

# APPENDICES MINUTES

Climate and Environment Subcommittee Meeting

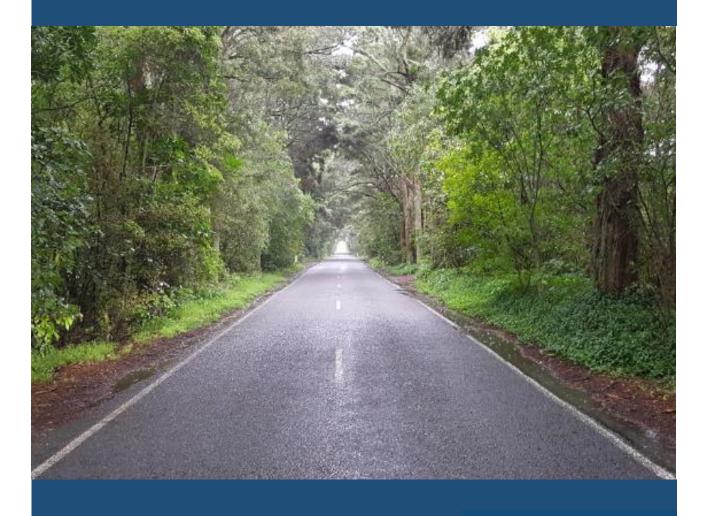
Tuesday, 20 August 2024

# **Table of Contents**

8.1	Access and T	ransport Asset Management Plan and Associated Funding	
	Appendix 1	KCDC 2024-33 Access and Transport Management Plan	4
8.2	Sustainable S	September	
	Appendix 1	Sustainable September Presentation	275

Kapiti Coast District Council
August 2024

# Access and Transport Activity Management Plan 2024-33



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# **Contents**

1	Ex	ecutive Summary	4
	1.1	Context and Overview	4
	1.2	Access and Transport services	5
	1.3	Challenges and issues	6
	1.4	What does it cost?	8
2	Ва	ckground and Introduction	9
	2.1	Background	9
	2.2	Goals and objectives of asset ownership	14
	2.3	Level of Plan	
	2.4	New Improvement Items	16
3	St	rategic Case	17
	3.1	Introduction	17
	3.2	Performance	17
	3.3	Access and Transport – The Infrastructure	24
	3.4	Drivers of Change	29
	3.5	Assessment of Evidence	45
4	Le	vels of Service	47
	4.1	Customer research and expectation	47
	4.2	Strategic and Corporate Goals	51
	4.3	Current Levels of Service	60
	4.4	Desired Level of Service	61
	4.5	New Improvement Items	62
5	Fu	iture growth and demand	63
	5.1	Demand Drivers	63
	5.2	Demand Forecasts	70
	5.3	Demand Impacts on Assets	76
	5.4	Demand Management Plan	76
	5.5	New Improvement Items	79
6	Pr	ogramme Business Case	80
	6.1	Purpose	80
	6.2	Traffic Service and Corridor Maintenance	87
	6.3	Footpath and Pathways - Walking and Cycling Facilities	. 109
	6.4	Drainage	. 126
	6.5	Environmental Maintenance	. 138
	6.6	Sealed roads maintenance and surfacing	. 142
	6.7	Unsealed Roads	
	6.8	Bridges, walls and other structures	. 178
	6.9	Resilience Projects	. 196
	6.10	Emergency Management	. 200
		Off-street parking areas	
		Safety Improvements (Low Cost / Low Risk Improvements)	
	6.13	Road Safety Coordination	. 216
		Transport model development	
		Network and Asset Management	
	6.16	Old SH1 and New Expressway Linkages	. 224
	6.17	Capital Projects	. 233
7	Ris	sk Management	
	7.1	Risk Management Overview	
	7.2	Risk Management Process	
	73	Critical Assets and Resilience	241

Access & Transport AMP 2024-33 | 2



	7.4	Resilience	247
	7.5	Emergency Plans	249
8	Fir	nancial Summary	250
	8.1	Financial Summaries	250
	8.2	2024-27 Financial Request (TIO)	252
	8.3	30 Year Financial Forecast	253
	8.4	Key Assumptions	254
	8.5	Asset Valuations	255
	8.6	Development Contributions	259
	8.7	Revenue and Financing Policy	260
	8.8	Funding Source Allocation	260
9	Pla	an Improvements and Monitoring	261
		AMP	
	9.1	Key Improvements	261
	92	Improvement Plan	262

Rev No.	Author	Reviewer	Version	Date:
1	Michelle Lewis	Sean Mallon	2012-15 AMP	Draft - 17 Nov 2011 Final - 12 Dec 2012
2	Neil Trotter	Francis Norku	2015-18 AMP	Draft - 2014 Final - 2015
3	Nienke Itjeshorst	Sean Mallon	2018-21 AMP	Final - 2018
4	Ting Ge, Suzanne Rushmere, Grant Holland	Glen O'Connor Mark Martin	2021-24 AMP	Draft 1 - 9 Dec 2020 Draft 2- 16 May 2021 Final - 6 July 2021
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Access & Transport AMP 2024-33 | 3



# 1 EXECUTIVE SUMMARY

# 1.1 Context and Overview

### Kapiti Coast is growing.

Our community love our provincial feel with the beach vibe, and we use our transport network to access our homes, shops, schools, businesses and recreational opportunities.

More people are choosing to live on the Kapiti Coast, while with development our district feels more urban. In short, our district is changing, and we are putting more pressuring on our transport network. With more journeys being made our roads feel busier and intersections are more complex. There are times when it's tough to get around our network and we hear of the frustration with more traffic lights and so much roadworks.

The growth has also provided positive improvements with additional capacity, such as the north-south expressway now up to Otaki, and our pathway network improvements. It's easy to forget what our transport was like, for example, how long it did take to get from Paraparaumu to Waikanae on a long weekend, or when we could not ride our bikes to Paekakariki for a coffee.

With more people living and working on the Kapiti Coast, our challenge is to make sure our people and goods can easily move around our district. Our activity management plan describes how we are answering this challenge.

# **Local Challenges**

The following figure 'unpacks' the problem statements with the aim of illustrating the issues that matter to the Kāpiti community. This also helps ensure Council focusses on it matters to address the challenges raised



# Fit for Purpose Network

Current network use differs from the past, and the level of investment needs to support users and different modes of travel now and in the future.

### Resilience and Climate Change

Increasing occurrence of severe weather-related events and coastal erosion is affecting some structures and challenging network resilience.

## **Demographic Changes and Accessibility**

Demographic change across Kapiti is in the younger and older groups. Our transport networks should better suit the older and younger groups.

### Connectivity

The Wellington Norther Corridor improvements are, and will continue to change travel patterns, this is evident in the congestion and poor connectivity.

# **Road Safety**

Road safety affects everyone, especially when lives are lost. Vulnerable users need to be kept safer.

Access & Transport AMP 2024-33 | 4

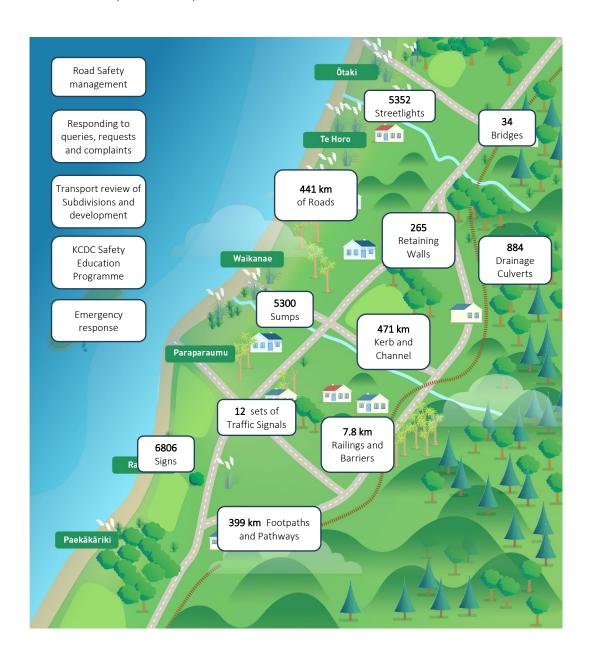
Item 8.2 - Appendix 1



# 1.2 Access and Transport services

We develop and maintain the roading network in the Kapiti District that provides access to work, home, school, essential services, shops and recreation activities. Our local roads network excludes State Highway 1 and State Highway 59 (Paekakariki – Pukerua Bay).

We maintain transport assets and provide services as shown on the schematic below:



Access & Transport AMP 2024-33 | 5



# 1.3 Challenges and issues

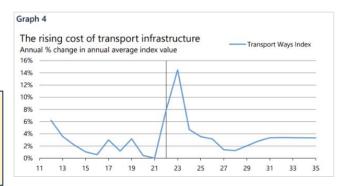
# 1.3.1 Inflation and operational cost increases

Inflation costs have increased well above predictions.

In the three-year 2021-24 period, Inflation has increase by over 20%.

Councils in the Wellington Region are seeing prices at the tender box 20-60% above 2021 prices.

This means greater costs for no change in service.



Operational costs have increased above inflation due to operational changes. Examples include; more effort required to comply with Safety and Traffic Management, scarce supply of aggregates, dumpsites costing more, longer cart distances,

Our 2024-27 funding request allows for the inflationary pressure.

# 1.3.2 State Highway Revocation

26.5 km of additional road length has been added into our Council Roading Network for the 2024-27 Long Term Plan.

NZTA Waka Kotahi are progressively constructing the Wellington Northern Corridor through the Kapiti Coast. Their expressway now extends from Transmission Gully in the South to Otaki in the north, and a future project proposed through to Levin. The Waka Kotahi expressways are making major travel time and safety improvements, they are also making Kapiti a better place to live.

The old State Highway is being transferred to Council to manage. Extensions to reroute local roads have also been required.

Transfer sections	Transfer	length	Comment
Peka Peka to Otaki - New Local Roads	Nov 2023	9.5 km	Included in 2024-27 LTP
Mackays Crossing to Peka Peka - Revocation	Feb 2024	17.0km	Included in 2024-27 LTP

The expressway project has been a catalyst for expanding the Cycleway Walkway network throughout Kapiti, and welcome ongoing challenge.

Our local walking and cycling community celebrate the opening of the PP2O shared path.



Our 2024-27 funding request allows for Maintenance and Renewals of the additional length of road.

Access & Transport AMP 2024-33 | 6

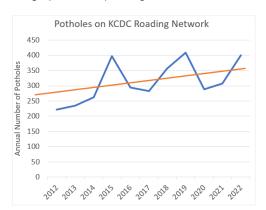


# 1.3.3 Pavement and surfacing management

Each Long-term plan since the global financial crisis in 2007/8 has seen a reduction in the Councils resurfacing programme (chip sealing and asphalt). This strategy has been adopted by many Councils and NZTA Waka Kotahi in response to restrained funding. In 2024 the Government Policy statement highlighted the importance of appropriate pavement management. A ring- fenced funding model for 'pothole prevention' was introduces including, maintenance, drainage, resurfacing and rehabilitation works. A significance funding increase was also announced (NZTA indicative funding update is expected to be confirmed in August 2024).

Resurfacing is a key element in our pavement asset management programme as it provides waterproofing and protects the road. With less resurfacing we are now seeing more faults and lower levels of service.

We are getting more potholes each year. Everyone hates potholes and this is also an indicator of surface integrity and waterproofing.



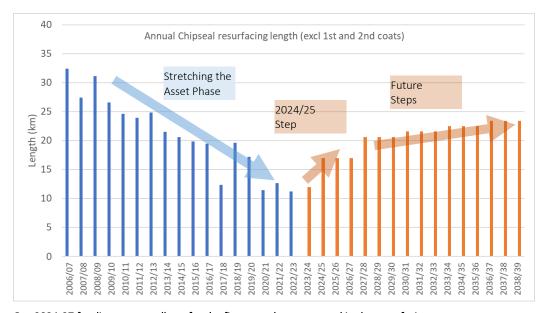
Roughness is getting worse. Smooth Travel Exposure measures how much road has good roughness. The trend over the past 5 years shows is decreasing.

- STE 2018/19 = 87%
- STE 2019/20 = 90%
- STE 2020/21 = 86%
- STE 2021/22 = 84%
- STE 2022/23 = 84%

We need to change our strategy.

Our intent is to HOLD the level of service at the current levels

We require step change in our resurfacing volumes and investment to achieve this.



Our 2024-27 funding request allows for the first step change upward in the resurfacing programme.

Access & Transport AMP 2024-33 | 7



# 1.4 What does it cost?

Access and Transport operations, maintenance and renewals are a major cost to Kapiti Coast District Council. Major items covered include:

- road pavements and surface, including patching potholes, digouts, reseals and asphalt renewals
- cleaning channels, clearing sumps and managing road drainage
- maintaining road markings and replacing damaged road signs
- operating streetlights and optimising traffic signals to improve network performance
- maintaining and renewal of footpath and pathways
- responding to incidents and emergency

# 1.4.1 Financial Forecast

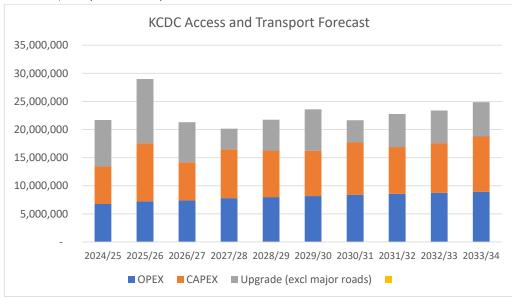
Access and Transport's 10 year forecast is shown below. The detail of the work is shown in the Programme Business Case and Finance Sections of this AMP.

This forecast includes future network growth and cost escalation. The changes in expenditure to allow for the 2021-24 inflation, the additional network length from the SH1 revocation and additional effort for pavement management are include in the forecast.

The forecast excludes major roads, therefore the proposed East West Connector project is not shown in this forecast.

2024/25 and 2025/26 has significant one-off costs of:

- 2024/25 and 2025/26 includes the PP2O Revocation upgrade
- 2024/25 and 2025/26 includes the Blue Bluff remedial works
- 2025/26 Kapiti Culverts replacements



Access & Transport AMP 2024-33 | 8



# 2 BACKGROUND AND INTRODUCTION

# 2.1 Background

This section provides an overview of the elements of the network assets within this plan, and organisational context.

# 2.1.1 Purpose of this Plan

This Access and Transport Activity Management Plan (AMP) draws on Council's information and current thinking about the management of the Access and Transport activity.

The plan is primarily developed as part of the three-year planning cycles required by the Local Government Act 2002 and the Land Transport Management Act 2003.

This plan is supporting information for the Long Term Plan (LTP) and provides the background work for the Access and Transport Activity Statement in the Kāpiti Coast District Council Long Term Plan and Infrastructure Strategy (IS).

This plan also provides the analysis behind the Strategic and Programme Business Cases for Waka Kotahi NZTA's consideration as part of the National Land Transport Programme. The submission from Kāpiti joins the other region's land transport programmes to a Wellington Regional Land Transport Plan.

