000	20,000	20,000	60,000
341	**Walking and cycling improvements**				0
	Accessibility Improvements (barrier removal)	0	120,000	120,000	240,000
	Neighbourhood Cycle Connections	0	0	350,000	350,000
	New Footpaths / Shared Use	1,470,000	1,470,000	1,470,000	4,410,000
	Road to Road Walkway upgrades (CPTED)	0	40,000	40,000	80,000
	Safe Green and Health School Travel & TDM	0	310,000	0	310,000
	Safe Green and Healthy School Travel & TDM	320,000	0	0	320,000
	Urban Active Transport Network (UAT)	0	800,000	800,000	1,600,000
	TOTAL 3 YEAR BUDGET	**13,312,561**	**19,820,359**	**19,295,062**	**52,427,982**

6.3 Kaipara District Improvement Funding Request 2024-2027

6.3.1 Summary of KDC Improvement Funding Request 2024-2027

KDC Low Cost - Low Risk Improvement Plan

W/C	Description	2024/25	2025/26	2026/27	2024/27 Requested Budget
341	**Local road improvements**				
	Associate Improvements	2,000,000	2,000,000	2,000,000	6,000,000
	High risk rural Cross roads	30,000	30,000	30,000	90,000
	High Risk Rural Intersections (HRRI) [PDT]	330,000	330,000	0	660,000
	High Risk Rural Roads (HRRR) [PDT]	300,000	850,000	500,000	1,650,000
	High Risk Urban Intersections (HRUI)	400,000	0		400,000
	Intersection Improvements				0
	Safe green and healthy school travel & TDM	300,000	50,000	300,000	650,000
	Stock Underpass - Customer Driven (NTA Policy & standards)			20,000	20,000
	Traffic Calming SNP (SSI Toolkit) [PDT]	350,000	400,000	0	750,000
341	**Public transport infrastructure**				
	End of Trip Facilities	0	0	200,000	200,000
341	**Public transport services**				
	District Wide Public Transport	100,000	250,000	250,000	600,000
341	**Walking and cycling improvements**				
	Accessibility Improvements (barrier removal)	0	15,000	15,000	30,000
	Neighbourhood Cycle Connections; Markings, wayfinding, safe crossings, path links etc.	0	40,000	40,000	80,000
	New Footpaths (NF) - Policy & MCA	850,000	1,400,000	700,000	2,950,000
	Road to Road Walkway upgrades (CPTED) - way, ligthing, path width, alignment etc.	0	30,000	30,000	60,000
	TOTAL 3 YEAR BUDGET	**4,660,000**	**5,395,000**	**4,085,000**	**14,140,000**

6.4 Whangarei District Improvement Funding Request 2024-2027

6.4.1 Summary of WDC Improvement Funding Request 2024-2027

WDC Low Cost - Low Risk Improvement Plan

W/C	Description	2024/25	2025/26	2026/27	2024/27 Requested Budget
341	**Local road improvements**				
	Bridges and structures	500,000	500,000	500,000	1,500,000
	Delineation Improvements	1,960,000	3,410,000	3,570,000	8,940,000
	Intersection improvements	170,000	390,000	90,000	650,000
	Lighting improvements	2,281,921	2,522,195	1,664,063	6,468,179
	Other, as agreed with Waka Kotahi	1,540,000	2,590,000	1,831,000	5,961,000
	Resilience improvements	1,300,000	2,300,000	2,300,000	5,900,000
	Roadside barriers	30,000	30,000	30,000	90,000
	Seal extensions	290,000	300,000	320,000	910,000
	Sight benching	150,000	200,000	200,000	550,000
	Stock underpasses/crossing		50,000		50,000
	Technology based intervention	1,604,040	1,219,000	730,000	3,553,040
341	**Walking and cycling improvements**	2,175,000	4,675,000	5,870,000	12,720,000
	Cycle ways: incl. new or improved cyclew	1,335,000	3,835,000	5,030,000	10,200,000
	Walking improvements: incl. new or impr	840,000	840,000	840,000	2,520,000
	TOTAL 3 YEAR BUDGET	**13,312,561**	**19,820,359**	**19,295,062**	**52,427,982**

Northland Transportation Alliance

Transportation Activity Management Plan 2024–2054

Section 7 – Financials

Northland Transportation Alliance

Transportation Activity Management Plan 2024–2054

Section 7

Financials

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7 Financials

This section details what the three councils are forecasted to spend, on what and how the this they will acquire these funds.

All the financial figures in this section are based on Pre-LTP/NZTA Consultation and approvals. Any changes to these figures as result of consultation will have an impact on the overall strategies of this plan.

7.1 Funding Sources

The Councils have developed policies around how projects and other activities are to be funded. These policies are set out in Figure 7-1 and further information on each of these policies can be found in the *Long-Term Plan and Councils funding Policies*.

Table 7-1: Councils Funding and Financial Policies

Policy	Description	Relationship to the Roading Department
Development Contribution Policy	The policy sets out what the value of the contributions will be and who is required to pay.	Capital projects are undertaken based on demand and the required funding for the growth portion which is acquired from these contributions.
Revenue and Financing Policy	The policy outlines how operating and capital expenditure for each activity will be funded, what funding sources are available to Council and how spending contributes to the Community Outcomes	The Roading Department complies with this policy.

The recognised funding sources for the transport activity are:

- General Rates – usually used to fund maintenance and operations and renewal.
- Targeted Rates – used to fund specific works (e.g. ratepayer contribution for a seal extension).
- NZTA Subsidy – contributes to the funding of approved NZTA operations and maintenance, renewal and capital works (in accordance with the NZTA *Programme and Funding Manual*)
- Development Contribution – to fund the growth portion of capital works (Whangarei and Kaipara DC only).
- Fees and Charges – to fund activities that fees, and charges are taken for (e.g. car parking).
- Loans – to fund the balance of capital works.
- Cost Share Agreements – agreements between the Roading Department and other parties to share the costs of operations (e.g. forestry industry contributing to road maintenance).
- Private Developer Agreements - agreement between the Roading Department and developers to share costs as opposed to collecting development contributions for that specific development.
- Petroleum Tax – share of the Central Governments petroleum tax that contributes to maintenance.

- Alternative Funding Sources – additional Central Government funding has been granted to the councils over the last 3 years from alternative funding sources such as the Provincial Growth Fund (PGF), Crown Infrastructure Partners (CIP) fund and Tourism Infrastructure Fund (TIF). This funding has been provided to the councils as a grant for specific capital improvement projects.

These are generally accessed in priority order as follows;

Table 7-2: Funding Sources

Expenditure Area	Funding Source
Operations and Maintenance	NZTA subsidy General Rates Petroleum Tax
Renewals	NZTA subsidy, General Rates (depreciation fund)
Capital New and Improvement	NZTA subsidy, Development Contribution, Targeted Rates Debt funded General Rates

7.1.1 Government Funding

The Councils policy around acquiring funding is:

POLICY	The Council aims to optimise the subsidies available from NZTA for the provision of infrastructure while balancing the need for unsubsidised work and the overall Council funds available.

With the change in the vehicle dimension mass rule this issue is more relevant in terms of the heavy industry routes and who should pay.

Continued lobbying of central government for such monies continues to ensure that the rate payers of Northland are not unfairly carrying the cost of maintaining the roads when the benefit derived is a regional or national one.

7.1.2 Development Contributions

With the enactment of the *Local Government Act 2002*, Council has the power to levy new developments where costs to the community could arise.

7.1.2.1 Far North DC Development Contribution

FNDC has taken the following position as noted under "Key decision we expect to make" as part of the current LTP consultation phase.

"Council must make a decision on the most appropriate mechanism to fund growth-related infrastructure, and gather the evidence required to support any future development or financial contribution policy. This may include implementing development contribution, financial contributions through the district plan, or some combination of both"

The current policy at time of this plan is as follows:

"Development contributions: In 2015 Council resolved to suspend Development Contribution charges in light of the economic downturn. No decision has been made to re-commence the charging of Development Contributions for the term of this LTP, and therefore no income from source is assumed".

7.1.2.2 Kaipara DC Development Contribution

The Kaipara District Development Contributions Policy 2021 is adopted under the Local Government Act 2002 (the Act). It is one of a number of financial policies the Council uses to meet its funding needs, including those for funding the Roading activity. The policy is based on capital expenditure proposed in the 2021-31 Long Term Plan (LTP). Development contributions for each Council activity are calculated in a development contributions model supporting the policy. This can be examined on request at any office of the Council. It contains the schedules required by the Act to show how contributions are calculated and the resulting contribution amounts.

In keeping with the principles in section 197AB of the Act, the model has the following steps:

- It only allows a capital project to go into the development contribution calculations when a clear connection can be shown between development occurring and the asset or increased capacity in the asset, being provided;
- It shares the net project cost (less any subsidies and other sources of funding), among those persons who will benefit from the asset and those who created the need for the asset;
- It spreads the resulting development-related project cost over the capacity life of the asset – that is between the year in which the asset starts to provide capacity and the year in which that capacity is consumed, and another project is needed to add further capacity to the network;
- It groups developments into geographic areas or 'catchments', across which project costs can be shared.

For projects adding capacity to the entire district Roading network, the Council has determined to use a single district wide Roading catchment to share costs. Several projects in the LTP mainly support strong growth occurring along the eastern (Auckland) district boundary including Mangawhai and Kaiwaka areas. These project costs have been allocated to a separate Roading East catchment.

Once the development-related costs of an activity for the 10 years of the LTP have been determined for each catchment, the costs are divided by the number of additional rating units projected in that catchment over that time. This gives the development contribution per unit of demand (UoD) for the activity.

The approved development contribution for Roading in Kaipara District per unit of demand (excluding GST), has been calculated as (currently out for Consultation with LTP):

- $90 for the district-wide catchment; and
- an additional $2273 for development in the Roading East catchment.

7.1.2.3 *Whangarei DC Development Contribution*

WDC has adopted a *Development Contributions Policy* under the *Local Government Act 2002*. A copy can be obtained from Council on request. Under the revised Local Government Act the application of Development Contribution (DC) to the transport activity had to be revised. This revision required that the roading network was broken into Localities and the application of DC tested in terms of placing the cost of growth with the area of growth. On this basis the Roading network now consist of 5 Localities with DC charge related to each of these Localities based upon the growth community and either the number of projects or the percentage of any given programme of works occurring in these Localities.

Development Contributions have been calculated using SPM Development Contribution (DC) systems, into which Council have loaded the District Growth Model. The development contribution income is based on the portion of the project expenditure that is required due to growth. This is assessed through developing a cost allocation for each project as this relates to a level of service e.g. Peak Traffic might be used for a project that is looking to alleviate traffic congestion that is being created by the growth community. The model then calculates what portion of the population, in terms of Household Equivalent Units (HUE) is community growth. This then determines the income required per HUE that will be charged when development in the district is undertaken, whether this be a new house or a major industrial/residential subdivision.

The approved Development Contribution (DC) for transport, per Household Unit Equipment (HUE) excluding GST has been set based on per catchment. Refer to 'Council's Development Contributions Policy for the DC charges. These are currently under consultation with the LTP.

For WDC Capacity projects for the purposes of determining DC for land transportation activity are developed in the following manner.

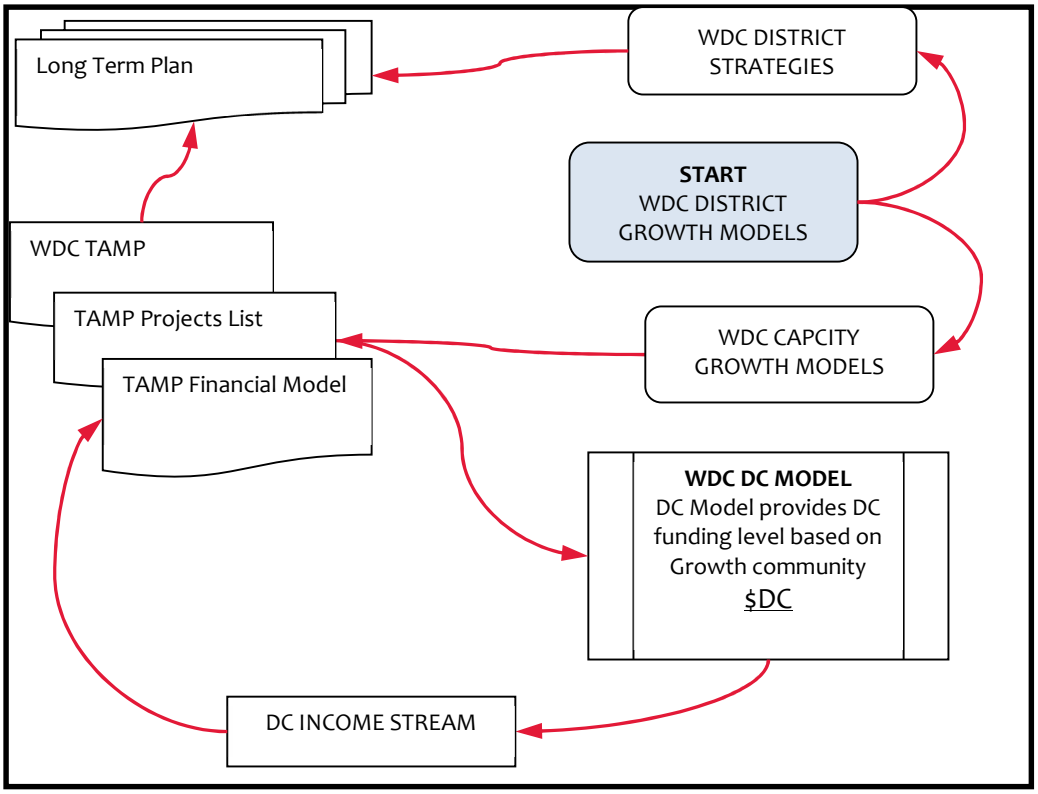

Figure 7-1: Development Contribution Relationship

7.1.2.4 *Funding of Parking*

Whangarei District Council's current policy for the funding of parking is to apply user charges for operating costs to the users of parking space and to fine over-stayers. The *Parking Management Strategy* sets out a number of fee structures for short term, long term and all-day parking to encourage users to park in such a way that occupancy rates for parking can be lifted to meet targets of 75 - 90%.