As the plan provides for a range of uses it also has a varied audience. The Table below indicates the different users and the reason for which they will use the plan. This is used as a checklist to ensure the plan is meeting the needs of users.

The needs of the different users and purpose of each document has been considered with a view to clarity as well as reduced duplication.

KCDC Activity Management Plan Structure		
Executive Summary	5 Pages	All Councillors, Kapiti Community
		' '
Strategic Case	30 Pages	Selected Members with transport lead, Group Manager, Transport Manager, Access and Transport Unit,
AMP details (Introduction, Level of Service, Demand, Risk Management, Financial Summary)	65 Pages	Access and Transport Unit, Transport Asset Manager, Group Manager
Programme Business Case	156 Pages	
Improvement Plan	11 Pages	Transport Asset Manager, Transport Manager

Access & Transport AMP 2024-33 | 9



# 2.1.2 Relationship with other planning documents

The Activity Management Plan has been updated to include the Strategic Case and the Programme Business Case within its core.

The Strategic Case is intended to provide the story – context, issues and response options in a concise manner

This Programme Business Case discusses and develops options for the delivery of the Access and Transport Activity - "How can we do this?" .For development of issues, options and work programmes, each work category is discussed separately. As work categories may be managed by different staff, each section is intended to be self-sufficient. This may result in some duplication between sections.

The structure of the AMP and the related documents is shown below:



Kāpiti Coast's Activity Management Plans refer to the International Infrastructure Management Manual (IIMM) levels of

### 2.1.3 Network Assets

Our access and transport team manage the core roading and walkway/cycleway routes within the Kapiti Coast District. This excludes the Waka Kotahi state highways than run through Kapiti.

Roading Network Statistics:

Centreline.km	Urban	Rural	Total
Sealed	261.8	169.1	430.9
Unsealed	0.0	11.9	11.9
Total	260.1	181.0	442.8

This includes 26.5 km of road handed over from Waka Kotahi in 2023/24 from the M2PP Revocation corridor and PP2O local roads. A further 8.2km is expected to be handed over from the PP2O revocation in 2 to 4 years. This AMP has been prepared to include the additional length received, but not the future roads yet to be handed over.



Access & Transport AMP 2024-33 | 10



In summary our assets include:

Traffic Services	Unit	Quantity
Signs	ea.	6806
Pavement Markings	km	501
Sight Rails	ea.	205
Streetlights	ea.	5352
Traffic Islands	ea.	483
Traffic Signals	ea.	12

Walking and Cycling	Unit	Quantity
Residential Footpath	km	336
Walkways	km	4
Cycleways	km	15
Shared Paths	km	44

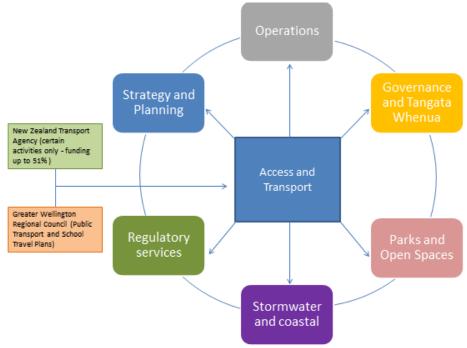
Drainage	Unit	Quantity
Kerb and Channel	km	471
Sumps	ea.	5300
Sump leads	km	45
Streetlights	ea.	5352

Bridges	Unit	Quantity
Bridges	ea.	34
Large Culverts	ea.	25
Carparks	Unit	Quantity

# 2.1.4 Organisational linkages

The delivery of Access and Transport activities is closely linked with other activities delivered through Council. The diagram below depicts the key relationships:

Figure 2.1: Key Linkages between Access and Transport Activities and Other Activities



Examples of direct coordination with linked teams include:

Access & Transport AMP 2024-33 | 11



**Governance and Tāngata Whenua** - Understanding Māori community values, issues and aspirations as they relate to economic, social, cultural and environmental well-being is integral to decision-making.

**Parks and Open Spaces -** Shared responsibilities for maintenance and management of berm, trees and planting. Close co-ordination with cycleways, walkways and bridleways. Shared financial responsibility and support in providing and maintaining new and existing interfaces with the transport network.

**Stormwater** - Shared responsibilities in the management of road drainage assets, stormwater capacity issues and for asset condition monitoring and management of bridges and culverts.

Regulatory Services - Providing transportation input into development planning and subdivision including:

- Road safety in relation to development planning
- Transport network capacity and demand management
- Subdivision engineering and vesting of new roads
- Building control in relation to access and parking

**Strategy & Planning -** Access and Transport provide data and input for growth projections in both economic and population. There is also input into the planning policy work in areas such as District Plan, economic policy, development contributions. Redevelopment of the Subdivision and Development Principles and Requirements (SDPR 2012) will be a joint project.

# 2.1.5 Partnering and knowledge sharing

Te Whakaminenga o Kāpiti: Te Whakaminenga o Kāpiti is one of the longest lasting partnerships between tangata whenua and local government in Aotearoa New Zealand. The partners are the Kāpiti Coast District Council and the mana whenua (people with 'authority over the land') on the Kāpiti Coast.

The goal of Te Whakaminenga o Kāpiti is to forge a relationship of mutual benefit between the Kāpiti Coast District Council and the tangata whenua that will develop into an effective and meaningful partnership.

While Te Whakaminenga o Kāpiti has primarily been involved with issues to do with resource management, it has also worked, particularly in more recent years, to ensure that the Māori world view is better represented and understood in the broader community. From the beginning Te Whakaminenga o Kāpiti has focused on harmonising different cultural attitudes to resources and solve local issues according to national legislation.



Access and Transport/Te Kaiwhakahaere Putunga Waka acknowledges the input of tangata whenua into the Sustainable Transport Strategies and the Speed Management Plan and reflects the issues and suggestions raised in its development. These recent examples show the value of the partnership and opportunities created.

Access & Transport AMP 2024-33 | 12



**Other Councils**: Staff participate in Te Ringa Maimoa meetings and TAG meetings, which have help to build good working relationships and establishing knowledge shared with Councils in the Greater Wellington group, as well as outside the region.

Relationships are further established during conferences and RCA forums, which has proven a valuable tool for keeping up to date with the latest developments as well as personal relationship building to further improve knowledge sharing.

Our Te Ringa Maimoa cluster includes the Wellington group shown below, however we also have contact with Horowhenua to the north.



Waka Kotahi NZTA/Wellington Transport Alliance: Council meet quarterly with the Wellington Transport Alliance regarding maintenance and coordination of operations. This forum supports resolution of issues/questions. The Traffic Operations Centre (TOC) manages the district's traffic lights on behalf of Council. Council staff and TOC are in regular contact to discuss improvements and manage faults.

**Kiwirail:** Staff have regular meetings with Kiwirail to discuss the maintenance and issues/risks in relation to level crossings. Kiwirail has sought active input with regard to high risk level crossings in the district. Recently, Council initiated discussions with Kiwirail and NZTA to establish an emergency access across rail at Waikanae, these works are now complete.

**Greater Wellington Regional Council:** GWRC and Council work together on public transport provision in the District, with Council in a lobbying role for improving public transport and working with GWRC to achieve the best local outcomes. Regular meetings are held with staff and a collaborative approach is taken to minor improvement works that affect bus shelters. GWRC and NZTA staff have been involved in the development of the Network Operating Framework tool for Kāpiti.

# 2.1.6 Procurement

Council has a Procurement Strategy endorsed by Waka Kotahi NZTA. The strategy provides a framework for purchasing decisions based on value for money outcomes. The Strategy was last endorsed in March 2023 and is due for revision every three years.

The REG Smart Buyer Self-Assessment is used to assess Councils knowledge and capability.

The assessment was repeated by the team in February 2024 resulting in an improved score of 57/70 ("Our organisation has embraced Smart Buyer principles but can still improve"). This is a recognition of the learning within the team and the processes being worked through leading up to letting maintenance contracts.

Access & Transport AMP 2024-33 | 13



# 2.2 Goals and objectives of asset ownership

The key objective of AMP is to provide a desired level of service with cost effective methods while demonstrating responsible stewardship for present and future customers. Activity Management Plans are a key component of the strategic planning and management of Council, with links to the 10 Year Plan and service contracts.

### 2.2.1 What we do

The services provided through the Access and Transport activity are necessary to ensure the community's travel needs are satisfied for both district and regional travel, and freight can be collected and delivered to commercial enterprises to support growth, productivity and employment.

The Access and Transport Activity provides:

- Operation and maintenance of the transport network
- Replacement of assets to ensure long term sustainability
- Improvement of existing assets to sustain serviceability
- Creation of new assets to cater for demand and growth
- Road safety improvements
- Planning and investigation in relation to transport activities
- Promotion of different travel modes
- Ensuring safety of road users (education)
- Liaising with stakeholders (service requests)
- Support for enforcement of traffic and transport regulations, standards and bylaws

# 2.2.2 Why we do it

The transport network is a significant and essential physical resource in the District, contributing to the delivery of Council's core services. This is to provide efficient and effective transport services. It also contributes to Council's outcomes for the District which is to provide for a thriving economy and a resilient community.

There are key interrelated reasons for the Council's involvement in the provision of access and transport assets and activities:

- Providing access to work, schools and essential services, for example, health centres to ensure the community has reasonable access to core services to support essential everyday needs of individuals
- Reducing the negative impact of travel on the quality of life of others in the community through
  providing safe connections within and between local centres and workplaces, schools and
  residences for all network users
- Connectivity of businesses and premises to enable efficient movement of fright and commercial interaction

Increasing access opportunities by all modes to local employment sites to enable individuals with appropriate skills to live and work within the Kāpiti District travelling by powered and non-powered transport vehicles.

Access & Transport AMP 2024-33 | 14



# 2.2.3 How we fund It

Access and transport activities are funded by a combination of rates funding, subsidies from Waka Kotahi NZTA for maintenance, renewals and capital works, as well as the Wellington Regional Council (GWRC) for Public Transport (PT) services and infrastructure, and school travel plans.

Waka Kotahi NZTA co-invests with Council at a Funding Assistance Rate (FAR) of 51%. Waka Kotahi NZTA also co-fund new capital projects, if an approved business case process has been developed and approved or the programme has been approved through the Low Cost Low Risk work category.

# 2.2.4 Sustainable investment

Long term asset management ensures there is appropriate investment at the right time. This requires funding to be available. Asset depreciation recognises the investment required to maintain the assets condition each year in an 'ideal' situation where there are no other factors driving investment decision. Actual investment levels are driven by factors such as availability of Waka Kotahi NZTA funding and Council budgets, risk assessment, criticality and growth pressures. The proposed investment is always a weighted outcome of these factors, and doesn't necessarily reflect the depreciation level.

# 2.3 Level of Plan

# 2.3.1 AM Practice

Kāpiti Coast's Activity Management Plans refer to the International Infrastructure Management Manual (IIMM) levels of Asset Management maturity and best-practice.

The degree of sophistication beyond a 'Core' - or basic - approach has been determined according to a variety of criteria – including costs and benefits that are derived from more advanced planning, legislative requirements, risks from asset failure, the size, condition and complexity of the assets and customer expectations.

This assessment has been undertaken across Council activities to ensure the planning approach is fit for purpose, as follows:

Table 2.1: AMP maturity review

Criteria	Assessment	Comment		
District population	Intermediate	A comparison of factors including urban area, town populations and total		
size		population		
Districtwide risks	Intermediate	Analysis of districtwide risks relevant to all asset groups		
Average annual costs	Advanced	Access and Transport is the largest allocation budget of Council's asset groups. The Activity is critical to Council's delivery.		
Legislative requirements	Intermediate	In addition to the policy of meeting minimum legislative requirements, there are national and regional coordination and integration initiatives and requirements in place		
Size, condition and complexity of assets	Intermediate	The range of assets with varying levels of formal condition assessments and management plans in place. Asset criticality relates to the level of inspection, from consultant to contractor.		
Risks associated with failures	Advanced	Bridges and culverts (flooding) risks are well managed and regular inspections undertaken by consultants and contractors. Tree hazards were a concern but are being brought under control with the initiation of systematic management approach in 2010		
Organisation skills and resources	Intermediate	Increasing in-house technical skills to manage the asset planning and management process is on-going. This will enable the implementation of strategy through the delivery programme		

Access & Transport AMP 2024-33 | 15



Criteria	Assessment	Comment
Customer expectations	Intermediate	Residents expect well connected and reliable transport services across our network and to our region.
Sustainability considerations	Intermediate	The environmental impacts of transport continue to increase. Alternative networks mode contribute to the Council's responsibilities to support sustainable transport.

This analysis suggests that the asset management practice for Access and Transport at Kāpiti Coast District Council should ultimately be at the advanced level. Much of this Asset Management Plan is currently written at an intermediate level with a more comprehensive approach for portions that require a more advanced approach. A structured approach has been applied to ensure improvements are made to those areas where more focus or discussion is required.

# 2.3.2 AMP maturity

An independent peer review was undertaken in 2022 to identify the strengths and weaknesses in the plan by the Te Ringa Maimoa team.

	KAPITI COAST DISTRICT COUNCIL	REGIONAL AVERAGE	NATIONAL AVERAGE
2021 / 2024 AMP	2.03	2.15	2.17
2018 / 2021 AMP	1.87	1.62	1.99

The comparison between our last AMP and regional and national averages show we have continue to improve, in an environment where there has been significant improvement across sector.

The 2021/24 AMP is viewed as "fit for purpose" by the Te Ringa Maimoa assessment.

The improvements across the sector provide both a challenge and opportunities to learn from as we continue to improve our AMP.



The comparison of our individual assessment criteria scoring against our previous AMP provides more detail. Recommendations from the assessment have input into development of this 2024-27 document.

# 2.4 New Improvement Items

Improvement Item AMP 2024.2.1

Improve lowest assessment areas (Communicating and Quality Improvement)

Access & Transport AMP 2024-33 | 16



# 3 STRATEGIC CASE

# 3.1 Introduction

# 3.1.1 Purpose

The Strategic Case captures the operating context for the Access and Transport Activity - "Why we have to invest." This aligns to and addresses government and regional priorities, as well as reflecting the local challenges.

The Programme Business Case sets out the process of managing assets at a reasonable cost to achieve agreed levels of service. It also outlines the asset risks and how these can be managed, mitigated or removed. It shows how Council intends to move from its current state to a future state.

As well as reflecting local issues our investment strategy seeks to support the delivery of regional and national outcomes.

# 3.1.2 Structure

The Strategic Case and the Programme Business Case are developed in combination with the Activity Management Plan. The Strategic Case is intended to provide the story – context, issues and response options in a concise manner. Accordingly, the are no appendices, references to the relevant AMP sections where the reader seeks further detail.