All parking fines are issued and collected by the Council's Compliance Department and used to offset Parking Warden costs. Income from parking fees is used to fund maintenance, renewal and development of the car park asset.

Far North and Kaipara District Councils do not have formal policy in regard to parking and parking fees.

7.2 Operational Funding

7.2.1 Routine & Planned Maintenance

The routine and planned maintenance plan expenditure supports the overall life cycle management strategy. This strategy looks to increase the investment in heavy urban maintenance to manage the increasing need for expensive Urban Pavement Rehabilitation and the service level requirements in safe trafficable road. Whilst considering technology upgrades with long term savings being realised through reduction in escalating pre-seal repair maintenance, power costs and now setting an ongoing balanced programme in the long-term resurfacing of the sealed pavements.

The following Tables and associated Figures show in detail the routine and planned maintenance expenditure for the transport activity. This is shown in un-inflated dollars and excludes income, improvement and capital but includes for asset growth due to capital investment.

Table 7-3: FNDC Routine and Planned Maintenance Expenditure

Asset Group Desc	Asset Type Desc	Sum of 2024/25	Sum of 2025/26	Sum of 2026/27	Sum of 2027/28	Sum of 2028/29	Sum of 2029/30	Sum of 2030/31	Sum of 2031/32	Sum of 2032/33	Sum of 2033/34
Drainage	Sub Surface Drainage	$3,303,716	$3,999,441	$3,853,607	$3,911,411	$3,970,082	$4,029,634	$4,090,078	$4,151,429	$4,213,701	$4,276,906
	Surface Water Channel	$25,000	$25,000	$25,000	$25,375	$25,756	$26,142	$26,534	$26,932	$27,336	$27,746
Drainage Total		**$3,328,716**	**$4,024,441**	**$3,878,607**	**$3,936,786**	**$3,995,838**	**$4,055,775**	**$4,116,612**	**$4,178,361**	**$4,241,037**	**$4,304,652**
Emergency Works	Emergency Works	$100,000	$100,000	$100,000	$101,500	$103,023	$104,568	$106,136	$107,728	$109,344	$110,984
Emergency Works Total		**$100,000**	**$100,000**	**$100,000**	**$101,500**	**$103,023**	**$104,568**	**$106,136**	**$107,728**	**$109,344**	**$110,984**
Pavement	Pavement Sealed	$3,037,772	$3,731,910	$3,307,120	$3,356,727	$3,407,078	$3,458,184	$3,510,057	$3,562,707	$3,616,148	$3,670,390
	Unsealed Pavement	$5,432,600	$6,097,490	$6,097,490	$6,188,952	$6,281,787	$6,376,013	$6,471,654	$6,568,728	$6,667,259	$6,767,268
Pavement Total		**$8,470,372**	**$9,829,400**	**$9,404,610**	**$9,545,679**	**$9,688,864**	**$9,834,197**	**$9,981,710**	**$10,131,436**	**$10,283,407**	**$10,437,659**
Street Scaping	Environmental Management	$2,786,537	$3,149,017	$3,149,017	$3,196,252	$3,244,196	$3,292,859	$3,342,252	$3,392,386	$3,443,271	$3,494,920
Street Scaping Total		**$2,786,537**	**$3,149,017**	**$3,149,017**	**$3,196,252**	**$3,244,196**	**$3,292,859**	**$3,342,252**	**$3,392,386**	**$3,443,271**	**$3,494,920**
Structures	Bridges & Major Culverts	$3,548,808	$3,811,831	$4,260,002	$4,323,902	$4,388,761	$4,454,592	$4,521,411	$4,589,232	$4,658,070	$4,727,942
Structures Total		**$3,548,808**	**$3,811,831**	**$4,260,002**	**$4,323,902**	**$4,388,761**	**$4,454,592**	**$4,521,411**	**$4,589,232**	**$4,658,070**	**$4,727,942**
Traffic Control Devices	Signs	$2,918,615	$3,255,048	$3,379,223	$3,429,911	$3,481,360	$3,533,580	$3,586,584	$3,640,383	$3,694,989	$3,750,413
Traffic Control Devices Total		**$2,918,615**	**$3,255,048**	**$3,379,223**	**$3,429,911**	**$3,481,360**	**$3,533,580**	**$3,586,584**	**$3,640,383**	**$3,694,989**	**$3,750,413**
Walking & Cycleways	Foot Path	$160,000	$160,000	$160,000	$162,400	$164,836	$167,309	$169,818	$172,365	$174,951	$177,575
Walking & Cycleways Total		**$160,000**	**$160,000**	**$160,000**	**$162,400**	**$164,836**	**$167,309**	**$169,818**	**$172,365**	**$174,951**	**$177,575**
Grand Total		**$21,313,048**	**$24,329,737**	**$24,331,459**	**$24,696,431**	**$25,066,877**	**$25,442,881**	**$25,824,524**	**$26,211,892**	**$26,605,070**	**$27,004,146**

Table 7-4: KDC Routine and Planned Maintenance Expenditure

Asset Group Desc	Asset Type Desc	Sum of 2024/25	Sum of 2025/26	Sum of 2026/27	Sum of 2027/28	Sum of 2028/29	Sum of 2029/30	Sum of 2030/31	Sum of 2031/32	Sum of 2032/33	Sum of 2033/34
Drainage	Sub Surface Drainage	$1,525,000	$1,550,000	$1,700,000	$1,725,500	$1,751,383	$1,777,653	$1,804,318	$1,831,383	$1,858,854	$1,886,736
Drainage Total		**$1,525,000**	**$1,550,000**	**$1,700,000**	**$1,725,500**	**$1,751,383**	**$1,777,653**	**$1,804,318**	**$1,831,383**	**$1,858,854**	**$1,886,736**
Emergency Works	Emergency Works	$129,900	$151,516	$156,679	$159,029	$161,415	$163,836	$166,293	$168,788	$171,320	$173,889
Emergency Works Total		**$129,900**	**$151,516**	**$156,679**	**$159,029**	**$161,415**	**$163,836**	**$166,293**	**$168,788**	**$171,320**	**$173,889**
Pavement	Pavement Sealed	$2,771,878	$3,233,140	$3,343,300	$3,393,450	$3,444,351	$3,496,017	$3,548,457	$3,601,684	$3,655,709	$3,710,544
	Unsealed Pavement	$2,208,300	$2,575,779	$2,663,541	$2,703,494	$2,744,047	$2,785,207	$2,826,985	$2,869,390	$2,912,431	$2,956,117
Pavement Total		**$4,980,178**	**$5,808,919**	**$6,006,841**	**$6,096,944**	**$6,188,398**	**$6,281,224**	**$6,375,442**	**$6,471,074**	**$6,568,140**	**$6,666,662**
Street Scaping	Environmental Management	$682,091	$1,045,596	$1,322,704	$1,342,545	$1,362,683	$1,383,123	$1,403,870	$1,424,928	$1,446,302	$1,467,996
	Street Lights	$116,910	$133,560	$135,270	$137,299	$139,359	$141,449	$143,571	$145,724	$147,910	$150,129
Street Scaping Total		**$799,001**	**$1,179,156**	**$1,457,974**	**$1,479,844**	**$1,502,041**	**$1,524,572**	**$1,547,440**	**$1,570,652**	**$1,594,212**	**$1,618,125**
Structures	Bridges & Major Culverts	$380,000	$400,000	$420,000	$426,300	$432,695	$439,185	$445,773	$452,459	$459,246	$466,135
Structures Total		**$380,000**	**$400,000**	**$420,000**	**$426,300**	**$432,695**	**$439,185**	**$445,773**	**$452,459**	**$459,246**	**$466,135**
Traffic Control Devices	Level X-ings	$45,465	$51,940	$52,605	$53,394	$54,195	$55,008	$55,833	$56,671	$57,521	$58,383
	Signs	$1,469,100	$1,913,648	$1,960,110	$1,989,512	$2,019,354	$2,049,645	$2,080,389	$2,111,595	$2,143,269	$2,175,418
Traffic Control Devices Total		**$1,514,565**	**$1,965,588**	**$2,012,715**	**$2,042,906**	**$2,073,549**	**$2,104,653**	**$2,136,222**	**$2,168,266**	**$2,200,790**	**$2,233,802**
Walking & Cycleways	Foot Path	$103,574	$120,809	$124,925	$126,799	$128,701	$130,631	$132,591	$134,580	$136,598	$138,647
	Walk Ways (Sub)	$15,000	$22,260	$22,545	$22,883	$23,226	$23,575	$23,928	$24,287	$24,652	$25,021
Walking & Cycleways Total		**$118,574**	**$143,069**	**$147,470**	**$149,682**	**$151,927**	**$154,206**	**$156,519**	**$158,867**	**$161,250**	**$163,669**
Grand Total		**$9,447,218**	**$11,198,248**	**$11,901,679**	**$12,080,204**	**$12,261,407**	**$12,445,328**	**$12,632,008**	**$12,821,488**	**$13,013,811**	**$13,209,018**

Table 7-5: WDC Routine and Planned Maintenance Expenditure

Asset Group Desc	Asset Type Desc	Sum of 2024/25	Sum of 2025/26	Sum of 2026/27	Sum of 2027/28	Sum of 2028/29	Sum of 2029/30	Sum of 2030/31	Sum of 2031/32	Sum of 2032/33	Sum of 2033/34
Drainage	Sub Surface Drainage	$2,175,435	$2,512,179	$2,576,722	$2,615,372	$2,654,603	$2,694,422	$2,734,838	$2,775,861	$2,817,499	$2,859,761
Drainage Total		**$2,175,435**	**$2,512,179**	**$2,576,722**	**$2,615,372**	**$2,654,603**	**$2,694,422**	**$2,734,838**	**$2,775,861**	**$2,817,499**	**$2,859,761**
Emergency Works	Emergency Works	$100,000	$100,000	$100,000	$101,500	$103,023	$104,568	$106,136	$107,728	$109,344	$110,984
Emergency Works Total		**$100,000**	**$100,000**	**$100,000**	**$101,500**	**$103,023**	**$104,568**	**$106,136**	**$107,728**	**$109,344**	**$110,984**
Parking (On & Off St	Carpark Assets	$140,000	$140,000	$140,000	$142,100	$144,232	$146,395	$148,591	$150,820	$153,082	$155,378
	Carpark Meters	$200,000	$200,000	$200,000	$203,000	$206,045	$209,136	$212,273	$215,457	$218,689	$221,969
Parking (On & Off Street) Total		**$340,000**	**$340,000**	**$340,000**	**$345,100**	**$350,277**	**$355,531**	**$360,864**	**$366,277**	**$371,771**	**$377,347**
Pavement	Pavement Sealed	$4,365,915	$5,191,562	$5,005,506	$5,080,589	$5,156,798	$5,234,150	$5,312,662	$5,392,352	$5,473,237	$5,555,336
	Unsealed Pavement	$2,130,146	$2,523,101	$2,598,418	$2,637,394	$2,676,955	$2,717,109	$2,757,866	$2,799,234	$2,841,222	$2,883,841
Pavement Total		**$6,496,061**	**$7,714,664**	**$7,603,924**	**$7,717,983**	**$7,833,753**	**$7,951,259**	**$8,070,528**	**$8,191,586**	**$8,314,460**	**$8,439,176**
Street Scaping	Amenity Lighting	$10,000	$10,000	$10,000	$10,150	$10,302	$10,457	$10,614	$10,773	$10,934	$11,098
	Bus Shelters	$50,000	$50,000	$50,000	$50,750	$51,511	$52,284	$53,068	$53,864	$54,672	$55,492
	Street Furniture	$10,000	$10,000	$10,000	$10,150	$10,302	$10,457	$10,614	$10,773	$10,934	$11,098
	Vegetation Management	$1,467,578	$1,738,346	$1,790,496	$1,817,354	$1,844,614	$1,872,283	$1,900,367	$1,928,873	$1,957,806	$1,987,173
Street Scaping Total		**$1,537,578**	**$1,808,346**	**$1,860,496**	**$1,888,404**	**$1,916,730**	**$1,945,481**	**$1,974,663**	**$2,004,283**	**$2,034,347**	**$2,064,862**
Structures	Bridges & Major Culverts	$660,325	$782,155	$805,620	$817,704	$829,970	$842,419	$855,056	$867,881	$880,900	$894,113
Structures Total		**$660,325**	**$782,155**	**$805,620**	**$817,704**	**$829,970**	**$842,419**	**$855,056**	**$867,881**	**$880,900**	**$894,113**
Traffic Control Devic	Level X-ings	$79,239	$81,616	$84,065	$85,326	$86,606	$87,905	$89,223	$90,562	$91,920	$93,299
	Signs	$2,653,410	$2,733,013	$2,815,003	$2,857,228	$2,900,086	$2,943,588	$2,987,741	$3,032,558	$3,078,046	$3,124,217
	Traffic Signal	$1,587,999	$1,635,639	$1,684,708	$1,709,979	$1,735,629	$1,761,663	$1,788,088	$1,814,909	$1,842,133	$1,869,765
Traffic Control Devices Total		**$4,320,648**	**$4,450,268**	**$4,583,776**	**$4,652,532**	**$4,722,320**	**$4,793,155**	**$4,865,053**	**$4,938,028**	**$5,012,099**	**$5,087,280**
Walking & Cycleway	Foot Path	$514,228	$609,103	$627,376	$636,786	$646,338	$656,033	$665,874	$675,862	$686,000	$696,290
	Walk Ways (Unsub)	$20,000	$20,000	$20,000	$20,300	$20,605	$20,914	$21,227	$21,546	$21,869	$22,197
	Walking & Cycling	$99,004	$117,271	$120,789	$122,601	$124,440	$126,306	$128,201	$130,124	$132,076	$134,057
Walking & Cycleways Total		**$633,232**	**$746,373**	**$768,165**	**$779,687**	**$791,382**	**$803,253**	**$815,302**	**$827,532**	**$839,944**	**$852,544**
Grand Total		**$16,263,279**	**$18,453,985**	**$18,638,702**	**$18,918,283**	**$19,202,057**	**$19,490,088**	**$19,782,439**	**$20,079,176**	**$20,380,363**	**$20,686,069**