# 3.2 Performance

# Kāpiti is doing well in a challenging environment of change

Kāpiti is recognised as a climate change leader and this guides our actions – particularly around mode shift and embracing new opportunities

There is a strong platform of working together with tangata whenua and the community are actively engaged in Council affairs.



(photo: Kāpiticoastnz.com)

The Kāpiti Coast District has significantly more transport resilience and capacity with the completion of the new Waka Kotahi expressway routes.

Investment and procedural audits undertaken by Waka Kotahi (NZTA) continue to be positive. The 2019 Investment Performance Audit was effective in all areas with the exception of Activity Management Plan (some improvement needed).

"Kāpiti Coast District Council has effective financial controls and management procedures in place to ensure the Transport Agency's investment in its land transport programme is successfully delivered." (2022 Procedural Audit).

Access & Transport AMP 2024-33 | 17



Pavement and surface condition is acceptable at this time, however with less renewal works in recent years and restrained maintenance funding the trends indicate the surface condition is getting worst. This activity management plan focuses on this area and requests support to find balance and hold the current condition.

Customer surveys are also showing weaker performance, with frustration with the amount of road works (State Highway revocations, stormwater upgrades, and our roading works). Growth in the district are putting more pressure on our major routes and more traffic lights are adding to annoyance. Growing pains are a challenge.

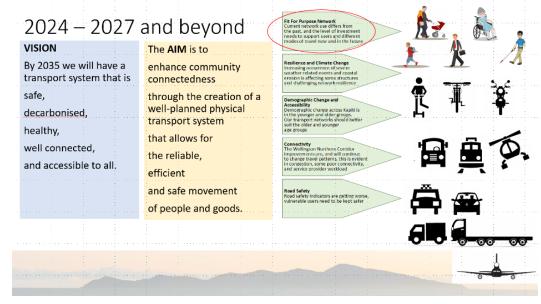
Our continuous improvements must be in alignment with the underlaying need for reducing emissions from our activities and promote reductions across the transportation system. The challenge for emissions reduction has been raised through our Sustainable Transport Strategy and Government Policy Statements – this is a long-term fundamental focus.

# 3.2.1 Problem and Benefit Statement Review

In 2020 the first set of Problem Statements was reviewed and tested for validity against the (then draft) Sustainable Transport Strategy and the operations team.

From a 2023 review, the problem statements are seen as appropriate, with some change in emphasis and greater focus on the 'fit-for-purpose network' comprising all modes of transport.

The following diagram maps the Vision and Aim of the Sustainable Transport Strategy with the Problem Statements.



The benefits and further discussion is included in section 4.2.1.

Access & Transport AMP 2024-33 | 18



# **3.2.2** Performance Measures

Council tracks and reports on the performance measures in the Long Term Plan, and the One Network Framework/One Network Road Classification also has a set of Performance Measures.

Table 3.1: LTP Level of Service

2024-34 LONG-TERM PLAN CUSTOMER LEVELS OF SERVICE						
# N	1easure	Target	Results	Trend	Performance	
AT-IMP001 (previously AT002)  AT-LoS001 (previously AT004)	The change from the previous financial year in the number of serious and fatal crashes on the local road network, expressed as a number.  Length of sealed local road resurface meets planned length (reworded from a % target)	5 year rolling average – decreases 3.9% 2024-27 LTP (16.5km) (5% during	10 crash ave 19/20 12 crash ave 20/21 10 crash ave 21/22 9 crash ave 22/23 4.3% (18.0km) 19/20 2.7% (11.0km) 20/21 3.0% (12.1km) 21/22		Target Met  Target Not Met	
AT-LoS002 (previously AT006)	Roads that meet smooth roads standards, measured by smooth travel exposure.	21/24 LTP) 80% (85% during 21/24 LTP)	2.9% (11.5km) 22/23 87% 2019/20 86% 2020/21 84% 2021/22 84% 2022/23	$\Rightarrow$	Target Met	
AT-LoS001 (Previously AT008)	Percentage of footpaths that fall within the level of service or service standard for the condition of footpaths as set out in the activity management plan.	85% (60% during 21/24 LTP)	96% 2019/20 94% 2020/21 98% 2021/22 99% 2022/23		Target Met	
AT-LoS003 (Previously AT010a)	Percentage of service requests relating to road and footpaths responded to within 24 hrs (urgent) (measure updated; 3-5 hrs with road and footpaths separated in 2021-24 LTP)	85%	No data 2019/20 68% 2020/21 56% 2021/22 54% 2022/23		Target Not Met	
AT-LoS003 (Previously AT010b)	Percentage of service requests relating road and footpaths responded to within 15 days (non-urgent) (measure updated; road and footpaths separated in 2021-24 LTP)	85%	No data 2019/20 97% 2020/21 95% 2021/22 98% 2022/23	$\Rightarrow$	Target Met	
	Removed from 2024-34 LTP					
	Residents that agree that the existing transport system allows for easy movement around the district	80% during 21 /24 LTP	81% 2019/20 74% 2020/21 67% 2021/22 57% 2022/23		Target Not Met	
	Residents that are satisfied with street lighting	85% during 21/24 LTP	84% 2019/20 84% 2020/21 83% 2021/22 83% 2022/23		Target Met	
	Residents that are satisfied with the condition of roads	70% during 21/24 LTP	77% 2019/20 73% 2020/21 66% 2021/22 55% 2022/23		Target Not Met	
	Residents that are satisfied with the condition of footpaths	65% during 21/24 LTP	66% 2019/20 66% 2020/21 66% 2021/22 66% 2022/23		Target Met	

Access & Transport AMP 2024-33 | 19

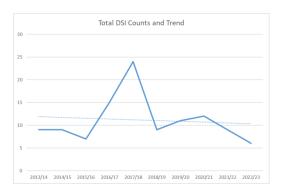


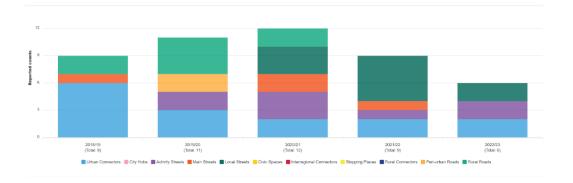
# 3.2.3 Road Safety

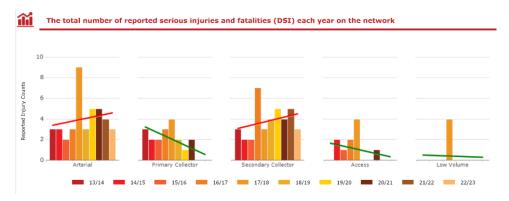
Leading into the 2021-24 period, Kāpiti Coast had a poor road safety record with particular concerns around vulnerable users.

Over the past few years crash statistics have improved and while road safety is a priority, it now sits alongside other issues.

As shown below crashes are occurring on all road classes, with urban connectors and rural roads (or arterials and secondary collectors under ONRC) being the most common.



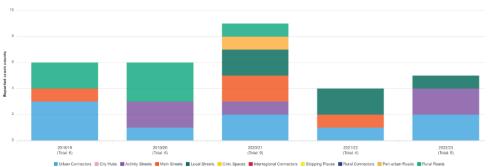


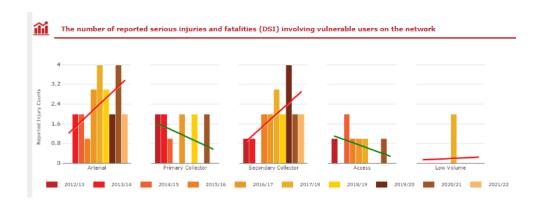


Crashes involving vulnerable users is a focused for council given the encouragement of walking and cycling, as well as the high proportion of older residents. This will continue to be monitored to ensure alternative modes are safe and regarded as safe.

Access & Transport AMP 2024-33 | 20







# 3.2.4 Climate Change

Council is aware of the impact Climate Change is projected to have, and is committed to a sound planning approach with a high level of community involvement.

The components involved are:

- Adaptation
- and Mitigation
- and Leadership



The effects of climate change, the impacts on the Access and Transport activity, and actions proposed are detailed in the AMP. These have been considered in terms of the first three years (NLTP), years four to ten (LTP), and eleven to thirty (Infrastructure Strategy).

Access & Transport AMP 2024-33 | 21



### 3.2.4.1 Carbon Emissions

Measuring carbon emissions has been undertaken by Council for the past few years, however this has not reached down to the level of measuring contractor and supply line carbon emissions to delivery the activities.

A joint project is underway to measure our key supplier/contractor emissions. We expect this to project to form our base lines and enable targets to be set.

Benefits of better carbon management will become normal as we learn and incorporate this knowledge into the way we undertake our Access and Transport activity.

### Transport means all modes

Traditionally transport was all about roads. But it's much broader than that.

In reality, the transport system provides the access and connectivity that enable our communities to thrive and seek the outcomes that are important to them.

As we encourage mode shift, we move away from reliance on the private motor vehicle and give greater support to other means. The Manaakitanga benefits are to the individuals involved, the wider community and the environment by doing this.

Maintaining and improving all transport links, from roads, pathways and public transport systems is aligned to our fundamental emissions reduction objective.

# 3.2.5 Capacity Management – How busy are our roads?

Council operates a traffic model for the district networks. This also includes the state highway network to ensure an overall view is achieved. The KTM4 represents a typical weekday (Tuesday to Thursday), has a base year of 2018 and models future years of 2026 and 2036.

A new joint model will be established the Wellington Transport Analytics Unit (a partnership between Greater Wellington Regional Council (GWRC), local councils and Waka Kotahi NZ Transport Agency).

The busiest road in the network is Kāpiti Road, this has reduced since the opening of the Kapiti expressway and travel patterns have settled down, but peak traffic numbers are considerable.

In 2020, traffic numbers west of Kāpiti Rd Interchange were approaching 30,000 ADT.

Waka Kotahi's expressway programme has completed the Transmission Gully, MacKays to Peka Peka, and Peka Peka to Otaki Expressways, with ongoing planning for the final Kapiti section in the Otaki to North Levin project. These projects are successfully improving highway safety and travel times in across our district. These projects are changing the traffic patterns on our local roads. We expect 24.8km of revocated state highway and new local road to be transferred to our network this financial year – integrating 6.2% of network length into our network.

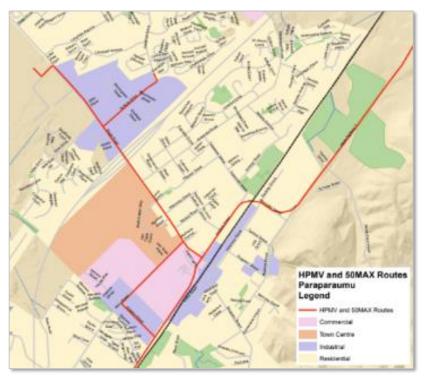
A high level of interest remains in linking Ihakara Street with Kapiti road through the proposed "East-West" link. Separate business cases have been developed in the past, and the issue continues to be discussed.

## 3.2.5.1 Heavy Vehicles and High Productivity Motor Vehicles (HPMV)

50 MAX trucks are now commonplace and with an additional axle and a weight of up to 50 tonnes. By comparison, High Productivity Motor Vehicles (HPMVs) are larger than 50 tonnes, and can only travel on designated routes. These roads require special pavement management to ensure they do not cause undue deterioration.

Access & Transport AMP 2024-33 | 22





In general, the network is coping with these larger vehicles, but isolated locations where there is weak geology and/or minimal pavement strength there is some sign of distress.

Council's bridge stock has been reviewed in advance of this change and recommended 5 bridges be posted for loading restrictions.

Fortunately, most of the heavy traffic passing through the district used the State Highway network, however there is some concern around the revoked SH1 as its performance is not well understood by Council.



Congestion on SH1 (now SH59) following a crash (Photo stuff.co.nz)

Access & Transport AMP 2024-33 | 23

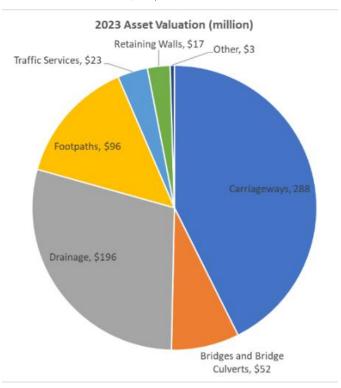


# 3.3 Access and Transport – The Infrastructure

Assets managed by Access and Transport are described in the Introduction.

The optimised replacement total value of assets is \$677 million (30 June 2023)

The asset value is over \$11,000 per resident.

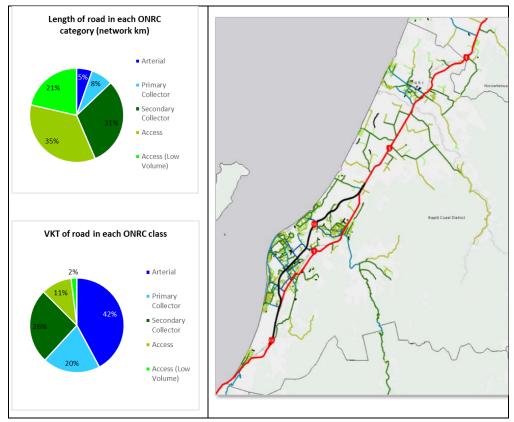


Over the 2.25 year period to 30 June 2023, there has been an increase in the ORC ( $\pm$ 31.5%), an increase in the ORDC ( $\pm$ 29.6%) and an increase in the AD ( $\pm$ 29.4%). This represents an increase of 14% per annum in asset value.

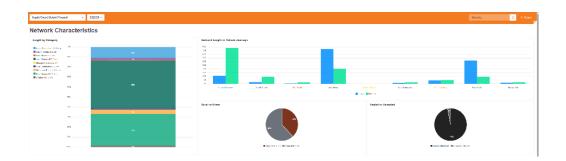
In 2018/19 a review of the One network Road classification was undertaken. Only a few minor changes were made as illustrated below.

Access & Transport AMP 2024-33 | 24





The establishment of the One Network framework (ONF) was a further development of the national classification system. This approach is now fully integrated into management processes.



Access & Transport AMP 2024-33 | 25



# 3.3.1 Critical Assets and Lifelines

Regional Risk and Emergency Management

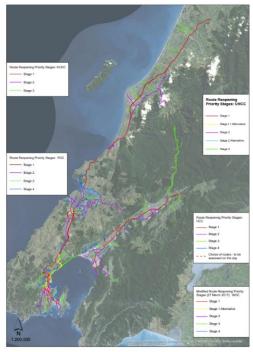
Lifelines are considered at a regional level and the Kāpiti network plays a part in the overall resilience and response to natural hazard events.

Kāpiti Coast District Council is aware of its role in terms of the Wellington Region Vulnerable Sites Seismic Response Plans

- State Highway 1 alongside Paekakariki Village and Paekakariki Steam Co - Alternative route establishment using local roads (including Paekakariki Rail Overbridge which is regarded as a 'high risk site')
- State Highway 1 Centennial Highway (Coast Road) - Alternative route establishment using local roads
- Note both of these issues are less likely to be required once Transmission Gully opens
- The State Highway 1 Otaki River is a large aging structure, regarded as a 'high risk site'.
   This has been duplicated by the new PP2O bridge.