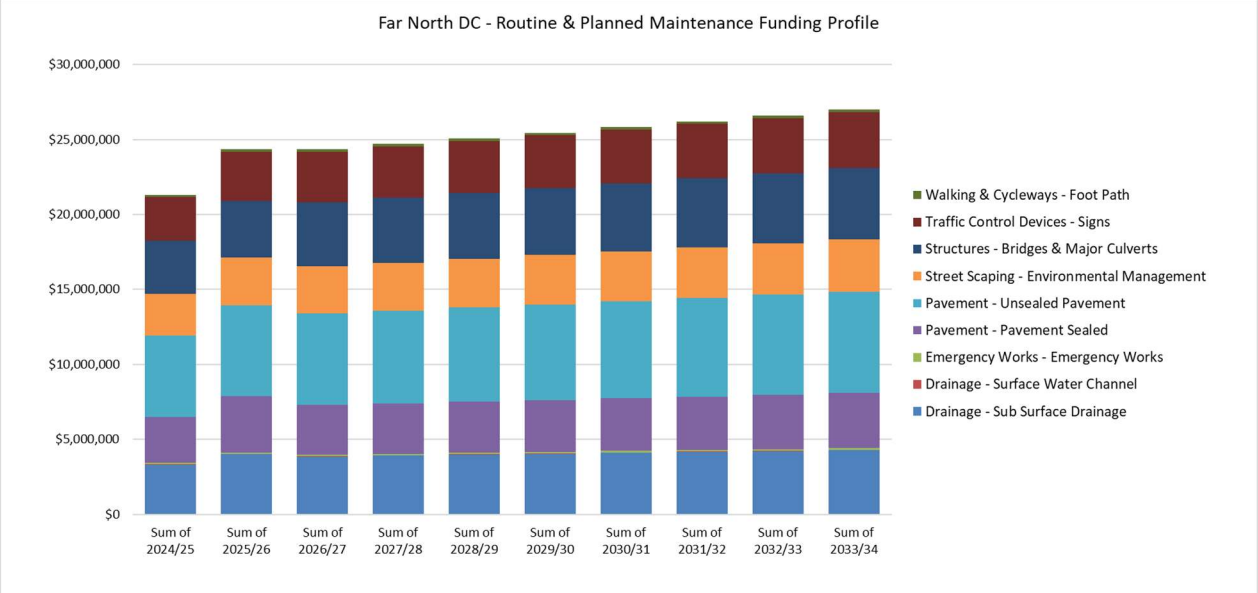

Figure 7-2: FNDC Routine and Planned Maintenance Expenditure

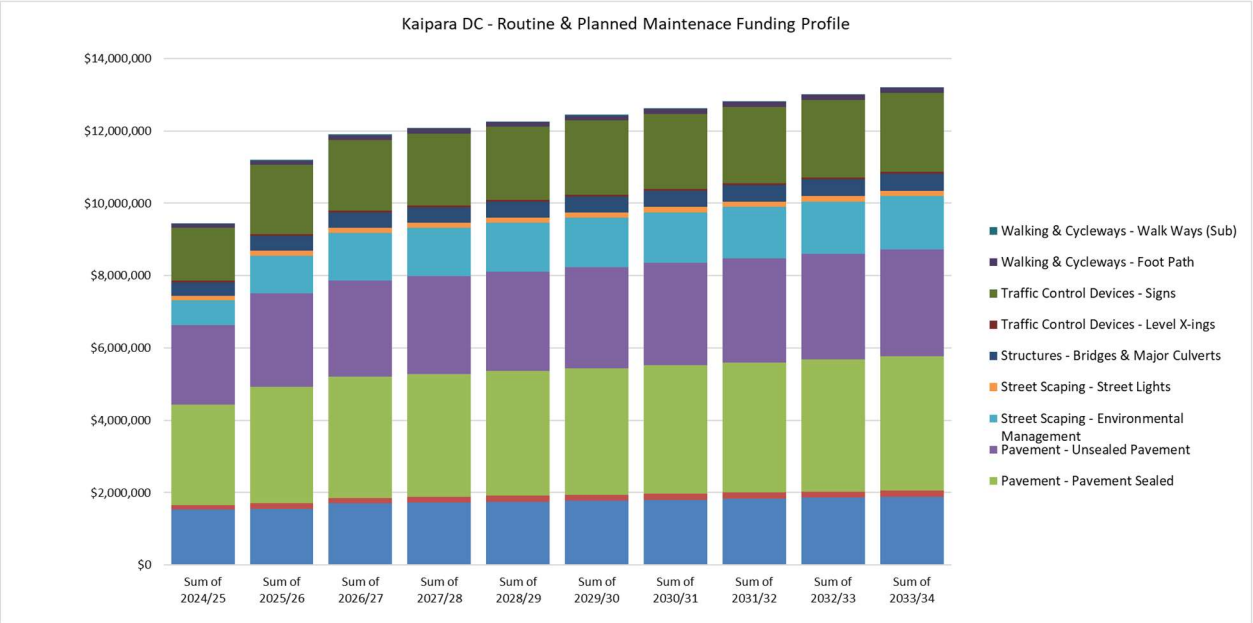

Figure 7-3: KDC Routine and Planned Maintenance Expenditure

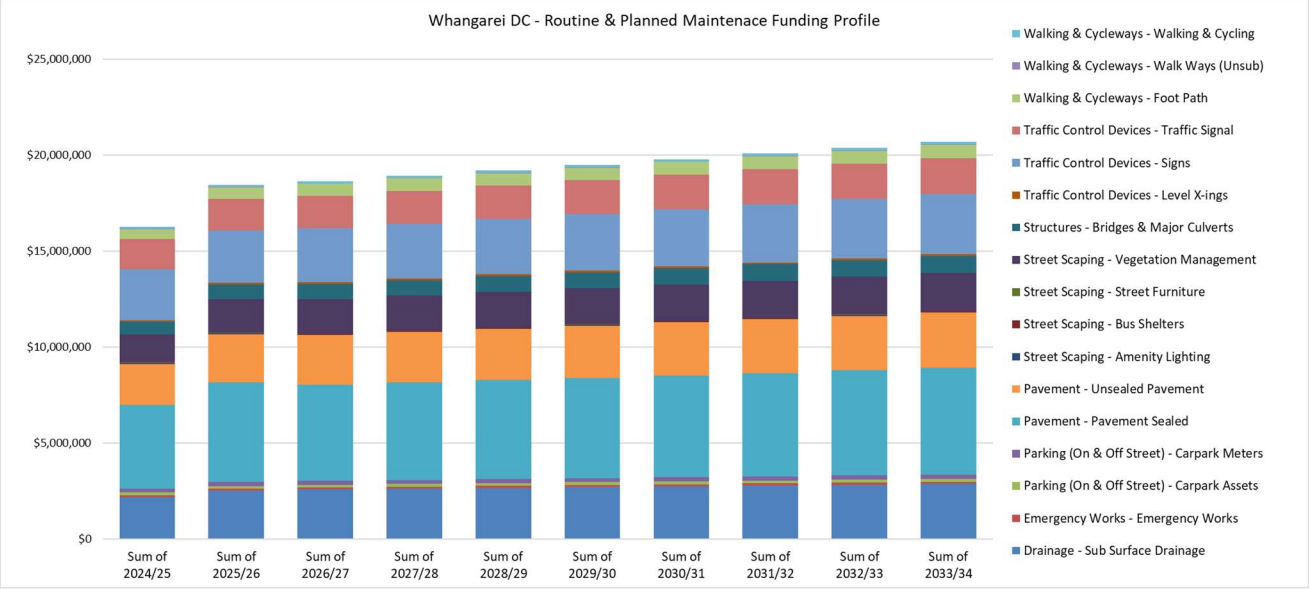

Figure 7-4: WDC Routine and Planned Maintenance Expenditure

7.2.2 *Renewal & Replacement*

The renewals plan is based around the strategy of maintaining the long-term investment in sealed pavement rehabilitations in order to reduce the manage maintenance costs and service provision of safe smooth road, close the gap on the current depreciation profile and where possible deliver long term savings.

The renewals and replacement plan for each Council is shown in the following Tables and associated Figures.

The renewals and maintenance plans are related. Any funding changes made in either area will require a review of the overall network strategy to deliver the required service levels.

Table 7-6: FNDC Renewals Expenditure

Project Description	Sum of 2024/25	Sum of 2025/26	Sum of 2026/27	Sum of 2027/28	Sum of 2028/29	Sum of 2029/30	Sum of 2030/31	Sum of 2031/32	Sum of 2032/33	Sum of 2033/34
Footpath renewals	$ 760,905.00	$ 875,041.00	$ 875,041.00	$ 888,166.62	$ 901,489.11	$ 915,011.45	$ 928,736.62	$ 942,667.67	$ 956,807.69	$ 971,159.80
Sealed road resurfacing	$ 7,201,909.00	$ 10,171,643.00	$ 6,805,992.00	$ 6,908,081.88	$ 7,011,703.11	$ 7,116,878.65	$ 7,223,631.83	$ 7,331,986.31	$ 7,441,966.11	$ 7,553,595.60
Unsealed road metalling	$ 4,768,352.50	$ 5,483,605.38	$ 5,648,113.54	$ 5,732,835.24	$ 5,818,827.77	$ 5,906,110.18	$ 5,994,701.84	$ 6,084,622.36	$ 6,175,891.70	$ 6,268,530.08
Drainage renewals - Culvert renewals	$ 1,664,901.00	$ 1,870,720.00	$ 2,010,128.00	$ 2,040,279.92	$ 2,070,884.12	$ 2,101,947.38	$ 2,133,476.59	$ 2,165,478.74	$ 2,197,960.92	$ 2,230,930.34
Sealed road pavement rehabilitation	$ 4,925,060.00	$ 4,537,187.00	$ 5,744,878.00	$ 5,831,051.17	$ 5,918,516.94	$ 6,007,294.69	$ 6,097,404.11	$ 6,188,865.17	$ 6,281,698.15	$ 6,375,923.62
Structures component replacements - Bridges	$ 1,923,555.00	$ 2,875,001.00	$ 5,227,801.00	$ 5,306,218.02	$ 5,385,811.29	$ 5,466,598.45	$ 5,548,597.43	$ 5,631,826.39	$ 5,716,303.79	$ 5,802,048.35
Bridge renewals	$ 3,481,400.00	$ 3,981,192.00	$ 4,077,453.00	$ 4,138,614.80	$ 4,200,694.02	$ 4,263,704.43	$ 4,327,659.99	$ 4,392,574.89	$ 4,458,463.52	$ 4,525,340.47
Traffic services renewals - maintenance contract	$ 651,691.00	$ 729,309.00	$ 783,309.00	$ 795,058.64	$ 806,984.51	$ 819,089.28	$ 831,375.62	$ 843,846.26	$ 856,503.95	$ 869,351.51
Grand Total	**$ 25,377,773.50**	**$ 30,523,698.38**	**$ 31,172,715.54**	**$ 31,640,306.27**	**$ 32,114,910.86**	**$ 32,596,634.53**	**$ 33,085,584.04**	**$ 33,581,867.80**	**$ 34,085,595.82**	**$ 34,596,879.76**