An on-shore tsunami has been identified as having a significant impact on the state highway and local road network. As with other risks the completion of the Wellington Northern Corridor Improvements has improved resilience.

Application of Council's Enterprise Risk Management framework



Route Reopening Priority Stages HCC, WCC, PCC, KCDC and UHCC

Critical assets are defined as assets that have a high consequence of failure. Network critical assets

- typical daily traffic (ADDT) of minimum 3,000 5,000 vehicles or more
- road provides access to urban areas with AADT >30,000 or >10,000 population

Drainage has a significant impact on the usability of the roading network; while the reticulated stormwater network is not managed by Access and Transport, its performance is a key factor.

Street sumps are maintained by Access and Transport, and those critical to road network resilience are identified.



Arterial/Primary Collector Route and Lifeline Bridges on the Kāpiti Coast District work will be addressed over the next twenty years - Kāpiti Road culverts are in the design phase, and the Matatua around 2040.

A criticality review has been undertaken, the methodology discussed in the AMP and is implemented through programme prioritisation in the PBC.

Access & Transport AMP 2024-33 | 26



### 3.3.2 **Management**

Council uses a combination of in-house professional services and external suppliers to manage and deliver the work programme.

Council's Access and Transport Activity team restructured with a new focus on key functions - Asset Management, Safety and Service Delivery. Additional staff are proposed, particularly to manage the impacts of State Highway revocation and growth.

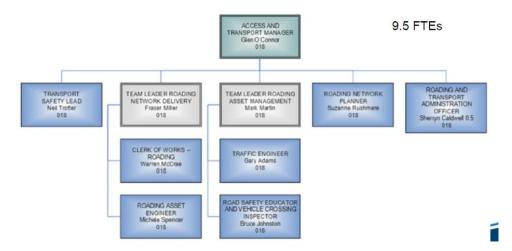
This structure also reflects the range of internal service required including:

- Council wide modelling, traffic management, safety and design advice
- Better evidence based life cycle asset management and work programme.
- Design for minor improvements programme and smaller construction projects
- Council wide modelling, traffic management, safety and design advice audit and field validation
- Forward Works Programming including Resurfacing and Asset Renewals.
- RAMM data base on-going improvement programme
- ONF delivery programme development

Contract and tender development

Building on the success of the restructure, further development of the team to increase capability and capacity was identified in 2023, and a proposal to increase the team to better align with outcomes is under consideration.

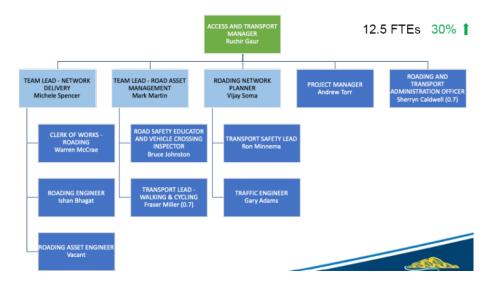
# **Access & Transport Capacity** - Previous 2021 AMP



Access & Transport AMP 2024-33 | 27



# Access & Transport Capacity - Current 2023



# Infrastructure Projects Delivery Team

Alongside the Access and Transport team, the Infrastructure Projects Delivery Team is responsible for larger projects across a range of infrastructure service. This specialised team ranges from four to eight staff depending on the workload.

Council's Operations Team

Councils operations team undertake work for a variety of business units. Alongside water services operations and maintenance, the largest components are mowing and other vegetation control. The Access and Transport portion of this work has strong synergies.

## **Physical Works Delivery**

Road maintenance, renewals and improvement projects are undertaken by external contractors. Council has an approved Procurement Strategy that discusses the scope and nature of outsourcing.

While Kāpiti is well served by a range of suppliers, the ongoing nature of the Wellington Northern Corridor projects is affecting the availability of contractors and the degree of competition. A lack of competition tends to drive prices up. Council endeavours to scope and bundle works so they are undertaken effectively and efficiency while supporting a healthy market.



Access & Transport AMP 2024-33 | 28



# 3.3.3 Funding

Access and transport activities are funded by a combination of rates funding, subsidies from Waka Kotahi (NZTA) for maintenance, school travel plans renewals and capital works; and from the Wellington Regional Council for public transport.

Waka Kotahi (NZTA) co-invests with Council at funding assistance rate of 51%. This rate was reviewed prior to the 2024-27 programme development and is expected to remain in place for some time.

Waka Kotahi (NZTA) also co-fund new capital projects if an approved business case process has been developed and approved or the programme has been approved through the Low Cost Low Risk (LRLC) work category and other major project exceed 1 million. The priority for the LRLC is safety works.

Affordability is a real concern, and Council is focussed on doing the most with the funding available. The level of spending has to be balanced between what the community wants to achieve and what is affordable for the community.

# 3.4 Drivers of Change

# 3.4.1 National and Regional Alignment

Planning and management of the Access and Transport activity recognised National, Regional and local issues and priorities. There is a high level of alignment across these tiers.



# 3.4.1.1 Road Safety

Road safety and an increasing crash trend, is a key issue for Kāpiti. Waka Kotahi (NZTA) monitors crash data on behalf of road controlling authorities.

### Road to Zero

In late 2019 The Ministry of Transport released the Road to Zero Road Safety Strategy. This was in response to the lack of achievement in reducing deaths and serious injuries.

A target of a 40 percent reduction in deaths and serious injuries by 2030 is proposed.

Underpinning this vision are seven proposed guiding principles:

- 1. We plan for people's mistakes
- 2. We design for human vulnerability
- 3. We strengthen all parts of the road transport system
- 4. We have a shared responsibility for improving road safety
- 5. Our actions are grounded in evidence and evaluated
- 6. Our road safety actions support health, wellbeing and liveable places
- 7. We make safety a critical decision-making priority

Access & Transport AMP 2024-33 | 29



Five key action areas are identified and those actions where Council plays a significant role are identified in bold text:

- 1. Improve the safety of our cities and regions through infrastructure improvements and speed management
- 2. Significantly improve the safety performance of the vehicle fleet
- 3. Treat road safety as a critical health and safety at work issue
- 4. Encourage safer choices and safer behaviour on roads
- 5. Drive action through effective system management



In line with these action areas, the 'immediate' area where Council plays a role are identified in terms of infrastructure, Roads Safety Coordination (RSC) or community advocate.

1	Invest in safety treatments and infrastructure improvements	(Infrastructure)
2	Introduce a new approach to tackling unsafe speeds	(Infrastructure + RSC)
3	Review infrastructure standards and guidelines	(Infrastructure)
4	Enhance safety and accessibility of footpaths, bike lanes and cycleways	(Infrastructure)
6	Promote the availability of vehicle safety information	(RSC)
8	Support best practice for work-related travel	(RSC)
10	Prioritise road policing	(advocate)
12	Support motorcycle safety	(RSC)
14	Strengthen system leadership, support and coordination	(Infrastructure + RSC)

The actions identified above are carried through the AMP into infrastructure management programmes (including low cost low risk) and road safety coordination programmes.

# 3.4.1.2 Government Policy Statement (GPS) on Land Transport Funding 2024/25-2034/35

While the Activity Management Plan was developed within the context of the 2023 GPS (Labour led Government), the 2024 version was released by the Nation led Government as draft in March 2024, and final in June 2024. This was during LTP deliberations and adoption.

Strategic priorities continue to align with the direction of Councill's planning for the transport system, with the exception of emission reduction which is no longer a key action in climate change mitigation.

Access & Transport AMP 2024-33 | 30



Economic Growth and Productivity	Increased Maintenance and Resilience	Improved safety	Value for Money
reduced journey times and increased travel time reliability     less congestion and increased patronage on public transport     improved access to markets, employment and areas that contribute to economic growth     more efficient supply chains for freight     unlocked access to greenfield land for housing development and supporting greater intensification	more kilometres of the road network resealed and rehabilitated each year     fewer potholes     a more resilient road and rail network	reduction in deaths and serious injuries     increased enforcement.	better use of existing capacity     less expenditure on temporary traffic management.

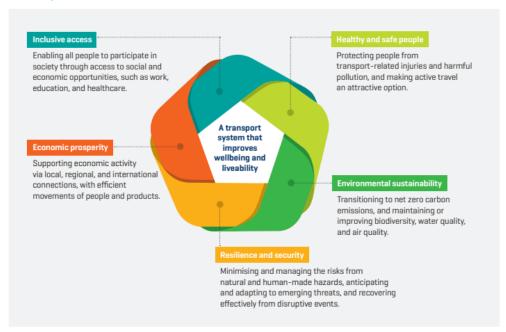
Ring fencing pavement works (pothole prevention) and reduction to minor capital projects are headlines. Of note is confirmation of the Otaki to North of Levin expressway, with lead consultants and contractors signed up in June 2024 to progress works over the next two years.

The Transport Outcomes Framework developed by the Ministry of Transport in 2018 describes the ministry's intension for the sector. this closely to Council's objectives. These align with the refined problem statements in section 2.2.

Access & Transport AMP 2024-33 | 31



## Transport Outcomes Framework



### 3.4.1.3 Regional Initiatives

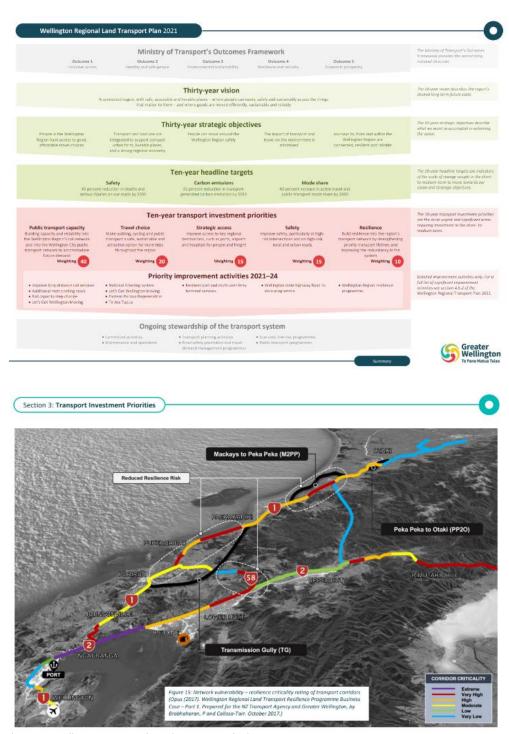
The Wellington Regional Land Transport Plan combines the issues and proposals across the region. Kāpiti part of this suite as well as being affected by others' programmes.

# Key items include:

- East-West link (Paraparaumu)
- Transmission Gully came into service since March 2022
- Peka Peka to Otaki (PP2O) came into service since December 2022
- Otaki to North Levin (O2NL) Expressway
- State Highway 1 M2PP revocation due for handowner
- State Highway 1 PP2O revocation design phase
- Passenger transport integration

Access & Transport AMP 2024-33 | 32

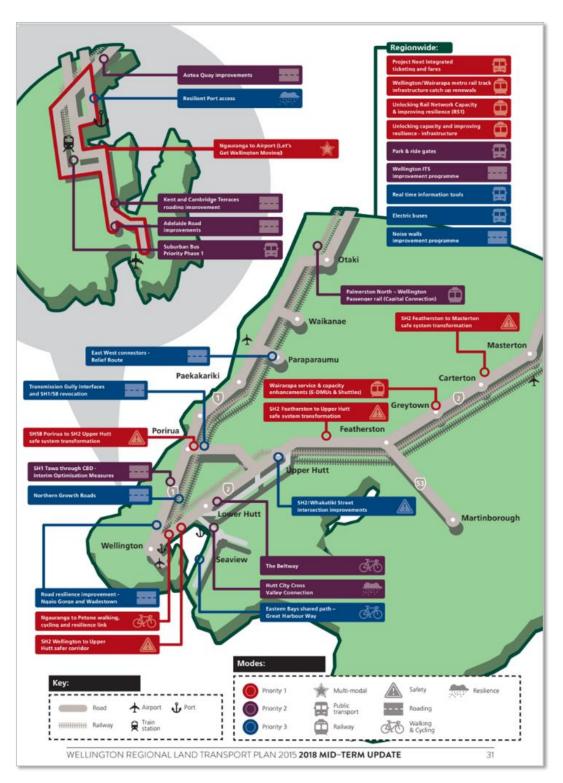




(Source: Wellington Regional Land Transport Plan)

Access & Transport AMP 2024-33 | 33





Access & Transport AMP 2024-33 | 34



#### 3.4.2 Local Challenges

#### 3.4.2.1 Problems and benefits

Council is committed to national and regional objectives, with road safety being the one of the greatest shared concern.

The following figures 'unpack' the problem statements with the aim of illustrating the issues that matter to the Kāpiti community. This also helps ensure Council focusses on it matters to address the challenges raised.



#### **Problem: Fit For Purpose Network**

Current network use differs from the past, and the level of investment needs to support users and different modes of travel now and in the future



Access & Transport AMP 2024-33 | 35



#### **Problem: Resilience and Climate Change**

Increasing occurrence of severe weather-related events and coastal erosion is affecting some structures and challenging network resilience



#### **Problem: Demographic Change and Accessibility**

Demographic change across Kāpiti is in the younger and older groups. Our transport networks should better suit the older and younger age groups

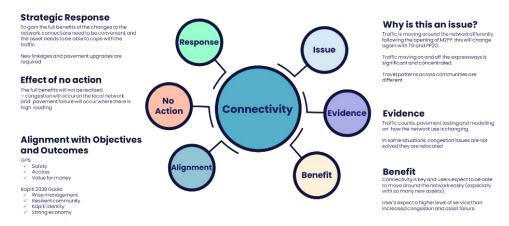


Access & Transport AMP 2024-33 | 36



#### **Problem: Connectivity**

The Wellington Northern Corridor improvements are, and will continue to change travel patterns, this is evident in congestion and poor connectivity



#### **Problem: Road Safety**

Road safety indicators are getting worse, vulnerable users need to be kept safer



#### Some other responses

While this is discussed in detail in the programme business case, it is recognised some key guidance is helpful.

#### Emphasis on robust evidence

Fit for purpose data collection and robust information management underpins sound decision making. A commitment to data will improve knowledge and actions.

Access & Transport AMP 2024-33 | 37



#### **Developing and assessing options**

Rather than developing a programme and seeking funding, options are developed to be tested against the outcomes sought. This mean the focus is on the result rather than 'the project'. Where possible, these include non-asset options such as policy or process advancement.

#### **Smart buying**

Contracts with suppliers are in place and are implemented in line with Council's Waka Kotahi (NZTA) approved procurement strategy. The Procurement Strategy was updated in 2023 and subsequently endorsed by Waka Kotahi (NZTA).

#### Partnering and knowledge sharing

With other Councils: staff has been actively participating in the Te Ringa Maimoa workshops and is actively pursuing building good working relationships and establishing knowledge sharing with Council's in the Wellington group as well as outside the region. Working with neighbouring Local Authorities continues to be important when a customer centric approach is taken.

#### **Refining Council Processes**

Simplifying and streamlining processes to enable multi-modal use of the network, planning supports a move away from reliance on the motor vehicle and all users are considered in policy and maintenance decision-making.

#### **Local Challenges and Progress**

In responding to the challenges, there are some successes already visible:

- The revocation of SH1 is enhancing access to public transport (rail stations and bus interchanges)
- The East West Connectors Programme (capital upgrades) seeks to reduce severe congestion and support economic development
- The low cost / low risk improvement projects and programme aim to improve safety, accessibility and increase mode share for pedestrians and cyclists
- The stride and ride cycle programme has created a substantive shared path / cycle network connecting the M2PP expressway cycle route to other key locations; there is now a focus of identifying linkage gaps and ensuring there is logical connectivity across the network
- Council are very supportive of electric vehicles and keen to work with the Waka Kotahi (NZTA) and GWRC to provide recharge stations on-street and in car parks.

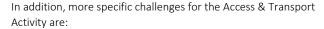


Access & Transport AMP 2024-33 | 38



Council's key challenges for the LTP 2024 are set out in the strategic context documents that are provided on the website and can be summarised as relating to:

- District Economy
- Affordability of Council services
- Community Connectedness
- Environment





- Effects of the Wellington Northern Corridor Improvements and SH1 revocation on the local network and on budgets
- Demographic changes (elderly population)
- Road safety (increasing crash trends)
- Increasing severe weather events affecting local roads

#### 3.4.2.2 Effect of RoNS/Wellington Northern Corridor Improvements through the District

The Roads of National Significance (RoNS) projects and more recently the Wellington Northern Corridor Improvements have progressed significantly over the past decade. There are numerous Waka Kotahi (NZTA led projects affecting Kāpiti.

Project	Known as	Commenced	Completion	Associated Projects
Mackays to Peka	M2PP or	2014	February 2017	SH1 revocation
expressway	Kāpiti			Town Centres
	Expressway			East-West connector
				Local road connections
Transmission Gully	TG	2015	March 2022	New link, no SH1 revocation
Motorway				
Peka Peka to Otaki	PP2O	2017	December 2022	SH1 revocation
Expressway				Local Road connections
Ōtaki to north of	O2NL	Possibly 2025	Possibly 2029	TBC
Levin				

M2PP has changed the travel patterns throughout Kāpiti. The Expressway Connectors project and the East West Connectors Programme are providing both challenges and opportunities in terms of maximising the

benefits and outcomes to be achieved on delivering each of the projects.

There are Memorandums of Understanding in place for M2PP and PP2O. These outline the transfer of assets works plans and associated funding. Implementation of the revocation agreements includes town centre revitalisation to a more local user focus.

As part of PP2O the transfer of the Otaki River bridge is a significant issue for Council as the bridge would be the largest on the Kāpiti local network.



Access & Transport AMP 2024-33 | 39



(Photo: NZTA)

Other projects that affect the district include:

- The direction set in Arataki NZTA's Long Term Strategic View
- Horowhenua's Integrated Transport Strategy

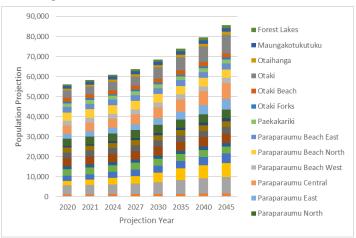


#### 3.4.2.3 Growth and Population Change

The Kāpiti Coast District has experienced ongoing growth at a steady pace which has increased over recent years.

The establishment of the Kāpiti Expressway and pending Transmission Gully link are increasing the travel convenience, and likely the attractiveness of the district. Strong population growth is predicted to continue throughout Kāpiti

The older population is likely to have a strong influence on the



allocation of road space and Council would expect to be asked to deliver prioritisation for pedestrians, cyclists, improved routes to public transport interchanges (bus stops / rail stations), and accessibility to core services.

Older people are also more vulnerable to death and serious injury in crashes, so a combination of speed management, enhanced road safety measures around retirement villages and general footway improvements to shops and town centre areas are likely to have an important part to play.

#### 3.4.2.4 Supporting all transport users

Kāpiti has a history of multi-modal transport from passenger transport to active modes.

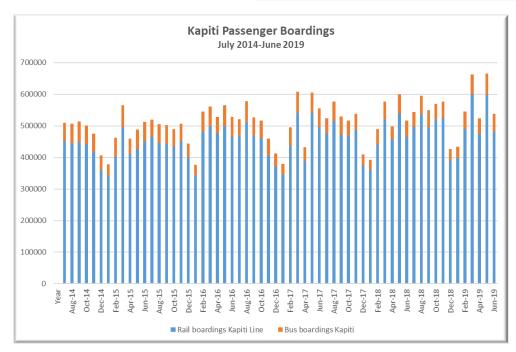
Access & Transport AMP 2024-33 | 40



Commuter rail has been in place since the 1970s and Council is supportive of this as a preferred mode of transport for many. Increased capacity and improvement to parking and connection services are key to the success of the Kāpiti Metlink service.



(Picture: stuff.co.nz)



Access & Transport AMP 2024-33 | 41

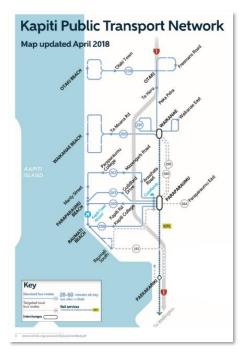


Passenger transport by bus is available across much of the district.

There is a high level of cycle of pedestrian use, enhanced by an extensive cycle route network. School safety programmes focus on encouraging active transport as a preferred option for children.

Tourism is growing in Kāpiti, with domestic tourism being the largest portion. Along with Kāpiti island the Tararuas are popular destinations. The Te Araroa trail passes through the length of the district, in part using local roads as part of the network.

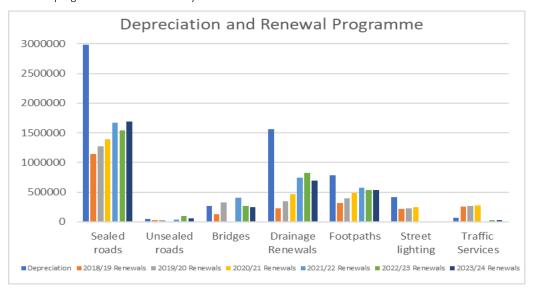
(Map: metlink.org.nz)



#### 3.4.2.5 4.2.5 Are we spending enough? Funding Asset Renewals and Depreciation

Historically depreciation has not been fully funded and there have been challenges in funding renewals. As part of a long term and sustainable approach Kāpiti is moving towards fully funding depreciation as detailed in the 2018-38 LTP. Council's financial strategy is to accelerate repayment of debt by fully funding annual depreciation by 2022/23.

The following graph illustrates the depreciation calculated in the 2023 asset valuation compared with the renewals programme over the last six years.



Access & Transport AMP 2024-33 | 42



The high level of depreciation indicated for sealed roads suggested an review of asset life for surfacing is appropriate. This is discussed further in the Programme Business Case.

#### 3.4.3 COVID-19 Considerations

The societal and economic impacts of the COVID19 pandemic dominated the 2021-24 period. Inflation now has a significant impact on the cost of goods and services, including the delivery of transportation programmes. This impact is included in the budgets developed for the forward programmers.

#### 3.4.4 Council Objectives Sought

The overall outcomes sought by Council are detailed in the Long Term Plan. These will be reviewed as part of the 2021 LTP development.



Access & Transport AMP 2024-33 | 43



#### 3.4.5 Kāpiti Coast Sustainable Transport Strategy

Kāpiti is reviewing its strategic direction for Access and Transport with the development of the 2020 Sustainable Transport Strategy. The strategy is structured as shown.



#### Challenges include:

- Growth
- A network under pressure (congestion, mode choice, parking)
- Service Provision/Lack of Access
- Demographic Change
- Safety
- Resilience
- Environment and Amenity
- Affordability

#### Focus areas include:

- Improved connections
- Integrating Development and Transport
- Developing Networks
- Bus Network
- Safety
- Environment
- Resilience
- · Amenity and Economy

#### 3.4.6 Strategic Responses and Developing Options

In 2021 a structured approach has been developed by a group of Wellington Region Road Controlling authorities. This was based on grouping typical Problem Statements and Strategic Responses.

The programme business case will adopt the differential levels of service approach in considering options for investment. The Activity Management Plan includes a multi-criteria analysis to assist the consideration of option and identification of preferred options.



(Photo:stuff.co.nz)

Access & Transport AMP 2024-33 | 44



### 3.5 Assessment of Evidence

#### 3.5.1 Focussed Improvement

Kāpiti Coast District has made a focussed effort into data improvement over the past three years.

This include data collection, data cleansing and process improvements. Staff have been active within the Regional Te Ringa Maimoa group (road efficiency group).

#### 3.5.2 Data Confidence

The data confidence levels assessed as part of the 2023 Infrastructure Valuation show all components are regarded as A (Highly Reliable) or B (Reliable). The broader issues have been assessed as having "minor inaccuracies" only.

#### 3.5.3 Data Quality Assessments

Scores have progressively improved with the focus on data and processes.

A focus on reviewing treatment length data (the core unit for pavements) will provide a robust base for future asset management.

This effort is recognised in the Te Ringa Maimoa 2022/23 AM Data Quality Report with an excellent score of 94%.



#### 3.5.4 Asset Management Data Standard implementation

Kāpiti Coast District is an early adopter of the AMDS, and have undertaken considerable data management and data cleaning to enable this transition. It is hoped that this will provide a strong platform for integrated asset management and contract management in the future.

Migration of the RAMM database to confirm with the AMDS standard largely occurred in September-October 2023.

#### 3.5.5 Gaps in information or levels of service achievement

Along with inventory and asset condition data improvements improvement in monitoring performance are required. These follow the REG/Te Ringa Maimoa initiatives with data available for all of the customer outcome measures. Gaps will be further addressed over the 2024-27 period.

See Section 9 Plan Improvement and Monitoring from more information.

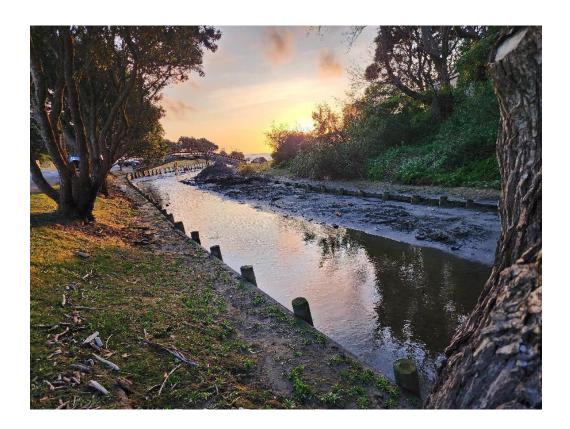
Access & Transport AMP 2024-33 | 45



#### 3.5.6 Where to from here?

Moving on from this strategic case, the Programme Business Case (PBC) outlines Council's response and discussed the options and programmes developed.

The Programme Business Case is integrated into our Activity Management Plan (section 6) and supports the information on processes and Local Government act 2002 compliance.



Access & Transport AMP 2024-33 | 46



# 4 LEVELS OF SERVICE

# 4.1 Customer research and expectation

To provide a fit for purpose transportation system, it is essential that Council understands who the users are and what their specific needs are. Management of the transportation system can become very complicated with competing expectations through local, regional and national stakeholders.

#### 4.1.1 Users, partnerships and stakeholders

Users are central to a fit for purpose system, key users of different parts of the system have been discussed through the programme business case, and are identified below.

Table 4.1: Stakeholders

User Groups	
Group	Expectation/Need
Freight vehicles	Loading and unloading facilities which are conveniently located and safe, well signed freight routes Journey time reliability Well signed freight routes
Business trips	Journey time reliability Parking at the origin and destination Direct journeys Route signage
Car drivers	Journey time reliability Parking at the origin and destination Route signage Safe roads – forgiving environment
Pedestrians	Smooth footpaths without tripping hazards and without vegetation growing over the footpath
(Including mobility	Reallocating space in the road corridor to pedestrians
impaired and disabled)	Providing direct at-grade crossing treatments Reduced traffic volumes on the adjacent road Reduced traffic speeds on the adjacent road Bus shelters located close to key destination points Route signage Traffic calming measures Hard and soft landscaping areas Places for social activities Seating Lighting improvements A better interface between the street and housing Public art
Cyclists and small wheels (Including mobility impaired and disabled)	Routes that are safe, direct, provide a smooth ride, are well signed and have a pleasant and attractive corridor Reduced traffic speeds and volumes, or separate facilities where this is not possible Safe provision for movement through intersections. Route signage Smooth, non-slip routes, well maintained and free of debris, gentle slopes and designed to avoid complicated manoeuvres.

Access & Transport AMP 2024-33 | 47



User Groups		
Group	Expectation/Need	
Стоир	Parking facilities in convenient locations, close to building main	
	entrances	
	Direct routes based on desire lines	
	Continuous and recognisable routes, offering consistent standard of	
	protection throughout	
Mobility Aided	Routes that are safe, direct, provide a smooth ride, are well signed and	
Pedestrians	have a pleasant and attractive corridor	
	Reduced traffic speeds and volumes, or separate facilities where this is	
	not possible	
	Safe provision for movement through intersections.	
	Route signage	
	Smooth, non-slip routes, well maintained and free of debris, gentle	
	slopes and designed to avoid complicated manoeuvres.	
	Parking facilities in convenient locations, close to building main	
	entrances	
	Direct routes based on desire lines	
	Continuous and recognisable routes, offering consistent standard of	
	protection throughout	
Motorcyclists	Routes that are safe, direct, provide a smooth ride, are well signed and	
	have a pleasant and attractive corridor	
	Safe provision for movement through intersections, avoiding excessive	
	camber in intersections	
	Surfacing quality, management of road works and post work clean-up	
	(especially loose chip)	
	Route signage	
	Smooth, non-slip routes (well maintained and free of debris, free from	
	pooling water)	
	Free from hazards such as carted gravel from entranceways, loss of grip	
	due to poorly located road marking or utility covers, edge break,	
	inadequate shoulder maintenance, poorly located wire barriers	
	Parking facilities in convenient locations	
Other Utilities	Access to corridor to install and maintain infrastructure	
Bridle	Note: Bridle routes and facilities are not included within our jointly	
	funded work with NZTA Waka Kotahi. However, consideration within	
	our works and coordination with our Place and Space team to enable	
	our bridle community access where practical is undertaken.	
	Expectations from our bridle community include:	
	Routes that are safe, accessible, well signed and have a pleasant and	
	attractive corridor	
Parking facilities in convenient locations,		
	Horse friendly surfaces adjacent to hard surfaces.	

Beyond users, there are also stakeholders – people and organisations that contribute to the system or benefit from it.