Table 7-7: KDC Renewals Expenditure

Project Description	Sum of 2024/25	Sum of 2025/26	Sum of 2026/27	Sum of 2027/28	Sum of 2028/29	Sum of 2029/30	Sum of 2030/31	Sum of 2031/32	Sum of 2032/33	Sum of 2033/34
211 - Unsealed road metalling	$ 2,200,000.00	$ 2,900,000.00	$ 2,900,000.00	$ 2,943,500.00	$ 2,987,652.50	$ 3,032,467.29	$ 3,077,954.30	$ 3,124,123.61	$ 3,170,985.47	$ 3,218,550.25
212 - Sealed road resurfacing	$ 2,500,000.00	$ 4,000,000.00	$ 4,501,000.00	$ 4,568,515.00	$ 4,637,042.73	$ 4,706,598.37	$ 4,777,197.34	$ 4,848,855.30	$ 4,921,588.13	$ 4,995,411.95
213 - Drainage renewals	$ 1,250,000.00	$ 1,300,000.00	$ 1,350,000.00	$ 1,370,250.00	$ 1,390,803.75	$ 1,411,665.81	$ 1,432,840.79	$ 1,454,333.41	$ 1,476,148.41	$ 1,498,290.63
214 - Sealed road pavement rehabilitation	$ 3,000,000.00	$ 4,250,000.00	$ 4,750,000.00	$ 4,821,250.00	$ 4,893,568.75	$ 4,966,972.28	$ 5,041,476.87	$ 5,117,099.02	$ 5,193,855.50	$ 5,271,763.34
215 - Structures component replacements	$ 1,300,000.00	$ 1,750,000.00	$ 1,370,000.00	$ 1,390,550.00	$ 1,411,408.25	$ 1,432,579.37	$ 1,454,068.06	$ 1,475,879.09	$ 1,498,017.27	$ 1,520,487.53
222 - Traffic services renewals	$ 240,315.00	$ 280,305.00	$ 289,856.00	$ 294,203.84	$ 298,616.90	$ 303,096.15	$ 307,642.59	$ 312,257.23	$ 316,941.09	$ 321,695.21
225 - Footpath Renewals	$ 69,049.00	$ 80,539.00	$ 83,284.00	$ 84,533.26	$ 85,801.26	$ 87,088.28	$ 88,394.60	$ 89,720.52	$ 91,066.33	$ 92,432.32
216 - Bridge Replacements	$ 3,500,000.00	$ 6,950,000.00	$ 6,550,000.00	$ 6,648,250.00	$ 6,747,973.75	$ 6,849,193.36	$ 6,951,931.26	$ 7,056,210.23	$ 7,162,053.38	$ 7,269,484.18
Grand Total	**$ 14,059,364.00**	**$ 21,510,844.00**	**$ 21,794,140.00**	**$ 22,121,052.10**	**$ 22,452,867.88**	**$ 22,789,660.90**	**$ 23,131,505.81**	**$ 23,478,478.40**	**$ 23,830,655.58**	**$ 24,188,115.41**

Table 7-8: WDC Renewals Expenditure

Project Description	Sum of 2024/25	Sum of 2025/26	Sum of 2026/27	Sum of 2027/28	Sum of 2028/29	Sum of 2029/30	Sum of 2030/31	Sum of 2031/32	Sum of 2032/33	Sum of 2033/34
Amenity Lighting	$ 90,000.00	$ 90,000.00	$ 90,000.00	$ 90,000.00	$ 90,000.00	$ 90,000.00	$ 90,000.00	$ 90,000.00	$ 90,000.00	$ 90,000.00
Unsealed Road Metalling	$ 2,629,059.54	$ 3,160,169.68	$ 3,261,965.79	$ 3,267,065.34	$ 3,267,065.34	$ 3,267,065.34	$ 3,267,065.34	$ 3,267,065.34	$ 3,267,065.34	$ 3,267,065.34
Structures - Coastal Protection Structures	$ 85,000.00	$ 85,000.00	$ 85,000.00	$ 90,000.00	$ 90,000.00	$ 90,000.00	$ 90,000.00	$ 90,000.00	$ 90,000.00	$ 90,000.00
Drainage - Structures New & Renewals	$ 388,382.00	$ 300,000.00	$ 300,000.00	$ 300,000.00	$ 300,000.00	$ 300,000.00	$ 300,000.00	$ 300,000.00	$ 300,000.00	$ 300,000.00
Footpath - Renewals	$ 1,009,930.84	$ 1,196,236.30	$ 1,231,944.85	$ 1,146,038.20	$ 1,146,038.20	$ 1,146,038.20	$ 1,146,038.20	$ 1,146,038.20	$ 1,146,038.20	$ 1,146,038.20
Parking Off Street - Meters New & Renewal	$ 400,000.00	$ 200,000.00	$ 200,000.00	$ 100,000.00	$ 100,000.00	$ 100,000.00	$ 100,000.00	$ 100,000.00	$ 100,000.00	$ 100,000.00
Parking Off Street - Resurface	$ 200,000.00	$ 200,000.00	$ 200,000.00	$ 200,000.00	$ 200,000.00	$ 200,000.00	$ 200,000.00	$ 200,000.00	$ 200,000.00	$ 200,000.00
Structures - Bridge replacements	$ 3,087,268.01	$ 3,656,787.09	$ 3,765,944.91	$ 3,524,500.00	$ 3,524,500.00	$ 3,524,500.00	$ 3,524,500.00	$ 3,524,500.00	$ 3,524,500.00	$ 3,524,500.00
Sealed Pavement - Rehabilitation	$ 7,456,912.89	$ 6,936,576.00	$ 8,130,471.09	$ 5,777,317.78	$ 5,777,317.78	$ 5,777,317.78	$ 5,777,317.78	$ 5,777,317.78	$ 5,777,317.78	$ 5,777,317.78
Sealed Road Resurfacing - Chip Seal	$ 4,633,200.00	$ 5,754,197.00	$ 5,349,641.00	$ 4,617,600.00	$ 4,617,600.00	$ 4,617,600.00	$ 4,617,600.00	$ 4,617,600.00	$ 4,617,600.00	$ 4,617,600.00
Sealed Road Resurfacing - Thin Asphalt	$ 3,331,328.00	$ 4,685,000.00	$ 5,185,000.00	$ 3,685,000.00	$ 3,685,000.00	$ 3,685,000.00	$ 3,685,000.00	$ 3,685,000.00	$ 3,685,000.00	$ 3,685,000.00
Structures - Componet Replacement BRDG	$ 1,981,819.26	$ 2,347,412.02	$ 2,417,484.02	$ 2,459,708.33	$ 2,459,708.33	$ 2,459,708.33	$ 2,459,708.33	$ 2,459,708.33	$ 2,459,708.33	$ 2,459,708.33
Signs Railings & facilities - Renewals	$ 1,317,747.29	$ 1,560,871.67	$ 1,607,697.82	$ 1,267,064.71	$ 1,267,064.71	$ 1,267,064.71	$ 1,267,064.71	$ 1,267,064.71	$ 1,267,064.71	$ 1,267,064.71
MI - School Zones and driver feed back	$ 535,040.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Drainage - WT/Kerb & Channel Renewal	$ 1,909,545.20	$ 2,421,894.20	$ 2,503,551.20	$ 1,909,545.20	$ 1,909,545.20	$ 1,909,545.20	$ 1,909,545.20	$ 1,909,545.20	$ 1,909,545.20	$ 1,909,545.20
MI - KSP- CCTV Camera renewals	$ 159,000.00	$ 159,000.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Grand Total	**$ 29,214,233.03**	**$ 32,753,143.95**	**$ 34,328,700.67**	**$ 28,433,839.55**	**$ 28,433,839.55**	**$ 28,433,839.55**	**$ 28,433,839.55**	**$ 28,433,839.55**	**$ 28,433,839.55**	**$ 28,433,839.55**