Access & Transport AMP 2024-33 | 48



Table 4.2: Stakeholders

Stakeholders	
Group	Expectation/Need
Ratepayers	That expected and promised Levels of Service are delivered
	Value for money
	Contribution to achievement of agreed community outcomes
Greater Wellington Regional Council	<ul> <li>Contribution to regional initiatives including provision of public transport services</li> </ul>
	Contribution to regional land transport strategy and regional land transport programme
	Sense of identity and pride in the District and their particular area within it
	<ul> <li>Maintenance of freshwater standards around roading infrastructure</li> </ul>
Waka Kotahi New Zealand Transport Agency	Efficient and effective delivery of programme to achieve the outcomes for the local network that are supported and cofunded by the Agency
Health providers – DHBs, MoH, etc	Customers arrive on time for appointments, for example, no delays and/or transport services provided to appropriate timetable
New Zealand Police	Contribution to improving road safety for all users throughout the District through infrastructure and road safety education
Schools	Safe routes for school children travelling to school on foot, by bicycle, bus or car
Businesses	Good access for visitors
	Good access for deliveries
NZUAG	Access to the Transport Corridor

In managing the transportation system, Council is not alone. There are a number of partnerships that enable the system to be planned, funded and delivered to meet user and stakeholders requirements.

Table 4.3: Partnerships

Partnerships			
Group	Expectation/Need		
Tāngata whenua	Implementing tāngata whenua knowledge within the management of the		
including whānau, hapū	district enhances the Council's outcomes for the district.		
and iwi	Greater awareness and understanding of the significance of tangata		
	whenua and their role as kaitiaki.		
	Mechanisms for participation in governance, management, planning and		
	implementation of the districts resources are provided.		
Greater Wellington	Public transport:		
Regional Council	Public transport is coordinated through the Wellington Regional Council		
	and detailed in the Regional Public Transport Plan, this relationship is key		
	to Council for a successful and fit for purpose service.		
	Transport Planning		
	The Regional Transport Committee Regional and Land Transport Plan are		
	integral to planning and governance processes.		

Access & Transport AMP 2024-33 | 49



Waka Kotahi New	Funding		
Zealand Transport	Communication and agreement on programme development and		
Agency	funding needs.		
	Described under the LTMA2003, processes influenced by REG		
	State Highways		
	Interaction between state highway management and local road. Key for		
	Kāpiti in terms of SH1 revocation and alternatives during construction.		

The Memorandum of Partnership between the three iwi and Kāpiti Coast District Council was established in 1994. The mechanism for progressing this partnership is Te Whakaminenga o Kāpiti.

The four organisations — Kāpiti Coast District Council, Te Runanga o Raukawa and hapu (Ngati Pare, Ngati Koroki, Ngati MaiŌtaki, Ngati Kapumanawawhiti and Ngati Huia ki Katihiku); Te Runanga o Te Ati Awa ki Whakarongotai, Te Runanga Toa Rangatira and hapu Ngati Haumia, have worked hard to maintain and build a worthwhile relationship.

#### 4.1.2 User values and expectations

Four sources of feedback on Council's Access and Transport Activities contributed to our understanding of what residents and ratepayers expect and how satisfied they are with Levels of Service received:

- The community outcomes for transport as captured in Councils strategy for managing transport on the Kāpiti Coast: Towards a Sustainable Transport System
- LT(CC)P consultation submissions over the last decade
- Resident Opinion Surveys
- The records from the Council's service request system.

#### 4.1.3 Transport Strategy

The community, through the development of the Transport Strategy, identified key priorities for a sustainable transport system (see 3.5.6)

#### 4.1.4 Resident Opinion Surveys 2017-2020

The satisfaction surveys are on a quarterly basis, which makes the annual average outcomes more representative of the overall satisfaction and less influenced by people's experiences and perceptions about certain events/hazards/projects influencing the survey results at certain points in time.

Te results and commentary are included in our quarterly and annual reporting for transparency to our community.

#### 4.1.5 The Service Request System

The service request system provides another source of information from the community which collates data for all asset issues that are brought to the attention of staff. These together with feedback from the Annual Plan process provide areas where improvements are required.

Access & Transport AMP 2024-33 | 50



# 4.2 Strategic and Corporate Goals

#### 4.2.1 Council's Strategic Goals

The guiding overarching strategic document for the Council is the Long Term Plan (LTP), a ten-year plan updated every three years after public consultation and internal review.



Major projects identified in the Infrastructure Strategy relate to SH1 revocation and major Community Connector roads.

Stormwater
Major projects - Paraparaumu (\$94m), Weislande (\$57m), (Itak) (\$44m), Paekšikāriki (\$14m)

Coastal
Raumuti scanedi replacement - \$17.7m

Water
Waikrase
Treatment flant Upgrade
Treatment flant Upgrade
Treatment flant Upgrade
Slage 2 (\$12 cm), Slage 3 (\$5.0 m)

Water
Otiski & Hautere
Otiski Christel Network Upgrades - \$3.2m

Water
Districtivide Network Upgrades - \$3.8 m

Waterwater
Districtivide
Reading
Otistictivide

Major Community Connectors - \$13.3m

Reading
Otistictivide

Reading
Otistictivide

Major Community Connectors - \$13.3m

Figure 4.1: Major Projects Identified n the Infrastructure Strategy

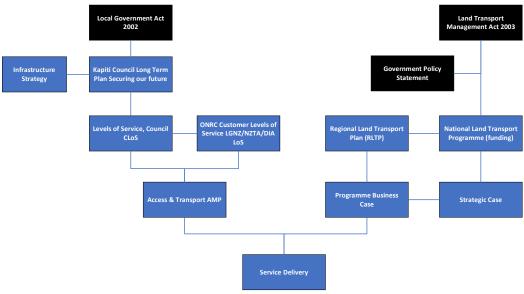
Access & Transport AMP 2024-33 | 51



# 4.2.2 Alignment of strategic documents

This AMP links the GPS to the ONRC requirements and to the RLTP through Council's outcomes for the community.

Figure 4.2: Alignment of strategic documents at the National, Regional and Local Level



The table below identifies these linkages between Council's strategic outcomes and the Access and Transport regional and national outcomes.

Access & Transport AMP 2024-33 | 52



• more kilometres of the road network resealed and rehabilitated each year • fewer potholes • a more resilient road and rail network. • reduction in deaths and serious injuries • increased enforcement.

Table 4.4: Alignment of National, Regional and Local Outcomes

GOVERNMENT POLICY STATEMENT 2021	TRANSPORT OUTCOMES FRAMEWORK	COMMUNITY OUTCOMES
Improved safety Developing a transport system where no-one is killed or seriously injured	Healthy and safe people Protecting people from transport-related injuries and harmful pollution, and making active travel an attractive option Resilience and security Minimising and managing the risks from natural and human-made hazards, anticipating and adapting to emerging threats, and recovering effectively from disruptive events	Strong communities Our communities are resilient, safe healthy, thriving and connected. Everyone has a sense of belonging and can access the resources and services they need
Economic Growth and Productivity	Economic prosperity Supporting economic activity via local, regional, and international connections, with efficient movements of people and products	Vibrant economy Our local economy is prosperous with ample opportunities for people to work and learn in Kāpiti
Better Travel Options Providing people with better transport options to access social and economic opportunities	Inclusive access Enabling all people to participate in society through access to social and economic opportunities, such as work, education, and healthcare	Strong communities – Housing Our people have access to suitable housing in Kāpiti so that they can live and thrive
Additions through 2024-34 GPS		
Value for Money • better use of existing capacity • less expenditure on temporary traffic management.	Economic prosperity	Vibrant economy Our local economy is prosperous with ample opportunities for people to work and learn in Kāpiti
Increased Maintenance and Resilience	Resilience and security	Strong communities Our communities are resilient, safe healthy, thriving and connected. Everyone has a sense of belonging and can access the resources and services they need
Lower priority in 2024-34 GPS		
Climate Change Developing a low carbon transport system that supports emissions reductions, while improving safety and inclusive access	Environmental sustainability Transitioning to net zero carbon emissions, and maintaining or improving biodiversity, water quality, and air quality	Thriving environment Our natural environment is restored and enhanced as we transition to a low-carbon future

LEGAL AND POLICY FRAMEWORK

#### 4.2.3 Legislative requirements

As the Territorial Local Authority and Road Controlling Authority, there is a raft of legislation that affects the Access and Transport activity. The key two are the Local Government Act 2002 (LGA 2002) and the Land Transport Management Act (LTMA 2003). There are a range of items associated with the LTMA 2003 which themselves have a considerable impact, including the Government Policy Statement on Land Transport, and the Regional and National Land Transport Plans.

The following table provides an indication of the impact the key statutes.

Access & Transport AMP 2024-33 | 53



Table 4.5: Legislation relevant to Activity

Act	Description/Impact
Building Act 2004	Provides a regulatory framework for building work, establishes a licensing
Ballating / tet 200 i	regime and sets performance standards to ensure buildings have attributes
	that contribute to the health, safety, physical independence and well-being of
	people. All Council buildings have to meet the requirements of the Building
	Act.
	Building (Earthquake-prone Buildings) Amendment Act 2016 and
i I	amendments discusses a process for determining strategic transport routes
Civil Defense Francisco	
Civil Defence Emergency	This Act requires 'Lifeline' utilities (including transport networks) to function
Management Act 2002	at their fullest possible extent during and after an emergency event. These
	are normally documented in Business Continuity Plans
Health and Safety at	The Health and Safety at Work Act 2015 (HSWA) was enacted on 4 April 2016
Work 2015	and is part of "Working Safer: a blueprint for health and safety at work" and
	reforms New Zealand's health and safety system. This reform follows the
	recommendations of the Independent Taskforce on Workplace Health and
	Safety. Working Safer is aimed at reducing New Zealand's workplace injury
	and death toll by 25 per cent by the year 2020.
	A guiding principle of the HSWA is that workers and other persons should be
	given the highest level of protection against harm to their health, safety, and
	welfare from work risks, as is reasonably practicable. The HSWA shifts the
	focus from monitoring and recording health and safety incidents to
	proactively identifying and managing risks so everyone is safe and healthy
Public Works Act 1981	This Act enables compulsory land purchases. It defines the procedural and
	informational requirements
Land Transport	The purpose of this Act is to contribute to the national aim of achieving an
Management Act 2003	integrated, safe, responsive and sustainable land transport system. It requires
	an integrated approach to land transport planning, management and funding
	with the intention of improving social and environmental responsibility and
	to allocate land transport funding in an effective and efficient manner
Local Government Act	This Act enables the power of general competence for a local authority to
2002	undertake any business or activity and the setting of bylaws. It requires local
	authorities to identify community outcomes and priorities, prepare a range of
	policies and prepare a Long Term Plan.
	Specifically Section11A:
	A local authority must have particular regard to the contribution that the
	following core services make to its communities.
	"network infrastructure means the provision of roads and other transport,
	water, wastewater, and stormwater collection and management".
Local Government Act	This Act sets out the powers of the Council in relation to the road assets.
1974 (retained sections)	The state of the post of the source in the state of the source of the so
Local Government	Following to Labour led Government elected in 2017, the Local Government
(Community Well-being)	Act 2002 was amended to reinstate several central elements amended by the
Amendment Act 2019	National government in 2012.
Local Government Act	Mostly relates to Council reorganisation and Council Controlled
2002 Amendment Act	Organizations.
	Olganizations.
2019	

Access & Transport AMP 2024-33 | 54



Act	Description/Impact
Resource Management	There have been numerous amendments to the Resource Management Act
Act 1991	over the years, it is now proposed three new pieces of legislation to replace
	the RMA are as follows.
	Natural and Built Environments Act
	This is the core piece of legislation to replace the RMA. The purpose of this Act is to enhance the quality of the environment to support the wellbeing of present and future generations.
	Objectives: promoting positive outcomes for both the natural and built environments, ensuring that use, development and protection of resources only occur within prescribed environmental limits, ensuring adverse effects of activities on the environment are avoided, remedied or mitigated.  Strategic Planning Act
	This Act provides a strategic and long-term approach to how we plan for using land and the coastal marine area.
	Long-term spatial strategies in each region
	Climate Change Adaptation Act
	This Act would support New Zealand's response to the effects of climate
	change. It would address the complex legal and technical issues associated
	with managed retreat and funding and financing adaptation.
Utilities Access Act 2010	These Acts give powers to utility operators in their utilisation of road
Also:	corridors.
Telecommunications Act	
2001	
Electricity Act 1992	
Gas Act 1992	
Railway Safety and	
Corridor Management	
Act 1996	
Transport Act 1962	This Act enables the control of road and traffic operations. These include
	traffic regulations, bylaws, enforcement etc.
Transport Act 1998	This Act enables Council's to set certain bylaws to designate routes through their areas.
Transport (Vehicular	Sets out the process to follow for the temporary closure of a road for a
Traffic Road Closure)	community event, for example, market, rally, street party.
Regulation 1965	

Access & Transport AMP 2024-33 | 55



#### 4.2.4 National and Regional Directives

The following key documents have an impact on this AMP:

National Strategies and Policies

Regional
Strategies and
Policies

Local Strategies and Policies

This AMP and work programmes

Table 4.6: National and regional directives

# Government Policy Statement (GPS) Government Policy Statement on land transport 2024-34

#### Description

Sets out what the Government expects to be achieved from its investment in land transport through the National Land Transport Fund. The GPS is issued by the Minister of Transport every three years. <a href="https://www.transport.govt.nz/assets/Uploads/Government-Policy-Statement-on-land-transport-2024-FINAL.pdf">https://www.transport.govt.nz/assets/Uploads/Government-Policy-Statement-on-land-transport-2024-FINAL.pdf</a>





Published in December 2019 New Zealand's Road Safety Strategy 2020-2030 replaces Safer Journeys (2010-2020), the Road to Zero takes a more ambitious approach to reducing deaths and serious injuries on the road network.

Road-to-Zero-strategy\_final.pdf (transport.govt.nz)

The Road to Zero-Action-Plan includes a delivery plan for the different focus areas

Road-to-Zero-Action-Plan\_Final.pdf (transport.govt.nz)

National Infrastructure Plan



The National Infrastructure Plan (NIP) was released in 2015. The NIP outlines the government's 30 year vision for New Zealand's infrastructure.

The role associated with the NIP now rests with the New Zealand Infrastructure Commission - Te Waihanga (Infracon).

Infracom was formed by legislation on 25 September 2019 and is an autonomous Crown entity, listed under the Crown Entities Act 2004, with an independent board. Infracom seeks to lift infrastructure planning and delivery to a more strategic level and by doing so, improve New Zealanders' long-term economic performance and social wellbeing.



Access & Transport AMP 2024-33 | 56

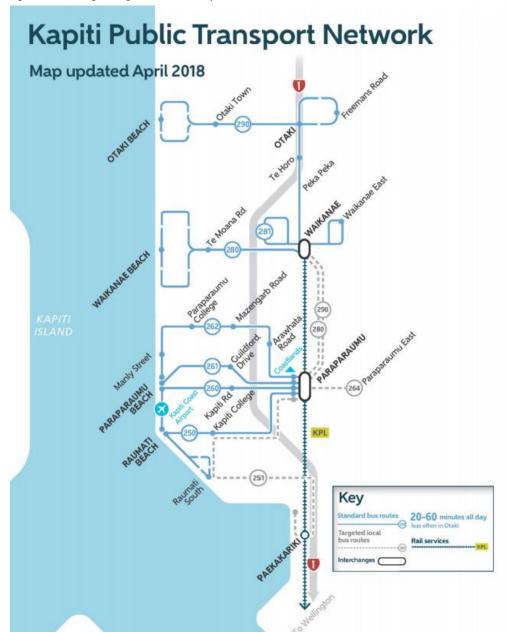


Document	Description
Regional Land Transport Plan	The Wellington Regional Land Transport Plan 2021
Tellingue Beginne Liand to Sentingue Tellingue Tellingue	This a statutory document that must be prepared every six years as required by the Land Transport Management Act. The RLTP must be reviewed every three years in advance of development of Council's Long Term Plan.
Wellington Regional Public	The Wellington Regional Public Transport Plan (RPTP) guides the design
Transport Plan 2021-31	and delivery of public transport services, information and infrastructure in the Wellington region.  This draft RPTP describes:  What we want our public transport system to achieve (our long-term goals and objectives)  How we propose to get there (our strategic focus areas, policies and
Draft tratington Regional Product Transport Ray.  2011-2031  Ref it is	actions that will help us achieve our goals) The Metlink public transport services we are proposing to provide, and our Total Mobility scheme providers. The RPTP has a ten-year strategic focus, with particular attention to the coming three-yearly operational cycle.
Wellington Regional Growth Framework	The Wellington Regional Growth Framework (the Framework) is a spatial plan that has been developed by local government, central government and iwi partners in the Wellington-Horowhenua region to provide councils and iwi in the region with an agreed regional direction for growth and investment, and deliver on the Urban Growth Agenda objectives of the Government.  Growth potential of 10,400 new houses for a possible 22,800 people in existing urban areas within Horowhenua/Kāpiti in the next 30 years
Wellington to Palmerston	This Corridor Management Plan describes the customer service delivery
North	story for the Wellington to Palmerston North corridor, as measured
Corridor Management Plan	against the One Road Network Classification performance framework. It
2018-2028 Wellington to Palmerston North	is intended to describe the investment story, i.e. why invest in this corridor, in a context everyone can understand whether the activities are delivered through investment in the State Highways maintenance, operations, renewals and improvements programmes  There is useful; commentary on the region, road users and state highway management in the document. Some figures are shown below.  An update of this document is required to reflect the ongoing changes

Access & Transport AMP 2024-33 | 57



Figure 4.3: Wellington Regional Public Transport Plan 2021-31 Extract

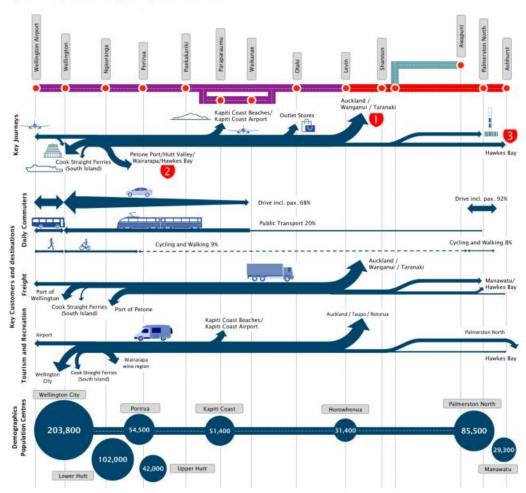


Access & Transport AMP 2024-33 | 58



Figure 4.4: Wellington to Palmerston North Corridor Management Plan 2018-2028 - Extracts

Figure 4 - Key customers, journeys, and destinations



Alignment with these documents is a key role of the Sustainable transport strategy, and is also discussed in the Strategic and Programme Business Cases.

Key actions include:

- Improved urban mobility
- Harm reduction
- Integrated planning
- Climate change reduce emissions and manage impact on transport systems

Access & Transport AMP 2024-33 | 59



# 4.3 Current Levels of Service

Combining the expectations and requirements of legislation (mandatory measures), industry standards, users, stakeholders, Council and the New Zealand Transport Agency, Levels of Service and measures have been developed to measure the delivery of the levels of service.

The Levels of Service are publicly reported or used for management purposes. Our 2021-41 Long Term Plan performance measures for Access and Transport are:

Contribution to community outcomes		Performance measure	Target
-	Our transport network allows for the safe and efficient movement of people and goods	Residents who agree the transport network allows easy movement around the district	80%
		The change from the previous financial year in the number of fatalities and serious injury crashes on the local road network, expressed as a number	5-year rolling average reduces each year
		Residents who are satisfied with street lighting	85%
	Our transport network is affordable and reliable and users can easily get around the district by their preferred means	Percentage of sealed local road network that is resurfaced	5%
		Residents who are satisfied with the conditions of roads	70%
		Roads that meet smooth roads standards	Overall smooth travel exposure is above 85°
		Residents who are satisfied with the condition of footpaths	65%
		Percentage of footpaths that fall within the service standard for the condition of footpaths as set out in the activity management plan	60%
		Average cost of local roading per kilometre is comparable with similar councils	Achieve
		Service requests relating to roads and footpaths responded to within 3–5 hours (urgent) or 15 days (non-urgent)	Roads 85% Footpaths 85%

Access & Transport AMP 2024-33 | 60



# 4.4 Desired Level of Service

The table below summarises the Level of Service performance measure that are reported on within the Long-Term Plan framework for Access and Transport.

The "Target" is our proposed level of service for consultation in our KCDC 2024-44 Long Term Plan.

LONG TERM	LONG TERM PLAN CUSTOMER LEVELS OF SERVICE					
#	Measure T	arget	Results	Trend	Performance	
AT-IMP001 (previously AT002)	The change from the previous financial year in the number of serious and fatal crashes on the local road network, expressed as a number.	5 year rolling average – decreases	10 crash ave 19/20 12 crash ave 20/21 10 crash ave 21/22 9 crash ave 22/23		Target Met	
AT-LoS001 (previously AT004)	Length of sealed local road resurface meets planned length (reworded from a % target)	3.9% during 2024-27 LTP (16.5km) (5% during 21/24 LTP)	4.3% (18.0km) 19/20 2.7% (11.0km) 20/21 3.0% (12.1km) 21/22 2.9% (11.5km) 22/23		Target Not Met	
AT-LoS002 (previously AT006)	Roads that meet smooth roads standards, measured by smooth travel exposure.	80% (85% during 21/24 LTP)	87% 2019/20 86% 2020/21 84% 2021/22 84% 2022/23		Target Met	
AT-LoS001 (Previously AT008)	Percentage of footpaths that fall within the level of service or service standard for the condition of footpaths as set out in the activity management plan.	85% (60% during 21/24 LTP)	96% 2019/20 94% 2020/21 98% 2021/22 99% 2022/23		Target Met	
AT-LoS003 (Previously AT010a)	Percentage of service requests relating to road and footpaths responded to within 24 hrs (urgent) (measure updated; 3-5 hrs with road and footpaths separated in 2021-24 LTP)	85%	No data 2019/20 68% 2020/21 56% 2021/22 54% 2022/23		Target Not Met	
AT-LoS003 (Previously AT010b)	Percentage of service requests relating road and footpaths responded to within 15 days (non-urgent) (measure updated; road and footpaths separated in 2021-24 LTP)	85%	No data 2019/20 97% 2020/21 95% 2021/22 98% 2022/23	$\Rightarrow$	Target Met	
	Removed from 2024-34 LTP					
	Residents that agree that the existing transport system allows for easy movement around the district	80% during 21 /24 LTP	81% 2019/20 74% 2020/21 67% 2021/22 57% 2022/23		Target Not Met	
	Residents that are satisfied with street lighting	85% during 21/24 LTP	84% 2019/20 84% 2020/21 83% 2021/22 83% 2022/23		Target Met	
	Residents that are satisfied with the condition of roads	70% during 21/24 LTP	77% 2019/20 73% 2020/21 66% 2021/22 55% 2022/23		Target Not Met	
	Residents that are satisfied with the condition of footpaths	65% during 21/24 LTP	66% 2019/20 66% 2020/21 66% 2021/22 66% 2022/23		Target Met	

Access & Transport AMP 2024-33 | 61



Our results are reported provisionally publicly on a quarterly basis with final results within our Annual report.

Headlines from the reporting:

- Resurfacing quantities have dipped below target. The impact of Covid affected crew available to
  complete programme in 2020/21. Then the 2021/22 and 2022/23 programmes have been shorter
  to due to increased costs to stay in budget. More funding is being requested for the next LTP to
  bring the achievement back up to programme.
- Satisfaction Surveys have dipped significantly for Ease of Getting Around and Satisfaction of Roads.
   Survey notes suggest substantial roadworks for stormwater replacements and State highway revocation have frustrated road users. However, pavement performance is also a factor.
- Improved report has enabled the Service Request measure to be reported. It has highlighted that the Urgent Response measure needs correction, as the allowable time for 3-5hrs is shorter than several response times for urgent works.
- Adjustments are identified (grey) for changes in measure that will be put forward within the LTP process.

# 4.5 New Improvement Items

Improvement Item 2024.4.1

Improve level of service reporting on 'availability/outages'

Improvement Item 2024.4.2

Revise alignment of Council Policies, Plans and Standards

Access & Transport AMP 2024-33 | 62



# 5 FUTURE GROWTH AND DEMAND

To effectively manage an activity such as access and transport infrastructure we must be able to satisfy demand and promote optimum asset use, to ensure that the anticipated present and future returns on the funds invested are realised.

# 5.1 Demand Drivers

Factors that influence demand on the network include:

#### 5.1.1 Population and Demographic Changes

Often transportation growth follows a similar pattern to population growth and economic activity. There are variations between locations.

The Kāpiti Coast District continues to grow, primarily from new residents relocating to the district from other parts of the Wellington Region. Between 2013 and 2018, the district's population grew at an annual average of 1.8% compared to the 0.8% forecast for the same period. For 2019 and 2020, this level of growth was estimated to continue at 1.4% and 1.8% based on Statistics New Zealand's residential population estimates as referenced in the last Long-term plan. These estimates have been subsequently revised up to 1.6% and 2% with population growth of 0.9%, 0.2% and 1% estimated for 2021, 2022 and 2023

Since 2021, Kāpiti Coast District Council has used Sense Partners' Population and Dwelling Forecasts which provide a shared set of forecasts to councils across the region to support regional and district planning and investment processes.

The Sense Partners 2023 forecast for the Kāpiti Coast District suggests that the district population will increase at an annual average rate of 1.0% to reach a total population of 80,924 by 2054 based on the 50<sup>th</sup> percentile. This equates to an increase of 22,180 additional people, or 38%.

Sense Partners 2023 Population Forecast from 2024–54 by percentile:

Percentile	2024	2030	2040	2050	2054	Change from 2024 to 2054
5th percentile	58,197	60,236	62,008	61,107	60,210	2,013
25th percentile	58,489	62,074	66,496	68,289	68,876	10,387
50th percentile	58,744	63,552	71,140	78,538	80,924	22,180
75th percentile	58,976	65,308	76,726	87,732	92,020	33,044
95th percentile	59,239	67,039	83,236	102,171	110,175	50,936

The 2023 Sense Partners forecast also reflects the impacts of Covid-19 into its projected growth for the district, which as a result forecasts a lower level of growth over the next 30 years compared to the 2021 pre Covid-19 forecast. However, since the 2023 forecast was made there has been a significant increase in immigration, which if sustained, could see a return to higher pre-covid levels of growth in the district. The

Access & Transport AMP 2024-33 | 63



availability of Census 2023 data will be important to help verify growth that has occurred over the 2018-23 period and calibrate future forecasts, and in particular, revise forecast growth assumptions.

A significant aspect of this growth and development relates to the district's position within the wider Wellington Region. Although Kāpiti makes up only 11% of the regional population<sup>2</sup>, it is closely linked to the Wellington Region via the transport networks, the labour and employment markets, and the wider regional economy (to the north and south). Accessibility to the district has increased further since the opening of Transmission Gully in March 2022.

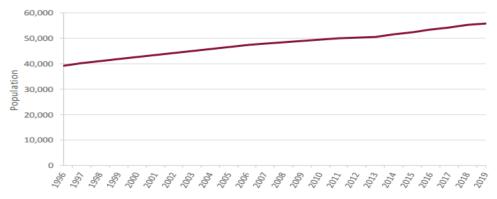
#### 5.1.2 Demand Impact on Assets

The work the Greater Wellington Regional Council and Kapiti Coast District Council have undertaken in the growth forecast space is significantly improved over the last three years which assists with providing better data and strategic direction when planning for growth. However recent larger residential developments in Otaki and Waikanae which have been accepted through the COVID-19 Recovery (Fast Track Consenting Act) 2020 have created some challenges in planning for growth. These sites are currently not zoned for residential development so providing appropriate infrastructure has not been planned for.

The focus will continue to be in the Paraparaumu-Waikanae area as a result of Councils intensification plan changes, including more medium density housing, especially where this growth is support by transport infrastructure such as public transport. Development is also expected to include 'greater Otaki' and areas north of Waikanae where the District Plan identifies future urban areas.

Figure 5.1: Growth of Kapiti Coast District population, 1996-2019

Figure 1-1 Growth of Kāpiti Coast District population, 1996-2019



Source: Statistics New Zealand

(From BERL, 2020)

The demographic profile has also remained similar, with a very high proportion of retirees, around twice the national average.

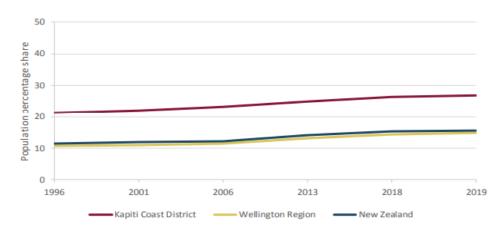
Access & Transport AMP 2024-33 | 64

<sup>&</sup>lt;sup>2</sup> Census 2018



#### Figure 5.2: Share of the population in the 65 years and over age group

Figure 1-5 Share of the population in the 65 years and over age group



Source: Statistics New Zealand

#### (From BERL, 2020)

#### Population Forecasts

The Council completed a housing and business development capacity assessment [HBA] in late 2023. This assessment concluded that recent changes to increase intensification of residential and mixed- use areas provides sufficient housing capacity to meet the districts projected growth across the short, medium and long term.

While even the best population forecasts only represent a snapshot in time, some will remain true and reliable for longer periods than others. Because the Kāpiti Coast District is currently experiencing rapid change<sup>3</sup>, the population forecasts require frequent updates.