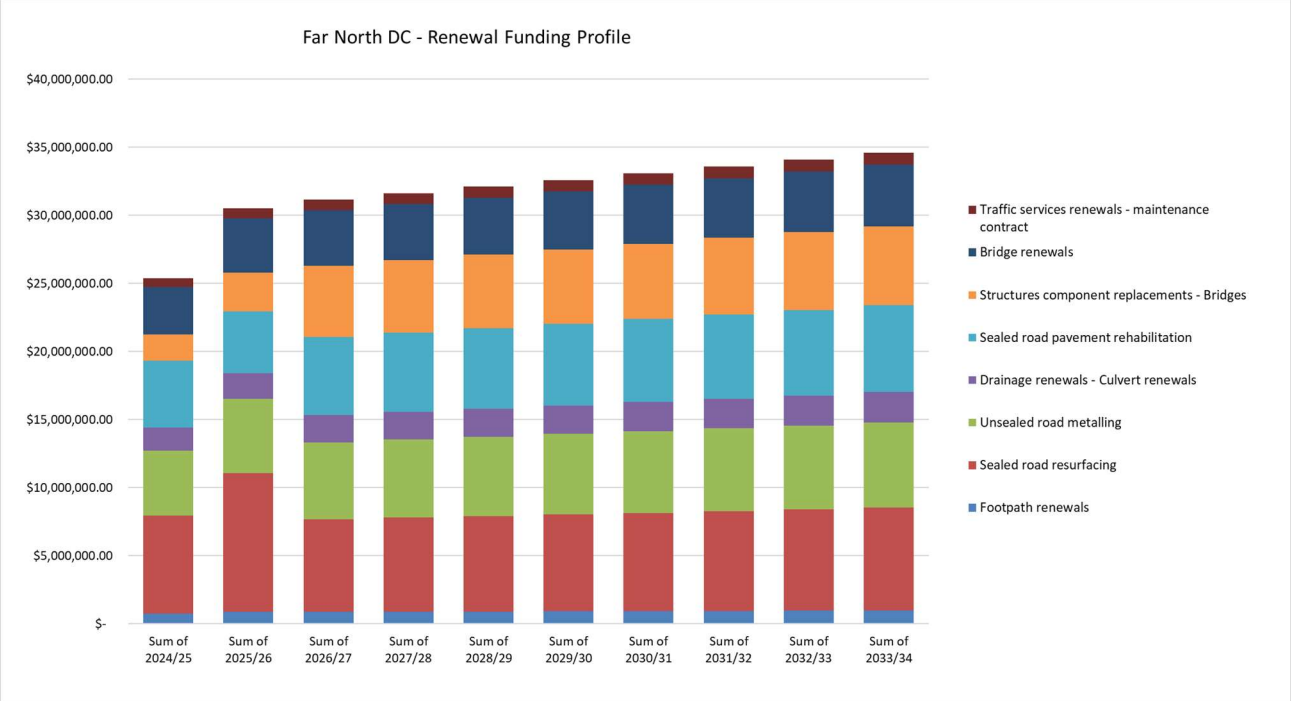

Figure 7-5: FNDC Renewals Expenditure

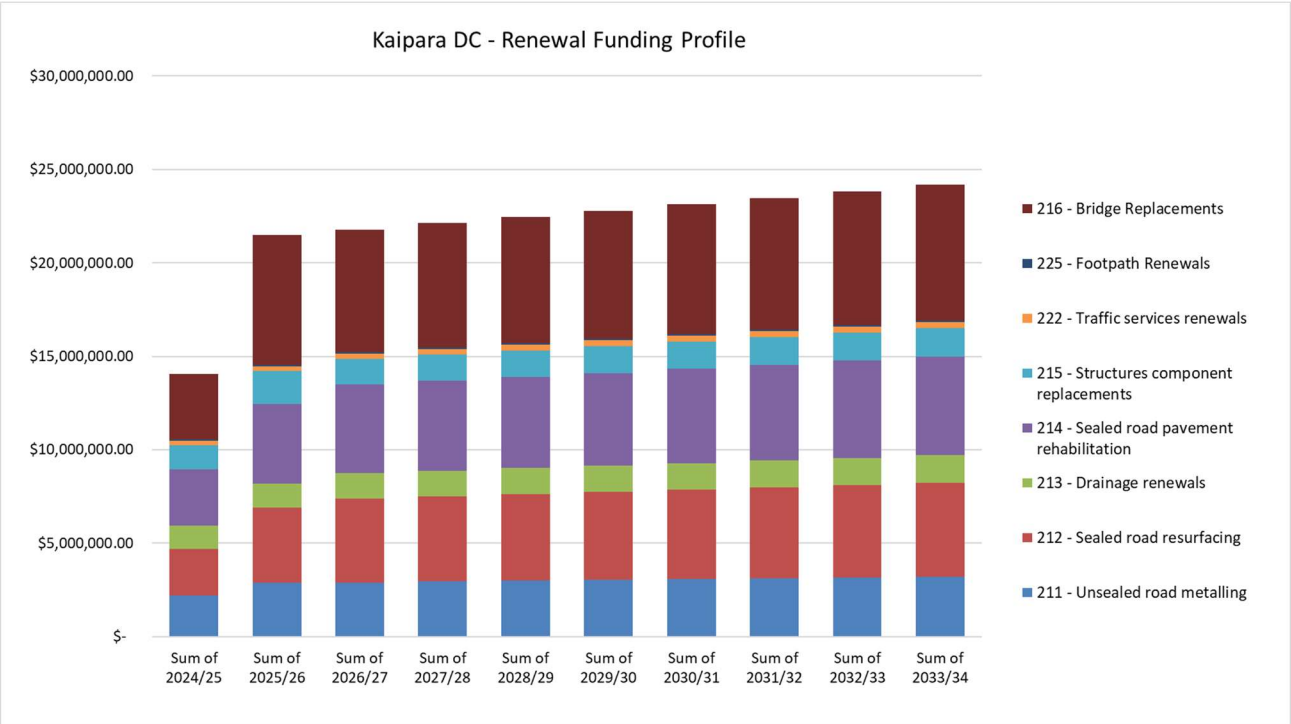

Figure 7-6: KDC Renewals Expenditure

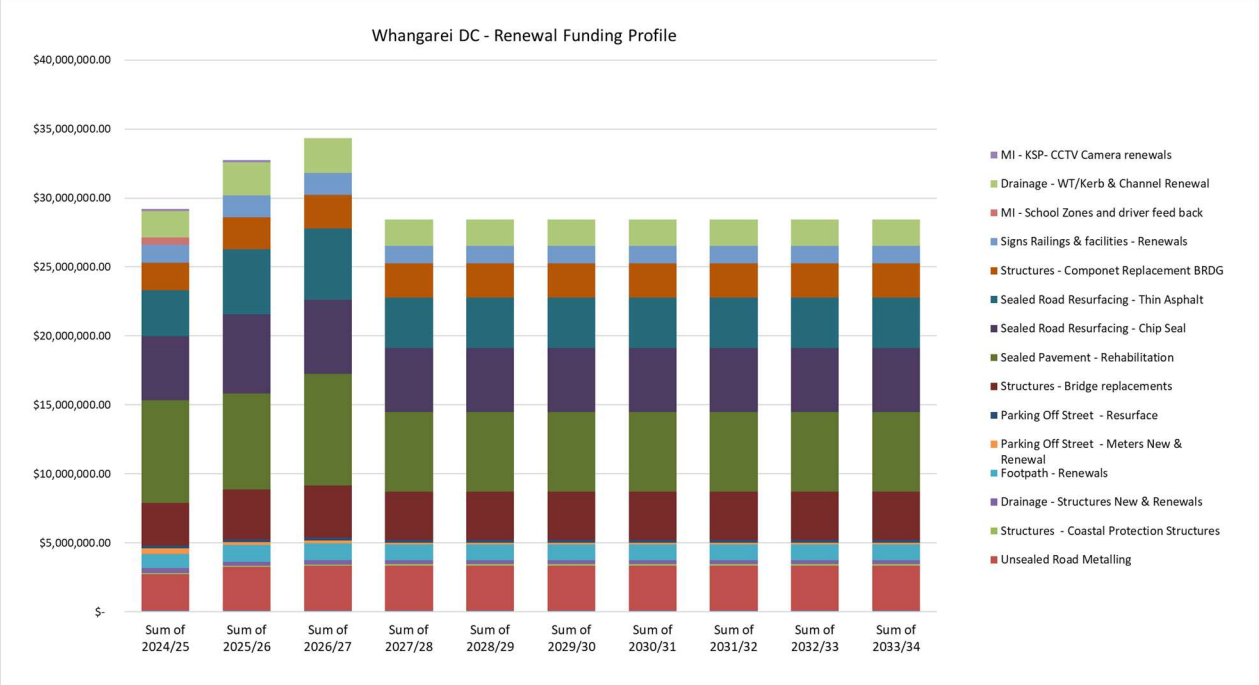

Figure 7-7: WDC Renewals Expenditure

7.2.3 Capital New & Improvement Expenditure

For Whangarei District Council, significant investment is programmed to fit with new GPS from government. in relation to this investment is being sought for Passenger Transport (PT) development and upgrade. These two investment strategies look to reduce the demand on the road network and encourage modal transport shift to Walking /cycling and PT. These projects are identified in WDC's Whangarei City Transportation Network Strategy and One Tree Point/Marsden Point Strategy Study.

Both Far North and Kaipara Councils are starting a programme of improvements to the road network and walking/cycling projects to address growth areas, improve safety and provide alternative travel choices. These projects have been identified through FNDC's Integrated Transport Plan and KDC's Mangawhai Network Operating Framework and township spatial plans.

Far North and Whangarei Councils have revised their positions on continuing a programme of seal extension on the network. This is now going through LTP consultation as part of the unsubsidised programme and will be determined by the outcome of the LTP consultation. If the councils introduce the Unsubsidised Seal Extension as a result of the LTP consultation this would be on the following basis to address a number of issues:

- The sealing of the high priority unsealed roads based on Seal Extension Prioritisation Matrix. Where business case for subsidy can proven, then NZTA share will be requested.
- Where houses have been identified as being close to an unsealed road and there is safety/health issues related to dust nuisance from heavy commercial vehicles then the sealing of 100m strips is being programmed.
- Where there is continuing request from the community to seal roads, a rate payer subsidy for the construction of the seal extension is required to certain value which council will then consider funding the balance. No other funding avenues are currently available for seal extension.

The following Tables and associated Figures detail the funding for the planned new and improvement programme.

Table 7-9: FNDC Capital New & Improvement Expenditure

Work Type	Primary Drivers	Project Description	Sum of 2024/25	Sum of 2025/26	Sum of 2026/27	Sum of 2027/28	Sum of 2028/29	Sum of 2029/30	Sum of 2030/31	Sum of 2031/32	Sum of 2032/33	Sum of 2033/34
Improvement	**Growth**	Kerikeri Road Network Projects - Hobson Road RAB	$ 100,000.00	$ 100,000.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		Travel Demand Management	$ 20,000.00	$ 20,000.00	$ 20,000.00	$ 14,000.00	$ 14,000.00	$ 14,000.00	$ 14,000.00	$ 14,000.00	$ 14,000.00	$ 14,000.00
		50MAX/HPMV Bridge Resilience	$ 2,500,000.00	$ 2,500,000.00	$ 2,500,000.00	$ 1,450,000.00	$ 1,450,000.00	$ 1,450,000.00	$ 1,450,000.00	$ 1,450,000.00	$ 1,450,000.00	$ 1,450,000.00
	Growth Total		**$ 2,620,000.00**	**$ 2,620,000.00**	**$ 2,520,000.00**	**$ 1,464,000.00**	**$ 1,464,000.00**	**$ 1,464,000.00**	**$ 1,464,000.00**	**$ 1,464,000.00**	**$ 1,464,000.00**	**$ 1,464,000.00**
	Level of Service	Township Transport Planning	$ -	$ 800,000.00	$ 800,000.00	$ 812,000.00	$ 824,180.00	$ 836,542.70	$ 849,090.84	$ 861,827.20	$ 874,754.61	$ 887,875.93
		Associated Improvements	$ 480,000.00	$ 480,000.00	$ 480,000.00	$ 675,000.00	$ 675,000.00	$ 675,000.00	$ 675,000.00	$ 675,000.00	$ 675,000.00	$ 675,000.00
		Pedestrian access in urban ares	$ 1,300,000.00	$ 560,000.00	$ -	$ 678,571.43	$ 678,571.43	$ 678,571.43	$ 678,571.43	$ 678,571.43	$ 678,571.43	$ 678,571.43
		Streetlight Infill programme (P&V Cat)	$ 2,007,216.00	$ 4,014,432.00	$ 4,014,432.00	$ 1,326,478.60	$ 1,326,478.60	$ 1,326,478.60	$ 1,326,478.60	$ 1,326,478.60	$ 1,326,478.60	$ 1,326,478.60
		Access Improvements (barrier Removal)	$ -	$ 120,000.00	$ 120,000.00	$ 121,800.00	$ 123,627.00	$ 125,481.41	$ 127,363.63	$ 129,274.08	$ 131,213.19	$ 133,181.39
		Safe Green and Health School Travel & TDM	$ 320,000.00	$ 310,000.00	$ -	$ 238,000.00	$ 238,000.00	$ 238,000.00	$ 238,000.00	$ 238,000.00	$ 238,000.00	$ 238,000.00
		Kerikeri Road Network Projects - Hobson Road RAB	$ 100,000.00	$ 100,000.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		Safety - Intersection Improvements (Uran/Rural)	$ 1,800,000.00	$ -	$ 500,000.00	$ 1,411,428.57	$ 1,411,428.57	$ 1,411,428.57	$ 1,411,428.57	$ 1,411,428.57	$ 1,411,428.57	$ 1,411,428.57
		Road Widening	$ 50,000.00	$ 1,050,000.00	$ 300,000.00	$ 350,000.00	$ 350,000.00	$ 350,000.00	$ 350,000.00	$ 350,000.00	$ 350,000.00	$ 350,000.00
		Resilience Improvements Pavement Rehabilitation	$ 430,345.00	$ 430,927.00	$ 545,630.00	$ 218,700.00	$ 218,700.00	$ 218,700.00	$ 218,700.00	$ 218,700.00	$ 218,700.00	$ 218,700.00
	Level of Service Total		**$ 6,487,561.00**	**$ 7,865,359.00**	**$ 6,760,062.00**	**$ 5,831,978.60**	**$ 5,845,985.60**	**$ 5,860,202.71**	**$ 5,874,633.07**	**$ 5,889,279.88**	**$ 5,904,146.40**	**$ 5,919,235.92**
Improvement Total			**$ 9,107,561.00**	**$ 10,485,359.00**	**$ 9,280,062.00**	**$ 7,295,978.60**	**$ 7,309,985.60**	**$ 7,324,202.71**	**$ 7,338,633.07**	**$ 7,353,279.88**	**$ 7,368,146.40**	**$ 7,383,235.92**
New	**Growth**	New Footpaths	$ 1,470,000.00	$ 1,470,000.00	$ 1,470,000.00	$ 1,474,285.71	$ 1,474,285.71	$ 1,474,285.71	$ 1,474,285.71	$ 1,474,285.71	$ 1,474,285.71	$ 1,474,285.71
	Growth Total		**$ 1,470,000.00**	**$ 1,470,000.00**	**$ 1,470,000.00**	**$ 1,474,285.71**	**$ 1,474,285.71**	**$ 1,474,285.71**	**$ 1,474,285.71**	**$ 1,474,285.71**	**$ 1,474,285.71**	**$ 1,474,285.71**
	Level of Service	Cycle Connections	$ -	$ -	$ 350,000.00	$ 200,000.00	$ 200,000.00	$ 200,000.00	$ 200,000.00	$ 200,000.00	$ 200,000.00	$ 200,000.00
		Traction Seals - Subsidised	$ 600,000.00	$ 600,000.00	$ 600,000.00	$ 520,000.00	$ 520,000.00	$ 520,000.00	$ 520,000.00	$ 520,000.00	$ 520,000.00	$ 520,000.00
		Bridge Approach Seals - Subsidised	$ 300,000.00	$ 300,000.00	$ 300,000.00	$ 390,000.00	$ 390,000.00	$ 390,000.00	$ 390,000.00	$ 390,000.00	$ 390,000.00	$ 390,000.00
		Stock Effluent Disposal	$ 100,000.00	$ 400,000.00	$ 500,000.00	$ 200,000.00	$ 200,000.00	$ 200,000.00	$ 200,000.00	$ 200,000.00	$ 200,000.00	$ 200,000.00
		Local Area Traffic Management (LATM)	$ -	$ -	$ -	$ 315,000.00	$ 315,000.00	$ 315,000.00	$ 315,000.00	$ 315,000.00	$ 315,000.00	$ 315,000.00
		Road to Road Walkway upgrades (CPTED)	$ -	$ 40,000.00	$ 40,000.00	$ 36,000.00	$ 36,000.00	$ 36,000.00	$ 36,000.00	$ 36,000.00	$ 36,000.00	$ 36,000.00
		Resilience Improvements	$ -	$ 4,000,000.00	$ 4,000,000.00	$ 2,300,000.00	$ 2,300,000.00	$ 2,300,000.00	$ 2,300,000.00	$ 2,300,000.00	$ 2,300,000.00	$ 2,300,000.00
		Safety - Speed Management (School Zone trt Sign/ITS)	$ 1,385,000.00	$ 625,000.00	$ 585,000.00	$ 300,000.00	$ 300,000.00	$ 300,000.00	$ 300,000.00	$ 300,000.00	$ 300,000.00	$ 300,000.00
		RtZ - High Risk Rural Roads (HRRR)	$ 450,000.00	$ 2,000,000.00	$ 2,170,000.00	$ 2,080,000.00	$ 2,080,000.00	$ 2,080,000.00	$ 2,080,000.00	$ 2,080,000.00	$ 2,080,000.00	$ 2,080,000.00
	Level of Service Total		**$ 2,835,000.00**	**$ 7,965,000.00**	**$ 8,545,000.00**	**$ 6,341,000.00**	**$ 6,341,000.00**	**$ 6,341,000.00**	**$ 6,341,000.00**	**$ 6,341,000.00**	**$ 6,341,000.00**	**$ 6,341,000.00**
New Total			**$ 4,305,000.00**	**$ 9,435,000.00**	**$ 10,015,000.00**	**$ 7,815,285.71**	**$ 7,815,285.71**	**$ 7,815,285.71**	**$ 7,815,285.71**	**$ 7,815,285.71**	**$ 7,815,285.71**	**$ 7,815,285.71**
Grand Total			**$ 13,412,561.00**	**$ 19,920,359.00**	**$ 19,295,062.00**	**$ 15,111,264.31**	**$ 15,125,271.31**	**$ 15,139,488.42**	**$ 15,153,918.78**	**$ 15,168,565.60**	**$ 15,183,432.12**	**$ 15,198,521.63**

Table 7-10: KDC Capital New & Improvement Expenditure

Work Type	Primary Drivers	Project Description	Sum of 2024/25	Sum of 2025/26	Sum of 2026/27	Sum of 2027/28	Sum of 2028/29	Sum of 2029/30	Sum of 2030/31	Sum of 2031/32	Sum of 2032/33	Sum of 2033/34
Improvement	Growth	NI - Kaiwaka Eastern Network Growth (Urbinisation Almar Cres)	$ 600,000.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		NI - Upgrade to Lawrence Road and Cames Road and Devich Road to rural residential LOS standards	$ 3,000,000.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Growth Total		$ 3,600,000.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Level of Service	LCLR - Associated improvements for Rehab and Reseals	$ 500,000.00	$ 500,000.00	$ 500,000.00	$ 482,125.00	$ 489,356.88	$ 496,697.23	$ 504,147.69	$ 511,709.90	$ 519,385.55	$ 527,176.33
		NI - Mangawahai – Improved access to Alamar Boat Ramp	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,000,000.00	$ -	$ -	$ -
		LCLR - Traffic Calming SNP (SSI Toolkit) [PDT]	$ -	$ -	$ 750,000.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		WC - Managawhai shared path - Wood Street	$ -	$ -	$ 6,000,000.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		LCLR - High risk rural Cross roads	$ -	$ -	$ 90,000.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		LCLR - High Risk Rural Intersections (HRRI) [PDT]	$ -	$ -	$ 660,000.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		LCLR - Associated improvements for Unsealed Rebulids	$ 500,000.00	$ 500,000.00	$ 500,000.00	$ 500,000.00	$ 500,000.00	$ 500,000.00	$ 500,000.00	$ 500,000.00	$ 500,000.00	$ 500,000.00
		LCLR - High Risk Rural Roads (HRRR) [PDT]	$ -	$ -	$ 1,150,000.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		LCLR - High Risk Urban Intersections (HRUI)	$ -	$ -	$ 400,000.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		Safe green and healthy school travel & TDM	$ -	$ -	$ 650,000.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		Stock Underpass - Customer Driven (NTA Policy & standards)	$ -	$ -	$ 20,000.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Level of Service Total		$ 1,000,000.00	$ 1,000,000.00	$ 10,720,000.00	$ 982,125.00	$ 989,356.88	$ 996,697.23	$ 3,004,147.69	$ 1,011,709.90	$ 1,019,385.55	$ 1,027,176.33
Improvement Total			$ 4,600,000.00	$ 1,000,000.00	$ 10,720,000.00	$ 982,125.00	$ 989,356.88	$ 996,697.23	$ 3,004,147.69	$ 1,011,709.90	$ 1,019,385.55	$ 1,027,176.33
New	Level of Service	LCLR - Drainage improvement programme	$ 500,000.00	$ 500,000.00	$ 500,000.00	$ 507,500.00	$ 515,112.50	$ 522,839.19	$ 530,681.78	$ 538,642.00	$ 546,721.63	$ 554,922.46
		NI - Mangawhai to Waipu Cove Trail	$ -	$ -	$ -	$ -	$ -	$ 200,000.00	$ -	$ -	$ -	$ -
		WC- Mangawhai SP various phases for construction	$ 700,000.00	$ -	$ 2,410,000.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Level of Service Total		$ 1,200,000.00	$ 500,000.00	$ 2,910,000.00	$ 507,500.00	$ 515,112.50	$ 722,839.19	$ 530,681.78	$ 538,642.00	$ 546,721.63	$ 554,922.46
New Total			$ 1,200,000.00	$ 500,000.00	$ 2,910,000.00	$ 507,500.00	$ 515,112.50	$ 722,839.19	$ 530,681.78	$ 538,642.00	$ 546,721.63	$ 554,922.46
Grand Total			$ 5,800,000.00	$ 1,500,000.00	$ 13,630,000.00	$ 1,489,625.00	$ 1,504,469.38	$ 1,719,536.42	$ 3,534,829.46	$ 1,550,351.90	$ 1,566,107.18	$ 1,582,098.79

Table 7-11: WDC Capital New & Improvement Expenditure

Work Type	Primary Drivers	Project Description	Sum of 2024/25	Sum of 2025/26	Sum of 2026/27	Sum of 2027/28	Sum of 2028/29	Sum of 2029/30	Sum of 2030/31	Sum of 2031/32	Sum of 2032/33	Sum of 2033/34
Improvement	Growth	Subdivision Works Contribution	$ 50,000.00	$ 50,000.00	$ 50,000.00	$ 50,000.00	$ 50,000.00	$ 50,000.00	$ 50,000.00	$ 50,000.00	$ 50,000.00	$ 50,000.00
		PT - Bus Shelters New & Renewal	$ 200,000.00	$ 200,000.00	$ 200,000.00	$ 200,000.00	$ 200,000.00	$ 200,000.00	$ 200,000.00	$ 200,000.00	$ 200,000.00	$ 200,000.00
		MI - Rehab Associated Improvements	$ 300,000.00	$ 300,000.00	$ 300,000.00	$ 300,000.00	$ 300,000.00	$ 300,000.00	$ 300,000.00	$ 300,000.00	$ 300,000.00	$ 300,000.00
		NI - One Tree Point Road Upgrades	$ -	$ -	$ -	$ -	$ 840,000.00	$ -	$ -	$ -	$ -	$ -
		NI - Marsden Point Road Upgrades	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,000,000.00	$ 2,913,600.00	$ -	$ -
		NI - McEwan Road Upgrades	$ -	$ -	$ -	$ -	$ 1,064,000.00	$ -	$ -	$ -	$ -	$ -
		NI - Int Imp - Water / Central upgrade	$ -	$ -	$ 2,494,800.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		MI - Misc works (sight benching and new parking signs etc)	$ 150,000.00	$ 200,000.00	$ 200,000.00	$ 200,000.00	$ 200,000.00	$ 200,000.00	$ 200,000.00	$ 200,000.00	$ 200,000.00	$ 200,000.00
		NI - Southern Entrance	$ -	$ -	$ -	$ 687,119.00	$ -	$ -	$ -	$ -	$ -	$ -
		NI - Port Kiorera Intersection	$ -	$ 2,000,000.00	$ 1,000,000.00	$ 1,000,000.00	$ 2,000,000.00	$ -	$ -	$ -	$ -	$ -
		NI - SH1/SH14 Connection (Hospital)	$ -	$ -	$ 1,000,000.00	$ 4,000,000.00	$ 5,000,000.00	$ -	$ -	$ -	$ -	$ -
		NI - Rose Street/Walton intersection	$ 2,500,000.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		NI - Ruakaka Beach Road Upgrades - Bridge Repl One Ln	$ -	$ -	$ 500,000.00	$ 1,460,000.00	$ -	$ -	$ -	$ -	$ -	$ -
	Growth Total		$ 3,200,000.00	$ 2,750,000.00	$ 5,744,800.00	$ 7,897,119.00	$ 9,654,000.00	$ 750,000.00	$ 3,750,000.00	$ 3,663,600.00	$ 750,000.00	$ 750,000.00
Improvement Total			$ 3,200,000.00	$ 2,750,000.00	$ 5,744,800.00	$ 7,897,119.00	$ 9,654,000.00	$ 750,000.00	$ 3,750,000.00	$ 3,663,600.00	$ 750,000.00	$ 750,000.00
Grand Total			$ 3,200,000.00	$ 2,750,000.00	$ 5,744,800.00	$ 7,897,119.00	$ 9,654,000.00	$ 750,000.00	$ 3,750,000.00	$ 3,663,600.00	$ 750,000.00	$ 750,000.00

WDC Capital New & Improvement Expenditure (Cont.)

Work Type	Primary Drivers	Project Description	Sum of 2024/25	Sum of 2025/26	Sum of 2026/27	Sum of 2027/28	Sum of 2028/29	Sum of 2029/30	Sum of 2030/31	Sum of 2031/32	Sum of 2032/33	Sum of 2033/34
Improvement	Level of Service	Seal Extensions - Unsubsidised (Rate payer Subsidised)	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,850,000.00	$ 6,850,000.00	$ 6,850,000.00	$ 6,850,000.00
		MI - Streetlight Upgrades	$ 1,723,771.00	$ 1,812,008.00	$ 973,875.00	$ 1,000,000.00	$ 1,000,000.00	$ 1,000,000.00	$ 1,000,000.00	$ 1,000,000.00	$ 1,000,000.00	$ 1,000,000.00
		50 MAX / HPMV Bridge Strengthening	$ 500,000.00	$ 500,000.00	$ 500,000.00	$ 500,000.00	$ 500,000.00	$ -	$ -	$ -	$ -	$ -
		TP - CRS Study	$ 10,000.00	$ 10,000.00	$ 10,000.00	$ 10,000.00	$ 10,000.00	$ 10,000.00	$ 10,000.00	$ 10,000.00	$ 10,000.00	$ 10,000.00
		TP - WDC model update	$ 150,000.00	$ -	$ -	$ -	$ -	$ 150,000.00	$ -	$ -	$ -	$ -
		AMP - ONRC	$ 10,000.00	$ -	$ -	$ 10,000.00	$ -	$ -	$ 10,000.00	$ -	$ -	$ 10,000.00
		PT - Infrastructure Strategy	$ -	$ 10,000.00	$ -	$ -	$ 10,000.00	$ -	$ -	$ 10,000.00	$ -	$ -
		PT - Park N Ride Facilities	$ -	$ -	$ -	$ 1,000,000.00	$ 1,000,000.00	$ 1,000,000.00	$ 1,000,000.00	$ 1,000,000.00	$ -	$ -
		MI - Speed Management	$ 500,000.00	$ 900,000.00	$ 291,000.00	$ 500,000.00	$ 500,000.00	$ -	$ -	$ -	$ -	$ -
		MI - Te Matau a Pohe CCTV Upgrade and Remote Operation	$ 100,000.00	$ 100,000.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		Cycleways - On Road	$ -	$ 927,778.00	$ 872,222.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		TP - Robert Walton	$ 2,494,800.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		MI - Sight Rails	$ 30,000.00	$ 30,000.00	$ 30,000.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		MI - Stock Underpasses	$ -	$ 50,000.00	$ -	$ 50,000.00	$ -	$ 50,000.00	$ -	$ 50,000.00	$ -	$ 50,000.00
		MI - Rail Level Crossing Imp	$ 10,000.00	$ 10,000.00	$ 10,000.00	$ 10,000.00	$ 10,000.00	$ 10,000.00	$ 10,000.00	$ 10,000.00	$ 10,000.00	$ 10,000.00
		MI - Dent/Riverside/Hatea Traffic Signal Improvements	$ 50,000.00	$ 200,000.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		MI - Seal Extensions Bridge Approaches	$ 250,000.00	$ 260,000.00	$ 300,000.00	$ 250,000.00	$ 250,000.00	$ 250,000.00	$ 250,000.00	$ 250,000.00	$ 250,000.00	$ 250,000.00
		MI - Seal Extensions-Intersection safety seals	$ 40,000.00	$ 40,000.00	$ 20,000.00	$ 20,000.00	$ 20,000.00	$ 20,000.00	$ 20,000.00	$ 20,000.00	$ 20,000.00	$ 20,000.00
		MI - Accessibility Improvements (barrier removal)	$ 40,000.00	$ 40,000.00	$ 40,000.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		MI - Safe green and healthy school travel & TDM	$ 200,000.00	$ 200,000.00	$ 200,000.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		MI - High Risk Urban Intersections	$ 50,000.00	$ -	$ -	$ 750,000.00	$ 2,250,000.00	$ 3,000,000.00	$ -	$ -	$ -	$ -
		NI - Int Imp - Porowini / Maunu (Signalsation)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,500,000.00
		MI - Urban Active Transport Network (UAT)	$ 700,000.00	$ 2,000,000.00	$ 2,800,000.00	$ 1,450,000.00	$ 800,000.00	$ 1,000,000.00	$ -	$ -	$ -	$ -
		MI - Low Cost Low Risk (Walking & Cycling)	$ 435,000.00	$ 1,635,000.00	$ 2,030,000.00	$ 635,000.00	$ 635,000.00	$ 30,000.00	$ -	$ -	$ -	$ -
		MI - Mid-Block Raised Priorty Crossing (Zebra/Signal) (SSI Toolkit)	$ 1,000,000.00	$ 1,650,000.00	$ 1,450,000.00	$ 1,250,000.00	$ -	$ -	$ -	$ -	$ -	$ -
		MI - Traffic Signal Optimization	$ 350,000.00	$ 350,000.00	$ 350,000.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		Cycleway -Kamo SUP to CBD (Vinery Lane / Lauri Hall Park)	$ 200,000.00	$ 1,000,000.00	$ -	$ 2,500,000.00	$ -	$ -	$ -	$ -	$ -	$ -
		MI - Traffic Calming SNP (SSI Toolkit) [PDT]	$ -	$ -	$ 50,000.00	$ 700,000.00	$ -	$ -	$ -	$ -	$ -	$ -
		MI - Road Saftey Lighting	$ 30,000.00	$ 50,000.00	$ 30,000.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		Waterfront to City Centre Connection - John St Package	$ 678,000.00	$ 200,000.00	$ 4,000,000.00	$ 4,000,000.00	$ -	$ -	$ -	$ -	$ -	$ -
		Waterfront to City Centre Connection - James St Package	$ -	$ -	$ -	$ 700,000.00	$ 1,000,000.00	$ 2,000,000.00	$ -	$ -	$ -	$ -
		Brynderwyn detour routes upgrades Paparoa and Cove Roads	$ 3,000,000.00	$ 20,000,000.00	$ 20,000,000.00	$ 10,000,000.00	$ -	$ -	$ -	$ -	$ -	$ -
		MI - Local Area Traffic Management (LATM)	$ 410,000.00	$ 410,000.00	$ 380,000.00	$ 200,000.00	$ 200,000.00	$ 200,000.00	$ 200,000.00	$ 200,000.00	$ 200,000.00	$ 200,000.00
	Level of Service Total		**$ 12,961,571.00**	**$ 32,384,786.00**	**$ 34,337,097.00**	**$ 25,535,000.00**	**$ 8,185,000.00**	**$ 8,720,000.00**	**$ 7,350,000.00**	**$ 9,400,000.00**	**$ 8,340,000.00**	**$ 10,900,000.00**
Improvement Total			**$ 12,961,571.00**	**$ 32,384,786.00**	**$ 34,337,097.00**	**$ 25,535,000.00**	**$ 8,185,000.00**	**$ 8,720,000.00**	**$ 7,350,000.00**	**$ 9,400,000.00**	**$ 8,340,000.00**	**$ 10,900,000.00**
Grand Total			**$ 12,961,571.00**	**$ 32,384,786.00**	**$ 34,337,097.00**	**$ 25,535,000.00**	**$ 8,185,000.00**	**$ 8,720,000.00**	**$ 7,350,000.00**	**$ 9,400,000.00**	**$ 8,340,000.00**	**$ 10,900,000.00**

WDC Capital New & Improvement Expenditure (Cont.)

Work Type	Primary Drivers	Project Description	Sum of 2024/25	Sum of 2025/26	Sum of 2026/27	Sum of 2027/28	Sum of 2028/29	Sum of 2029/30	Sum of 2030/31	Sum of 2031/32	Sum of 2032/33	Sum of 2033/34
New	Growth	MI - Footpaths - New	$ 800,000.00	$ 800,000.00	$ 800,000.00	$ 820,000.00	$ 850,000.00	$ 720,000.00	$ 808,000.00	$ 800,000.00	$ 670,000.00	$ 500,000.00
		NI - Riverside Drive Upgrades - 4 Laning	$ -	$ -	$ -	$ 3,000,000.00	$ 5,000,000.00	$ 8,000,000.00	$ 8,350,000.00	$ 950,000.00	$ -	$ -
		NI - Maunu/Central intersection project	$ -	$ -	$ -	$ 3,742,200.00	$ -	$ -	$ -	$ -	$ -	$ -
	Growth Total		**$ 800,000.00**	**$ 800,000.00**	**$ 800,000.00**	**$ 7,562,200.00**	**$ 5,850,000.00**	**$ 8,720,000.00**	**$ 9,158,000.00**	**$ 1,750,000.00**	**$ 670,000.00**	**$ 500,000.00**
	Level of Service	Cycleways - CAPEX Programmed Work	$ -	$ -	$ -	$ 2,827,778.00	$ 2,827,778.00	$ 2,827,778.00	$ 2,827,778.00	$ 2,827,778.00	$ 2,827,778.00	$ 2,827,778.00
		Cycleways - Tikipunga	$ -	$ -	$ -	$ 1,000,000.00	$ 2,000,000.00	$ 2,000,000.00	$ -	$ -	$ -	$ -
		Cycleways - Bream Bay Costal Trail - Heart land Ride	$ -	$ -	$ 3,925,829.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		TP- Springs Flat	$ 15,320,000.00	$ 3,200,000.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		TP- Bank Dent Signilisation	$ -	$ -	$ 2,972,554.20	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		TP- Riverside Drive Dave Culham RAB 2-laning	$ -	$ 2,494,800.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		MI - High Risk Rural Roads / Urban Corridors	$ 1,450,000.00	$ 2,900,000.00	$ 2,560,000.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		Cycleways - AH Reed Reserve to Kamo SUP - Paranui Valley Rd to Kensington Ave via local streets	$ 200,000.00	$ 800,000.00	$ 2,500,000.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		MI - Road to Road Walkway upgrades (CPTED)	$ 40,000.00	$ 40,000.00	$ 40,000.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		MI - Resilience Improvements	$ 1,000,000.00	$ 2,000,000.00	$ 2,000,000.00	$ 4,000,000.00	$ 4,000,000.00	$ 4,000,000.00	$ 4,000,000.00	$ 4,000,000.00	$ 4,000,000.00	$ 4,000,000.00
		MI - High Risk Rural Intersections (HRRI) [PDT]	$ 390,000.00	$ 90,000.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		MI - New Streetlighting	$ 528,150.00	$ 660,187.50	$ 660,187.50	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Level of Service Total		**$ 18,928,150.00**	**$ 12,184,987.50**	**$ 14,658,570.70**	**$ 7,827,778.00**	**$ 8,827,778.00**	**$ 8,827,778.00**	**$ 6,827,778.00**	**$ 6,827,778.00**	**$ 6,827,778.00**	**$ 6,827,778.00**
New Total			**$ 19,728,150.00**	**$ 12,984,987.50**	**$ 15,458,570.70**	**$ 15,389,978.00**	**$ 14,677,778.00**	**$ 17,547,778.00**	**$ 15,985,778.00**	**$ 8,577,778.00**	**$ 7,497,778.00**	**$ 7,327,778.00**
Grand Total			**$ 19,728,150.00**	**$ 12,984,987.50**	**$ 15,458,570.70**	**$ 15,389,978.00**	**$ 14,677,778.00**	**$ 17,547,778.00**	**$ 15,985,778.00**	**$ 8,577,778.00**	**$ 7,497,778.00**	**$ 7,327,778.00**

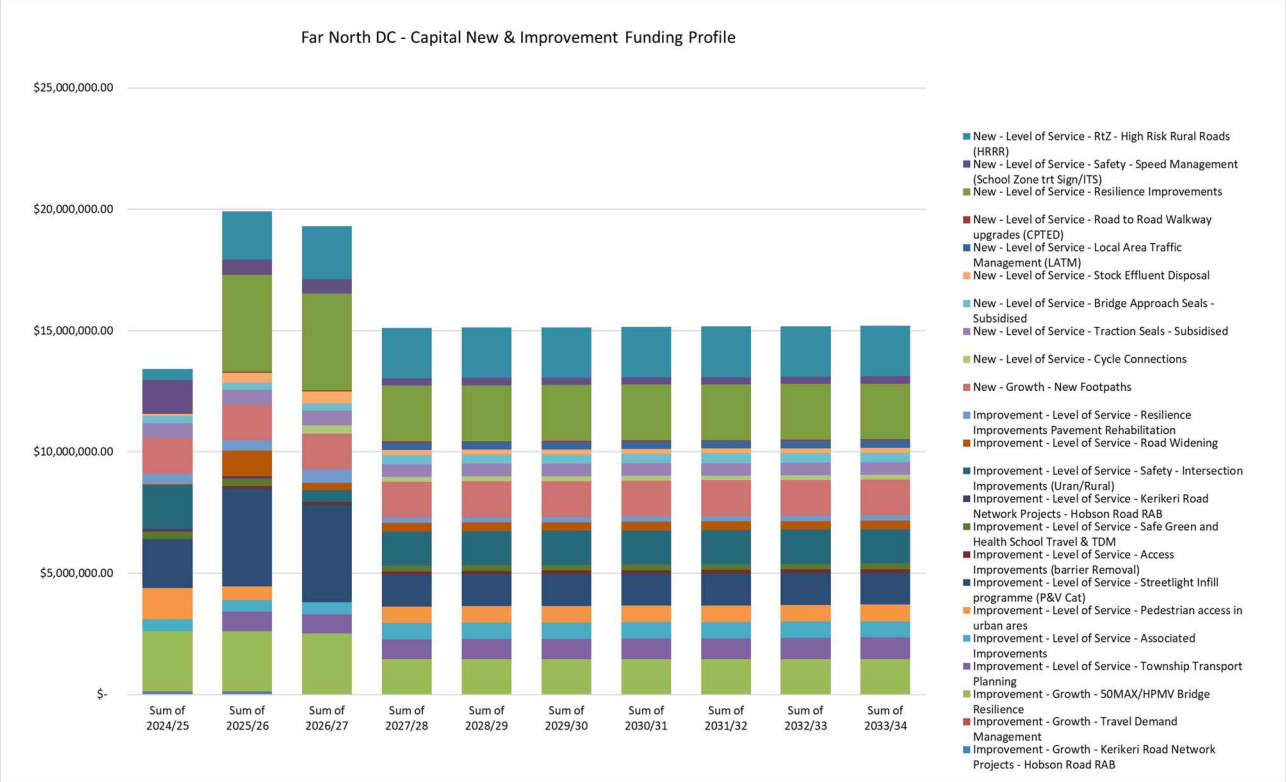

Figure 7-8: FNDC Capital New & Improvement Expenditure

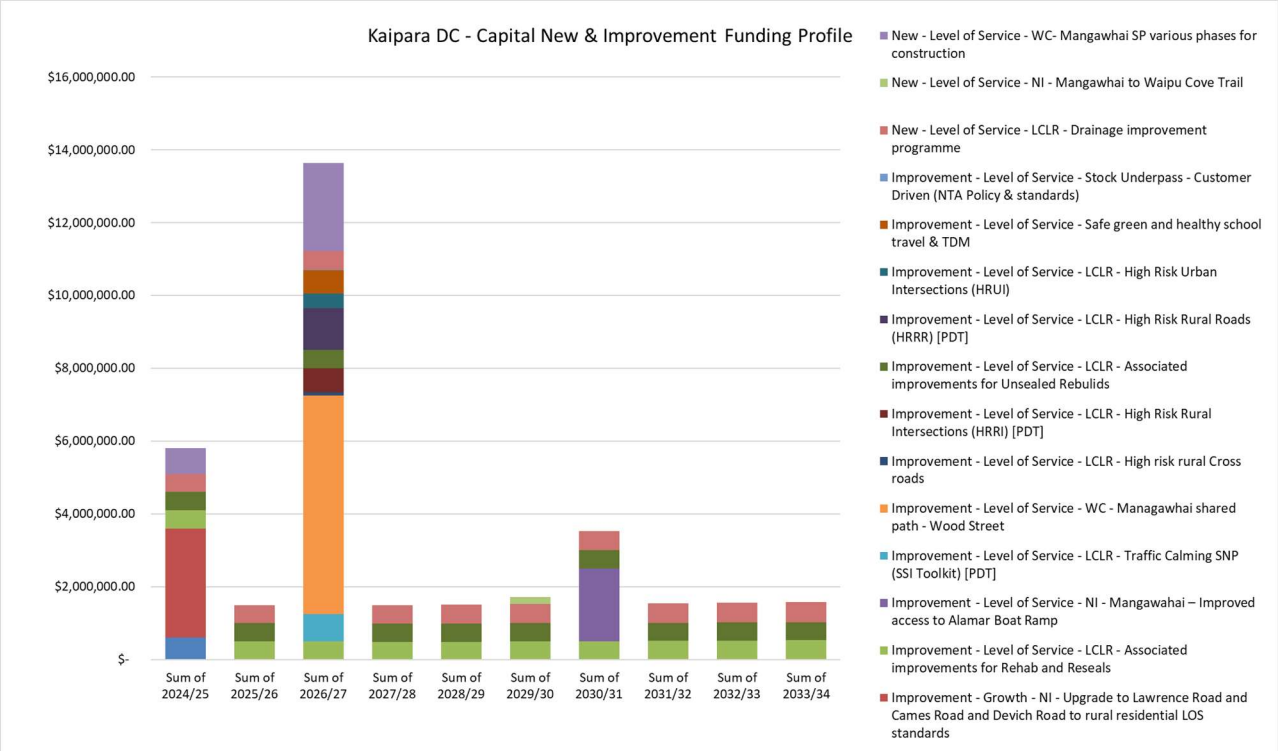

Figure 7-9: KDC Capital New & Improvement Expenditure

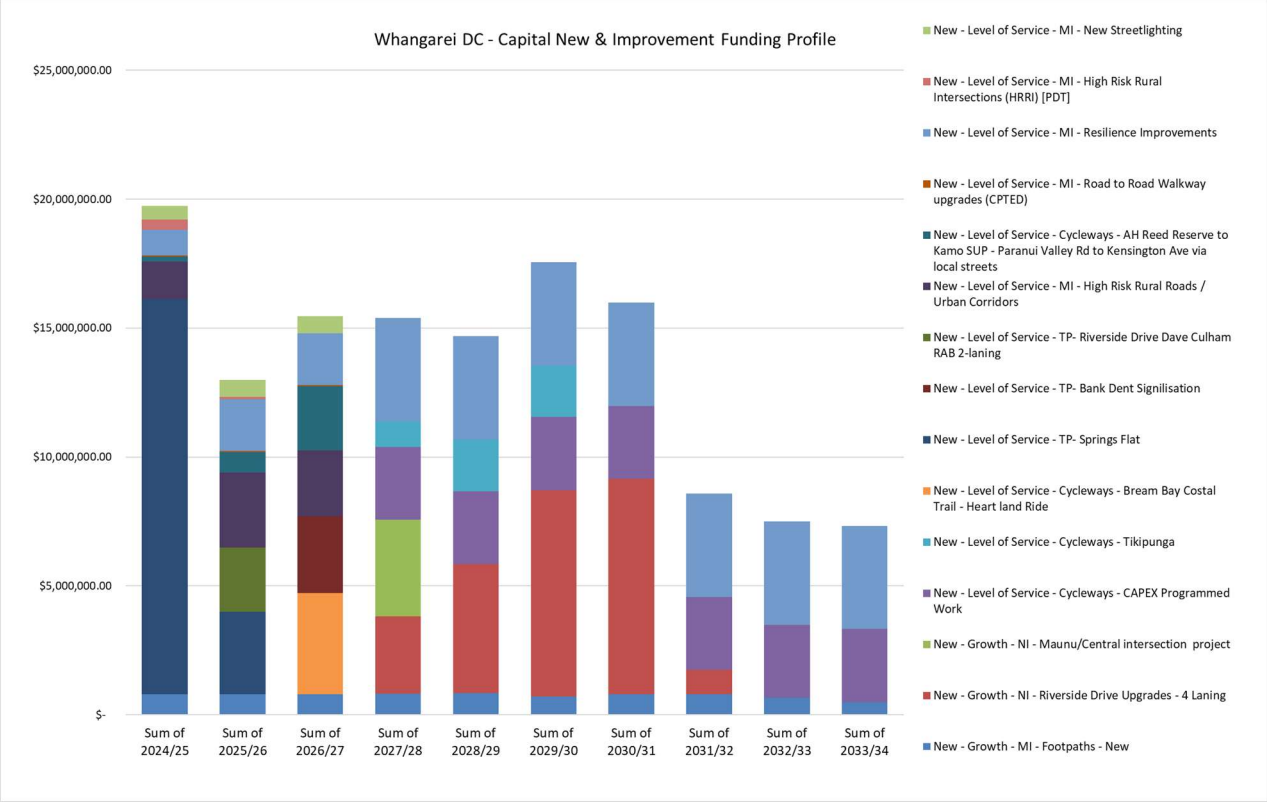

Figure 7-10: WDC Capital New & Improvement Expenditure

7.2.4 *Department Operations Expenditure & Revenue*

Department operations expenditure and revenue are set out in the LTP Financial Impact Statement.

7.3 Debt Profile

Debt profiles are set out set out in the LTP Financial Impact Statement.

7.4 Transportation Asset Valuation

The valuation was completed as at 30th June 2023 and includes the replacement costs of the assets, depreciated value.

The Roading Departments completes a valuation every year. This is undertaken using the RAMM valuation module apart from Far North DC, refer method below. Each valuation update is reported to the finance team with the key data being the capital additions, vested assets, write-offs and disposals. The valuation from RAMM is then compared to the finance updated valuation with the difference tracked and reported.

OBJECTIVE	The objective of the valuation is to; Set the replacement costs of the assets, the depreciated replacement costs and the annual depreciated investment value at the component level in regard to the asset management practices undertaken in this plan. This provides the link between the financial investment and the management of the assets and provides the opportunity to communicate with decision makers on the investment levels and the losses in service potential over time. To set the intergenerational equity in how the asset replacement should be funded. Comply with financial reporting requirements and legislation

POLICY	The valuation will be undertaken each year, reporting the current renewal profiles with the required depreciation investment. Updated figures will also be reported to the finance team using the RAMM valuation module for the vested asset values and write-off/disposal value.

7.4.1 Valuation Methodology

Figure 7-11 provides an over-view of the valuation process used to value the transport assets. In general, the process is the same for all northland councils. The only detail is that Far North DC extract the data from RAMM and undertake the valuation external of RAMM. In general, the same process is followed.

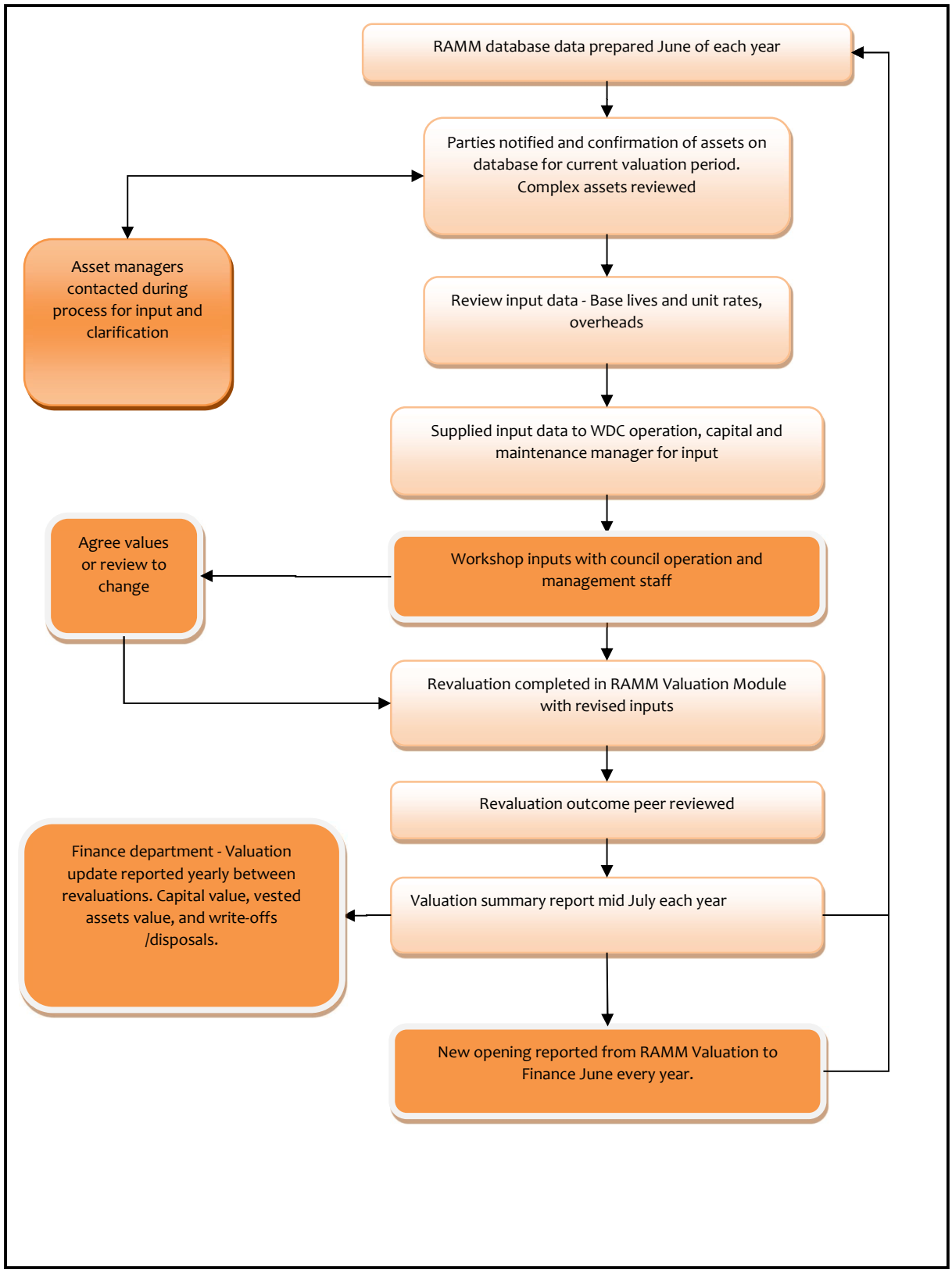

Figure 7-11: Transport Asset Valuation Process

7.4.2 Asset Lives

The key inputs to the valuations are the expected useful lives, unit replacement costs and the form of depreciation chosen. The asset components that have the greatest effect on the outcome, in terms of the key inputs, are the pavement base-course (sealed and unsealed) and the pavement surface.

Currently the expected lives of the base-course are set by hierarchy to recognise that these pavements differ in the forms of loss of service potential due to the differing impacts from traffic mix and loading. Each council's June 2020 Valuation report holds list of Useful lives and key input data in relation to the Valuation.

In general, the roading valuation is completed based on the following asset group in Table 7-12 below.

Table 7-12: Roading Assets Valued

Asset Group	Asset	Asset Description
Roads	Formation	The formed platform upon which the road is constructed
	Pavement	The pavement granular layers (base-course, sub-base) used to form the road carriageway.
	Surface	The surface material (chipseal, asphalt cement) that forms the running surface on the road
Structures	Bridges/Culverts	Bridges including pedestrian bridges and culverts.
	Other	Structures that require structural inspections e.g. stairs, over/under passes.
	Retaining Walls	All retaining walls owned by the Roading Department
Drainage	SW Channels	Includes dish channels, kerbs and channels, mountable kerbs and channels
	Other Drainage	Includes all other roadside drainage e.g. sumps, leads and circular and box-shaped culverts.
Traffic Control	Traffic Signals	Traffic signals for the management of traffic at high volume intersections.
	Signs & Markings	Road signs, poles and markings, intelligent traffic systems
	Calming Devices	Traffic islands, chicanes, speed tables etc.
	Railings	Guardrails, handrails & sight-rails of various materials.
Parking		Meters, car park pavements, surfaces, markings etc.
Street Scaping	Street Furniture	Seats, shelters etc.
	Street Lighting	Carriageway lighting includes poles, lanterns, lamps, cables & outreach arms.
	Services	Cleaning, mowing, spraying etc.
Walking & Cycling	Footpaths	Roadside footpaths and walkways between roads
	Cycling Facilities	Cycle lanes off roads

7.4.3 *Valuation Summary*

The valuation reports as at 30th June 2023 holds the detail in regard to the revaluation outcome. The valuation summary is provided in section 2 (Introduction) 2.17 Value of what We Manage.

7.4.4 *Confidence Ratings*

Confidence ratings for the valuations are provided in detail in the valuation reports for each council.

7.5 Funding Impacts Statement

The Funding Impact statement is provided in the Long-Term Plan.

7.6 Key Financial Assumptions & Uncertainties

The follow key financial assumptions have been made:

- All the financial figures in this section are based on Pre-LTP/NZTA Consultation and approvals. Any changes to these figures as result of consultation will have an impact on the overall strategies of this plan.
- That Council will continue to deliver the activity for the foreseeable future.
- NZTA financial assistance rates will remain unchanged for the planning horizon of this plan.
- Outcomes of the Pavement Performance Model and Urban Traffic Model are reliable and correct in providing inputs to the Forward Work Programmes.
- The District Growth Model, as used within the Development Contribution Database, is accurate enough to set development contribution income, where used.
- That NZTA will fund the requested envelope to meet the local share.
- Council Finance Models in regard to debt profiles and subsidy incomes are correct.

Northland Transportation Alliance

Transportation Activity Management Plan 2024–2054

Section 8 – Approved Funded Programme

Northland Transportation Alliance

Transportation Activity Management Plan 2024–2054

Section 6

Approved Funded Programme

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8.1 To be updated after September 2024

This section will be updated after September 2024.