Population forecasts are important for transport asset planning because they dictate where infrastructure is required and how many consumers will be using those services. A population forecast that is too low could mean that infrastructure services will be insufficient to meet demand, or the Development Contribution Policy will not be requesting large enough contributions from developers. On the other hand, a forecast that is too high could mean that Council has spent money on infrastructure services that were not required or collected greater contributions from developers than were required.

<sup>3</sup> As stated in the strategic context section, between 2013 and 2018, the district's population grew at an annual average of 1.8% compared to the 0.8% forecast for the same period. Since 2020, Covid-19 and

Access & Transport AMP 2024-33 | 65



border restrictions have impacted levels of forecast growth, but more recently, immigration, a key driver of growth, has bounced back to pre-Covid levels creating a level of uncertainty.

Population Projections - Grouped 90.000 80,000 70,000 ■ RURAL 60,000 WAIKANAF 50,000 ■ RAUMATI 40.000 PARAPARAUMU 30.000 ■ Paekakariki 20,000 OTAKI 10,000 Λ 2020 2021 2027 2030 2035

Figure 5.3: Population Projections - Grouped

#### 5.1.3 Economic trends and industry demand

Local freight also impacts in the district are moderate with no major manufacturing or agricultural activities in the district. However, factors which are significance include:

#### 5.1.3.1 Farmland to lifestyle block conversion

We continue to see iterative breaking down of our farm and crop land into smaller lifestyle block development and in some cases rural land into residential sized lots and associated roading infrastructure. Generally, this provides attractive peri-urban environments, however this also reduces the productive opportunity for primary sectors in the district and also results in new transportation networks which Council needs to manage and maintain.

Increased light traffic with expectation of higher amenities occurs with this change. Our narrow rural carriageways are increasingly unsuitable from a safety and shoulder integrity perspective. There are examples of areas where larger developments will be accessed from these roads which need to be reviewed from a capacity, efficiency and safety perspective.

#### 5.1.3.2 Forestry

There are some reasonably sized forestry blocks in the district which have access to roads that are susceptible to damage from heavy loads and this is a source of concern with regard to future impacts and compensation for damage. This will continue to be an issue as these blocks are harvested and Council has limited ability under the National Policy Statement for Plantation Forestry to require remediation.

Maungakotukutuku Road suffered damage in Mid 2022 due to winter forestry, required significant pavement and drainage maintenance and rebuild to restore. Understanding future spikes in demand are important for network management.

#### 5.1.3.3 Industrial and commercial development

Commercial and industrial development are included our district growth, with recent multi-lot developments:

• Otaki - Riverbank Road area

Access & Transport AMP 2024-33 | 66



Paraparaumu - Te Roto Drive area.

Large scale future commercial development is likely in our district, will have localised impacts to our roading network and add to the overall traffic growth. These areas include around the Paraparaumu Town Centre and Paraparaumu Airport where vacant land is proposed to be subdivided into a mix of lot sizes which could accommodate large scale 'big box' retail as well as smaller 'main street' retail.

Linking into our Expressway interchanges provides efficient freight and connections for our region however ensuring the local roading network is fit for purpose when it comes to providing access from the interchanges is a focus of future transportation planning.

#### 5.1.4 Legislative Change

Central and Regional Governments high level direction and regulation into our transport section with policy, strategies, plans, and specification changes often creates direct obligations to Council.

Costs to implement the changes in practice are often shared or fully funded by Council, both direct cost and in internal effort. Councils Contractors are intitled to request variations where this have impact to through cost, which must be considered fairly within the new legislative settling.

The Wellington Regional Growth Framework spatial plan and Council's response to the National Policy Statement on Urban Development, including the updated District Growth Strategy Te Tupu Pai – Growing Well, and the adoption of Plan Change 2 (Intensification) to the Operative District Plan has enabled residential intensification and development capacity in certain zones across the district which are anticipated to enable further growth in the Kāpiti Coast.

The government has also repealed the Natural and Built Environment Act 2023 and the Spatial Planning Act 2023, and reinstated the previous Resource Management Act 1991, with some amendments to allow for continued fast-track consenting which as mentioned has caused some challenges for infrastructure planning.

They've also expressed their intention to review and potentially replace the National Policy Statement for Freshwater Management which could impact upon roading assets and how stormwater from roads are managed.

More change to resource management legislation may be coming which will impact the management and operation of our infrastructure assets, so we will need to be ready to respond to any change in national policy or legislation that the government might make.

In February 2022 minimum car parking requirements were removed the District Plan as a result of national direction contained within the National Policy Statement for Urban Development (NPS-UD). Plan Change 2 (Intensification) will also impact car parking demand. Requirements for accessible and bicycle parking have been included in the District Plan in February 2024. Although minimum car parking requirements have been removed the majority of residential development applications within the District include provision for onsite car parking however this has made it more difficult for Council to manage car parking on our local roads and especially within commercial areas. Going forward car parking management plans will be a key tool that will be utilised to mitigate car parking and traffic effects.

Access & Transport AMP 2024-33 | 67



#### 5.1.5 Changing transport patterns

#### 5.1.5.1 Regional and national transport initiatives

A major freight route changes on local roads due to the M2PP expressway, PP2O expressway, and Transmission gully have occurred. We expect more change as the O2NL expressway is constructed in the near future.

The impacts are particularly felt on roads that connect to the interchanges. Council is seeking to minimise freight impact as a result of the expressway development by encouraging freight delivering to Paraparaumu and Waikanae to use old SH1.

At a NZTA /KCDC network level we are also seeing positive impact from the state highway expressway programme.

- reduced north-south traffic congesting,
- less serious and fatal crashes in our district (NZTA network)
- improved travel time reliability
- improved resilience (with the parallel route through the district.

#### 5.1.5.2 Modal shift

- Our walking cycling network now provides many on and off-road routes through Kapiti for multimodel travel. The personal benefits to our walking, cycling and small wheel community are
  numerous. The walking cycling network continues to develop and asset are early in their life cycle.
  As the network matures in the future, we expect to see less development and more asset
  maintenance and renewal demand.
- The public transport options in urban areas are well established with bus and train options (no regular train service to Otaki yet). KCDC's Access and Trasport team's focus is to support Greater Wellington Regional Council and advocate for our community.
- All modal shift from cars has positive impact with less roading demand and associated carbon emissions.

#### 5.1.6 Improving network resilience

There are minimal access issues in terms of restricted bridges or network geometry (ONRC Accessibility Measure 1).

The construction of the Kapiti expressway has provided a highly reliable spine through much of the district. For traffic flowing through the district from north the south, there are two location where alternatives are poor – SH1 Pukehau Hill north of Otaki (Waitohui Valley Road) and SH1 south of Mackays Crossing (Waterfall Road/Valley Road).



Completion of the SH59 extension and Paekakariki intersections provides an alternative at the west end of Transmission Gully.



Access & Transport AMP 2024-33 | 68



Council's bridge stock has been reviewed in advance of the change to 'as of right' access per 1 December 2017. The review has recommended 5 bridges to be posted for loading restrictions, of which two bridges are already posted. Further investigations were carried out on 5 more bridges to assess whether posting should be considered and now 7 bridges have been posted. This is further discussed in Programme Business Case section 9: Bridges..

#### 5.1.7 Climate change

In May 2019, Kāpiti Coast District Council declared a climate emergency and in 2021 developed a Climate Emergency Action Framework.

The framework will be incorporated into a new Climate and Resilience Strategy that is scheduled to be adopted later in 2024. This will outline Council's focus areas, direction, and highlight required actions under four key focus areas:

- Mitigation reducing carbon emissions
- Adaptation preparing ahead of change
- Transition moving communities to an equitable, low carbon way of living; and
- Resilience strengthening communities ahead of significant weather events.

Of relevance to the access and transport portfolio are the actions to reduce the district's emissions and the next steps for the community to consider for adaptation.

#### Regional context

Council is part of the Wellington Regional Leadership Committee which provides governance for regional projects. Each council provides representative officers for working groups.

A Future Development Strategy will be adopted in 2024, followed by a Regional Emissions Reduction Plan, Regional Climate Change Impacts Assessment, and Regional Food System Strategy and specific to transportation work on the Wellington Transport Emissions Reduction Plan (WTERP) is continuing.

This work will then inform a new regional Adaptation Plan to influence future development. This cohort of work enables all councils within the region to benefit from shared knowledge and resourcing, create a regional plan of action, and bring a strong regional voice to engage with central government.

Predictions and hazards for Kāpiti

Natural hazards pose risks to infrastructure assets, and climate change is exacerbating the frequency and intensity of natural hazard events.

Council uses the climate change projections provided by Greater Wellington Regional Council for the Kāpiti Coast District which predict that the Kāpiti Coast will experience increases in mean temperature, increases in annual rainfall, wind intensity and the number of windy days, increases in mean sea level, and significant increases in the frequency and intensity of storm surge events causing extensive surface water flooding and impacting the district's groundwater levels.

The predicted changes will put the district at increased risk from natural hazard events such as floods, landslides, widespread tree damage, storm damage, and coastal erosion, and inundation. Without proper management plans, these changes could impact upon the local roading network and impact the way that we manage our transport assets.

Council's current approach to adaptation is to maintain and protect essential public assets. For some assets there are clear legislative obligations to do this (e.g. essential infrastructure and utility services). For other assets, while there might not be a legislative obligation, there may be instances where it could be deemed unreasonable not to protect the asset.

Access & Transport AMP 2024-33 | 69



# **5.2** Demand Forecasts

#### 5.2.1 Overview

The Kāpiti Coast District has experienced ongoing growth at a steady pace which has increased over recent years. The establishment of the Kāpiti Expressway and completion of Transmission Gully and Peka Peka to Otaki section of the Kāpiti Expressway has increased travel convenience, and likely the attractiveness of the district. The Otaki to North of Levin Highway project is likely to commence which will facilitate connections to the north.

Local roads play a key role in connecting communities, businesses and markets. It is important that land transport enables economic development within the District and that efficient links between production and communities are strengthened.

# 5.2.2 Expected Growth Areas

Retail development within the Paraparaumu Town Centre on Kāpiti Road and Rimu Road by is expected to further increase pressure on Rimu Road and Kāpiti Road.

Future residential development North of Waikanae between the existing residential areas and Peka Peka are also expected to increase congestion levels further in the township of Waikanae and particularly around on Te Moana Road at the interchange of the M2PP Expressway.

Continuing revocation works and the reduced traffic volumes will create opportunities for development along the Old State Highway. This road will be easier to access and have less restrictions once this becomes a local road managed by Council. NZTA have a significant amount of excess land parcels that will be deposed of along the expressway alignment will are likely to be developed in the future and providing transportation linkages to and through these developments will be important to ensure a well-functioning environment.

The development of larger residentially zoned land within Otaki, land north of Waikanae, medium density housing within Paraparaumu and Waikanae and the District Plan future development areas are expected growth areas. The fast track consenting application north of Waikanae and the Otaki Maori Racing Club are also areas which are likely to be developed for a significant amount of housing.

## 5.2.3 Modelling the Impacts of traffic demand

The Access and Transport team are currently using KTM3 Saturn model which was developed to allow Council to plan ahead for future changes in network traffic patterns and flow increases at a district wide level.

This traffic modelling tools are particularly important to Council due to the major network changes being bought about by the RoNS projects and the significant land use developments in some parts of the district, such as the large residential developments being constructed in Waikanae and the proposed Paraparaumu Town Centre development.

The last significant update of the KTM3 Saturn model was undertaken in 2020. In 2021 the Wellington Analytics Unit was formed which is a partnership between Greater Welling Regional Council, local councils and NZ Transport Agency. The analytics unit combines transport modelling and analytical services in a joint operational unit to provide timely and consistent model output and insights to inform decision making within the region. The unit will support a more consistent regional approach to transport and land use planning.

Access & Transport AMP 2024-33 | 70



The benefits of Kapiti Coast District Council becoming a member of the unit includes access the newly updated Wellington Transport Strategic Model, access to the regional cycle model, coordination of model requests from consultants/ developers, dashboards and transport insights. The unit would also update our current traffic model to AIMSUN modelling which is a more widely accepted model and would be consistent with other road controlling authorities and agencies within the Wellington region. The unit would provide greater efficiencies and more accurate data which will allow for better transport [planning in the future.

# 5.2.4 Greater Wellington Growth Framework

The Wellington Regional Growth Framework (the Framework) has been developed by local government, central government and iwi partners to deliver on the Urban Growth Agenda objectives of the Government, which adjusts the approach to urban development and infrastructure planning and introduces new instruments and levers.

The Wairarapa-Wellington-Horowhenua Future Development Strategy describes how, through working together we will deliver well-functioning urban environments in our existing and future towns and cities and provide enough development capacity in the next 30 years to meet at least the expected demand. In particular it identifies where future housing and business development should occur by outlining:

broad locations for homes and businesses, and the social and physical infrastructure needed to support them.

the areas we should not develop, so that we can limit risks to our communities and infrastructure and protect our taonga.

Kapiti Coast District Council has been involved in workshops and discussions relating to the Future Development Strategy.

# 5.2.5 Passenger Transport

Kāpiti Coast has a long association with passenger transport. Paraparaumu and Waikanae residents are frequent train commuters and the Capital Connection from Palmerston North uplifts passengers from Otaki. While commuter services are provided by Greater Wellington Regional Council, KCDC has a role is supporting and enabling these services as a viable transport option.

Similarly, passenger transport bus services are available throughout **Kāpiti** Coast District and Council is actively involved in encouraging uptake.

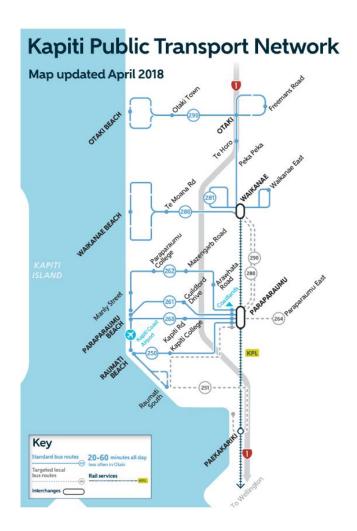
These services are further discussed in the Sustainable Transport Strategy.





Access & Transport AMP 2024-33 | 71





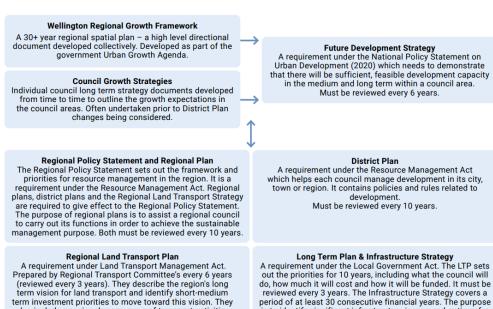
Access & Transport AMP 2024-33 | 72



Figure 5.4: Relationship between the Greater Wellington Growth Framework and Other Documents

Diagram 4: Relationship between the Framework and other documents

also include a regional programme of transport activities proposed for funding over the next 3 to 6 years.



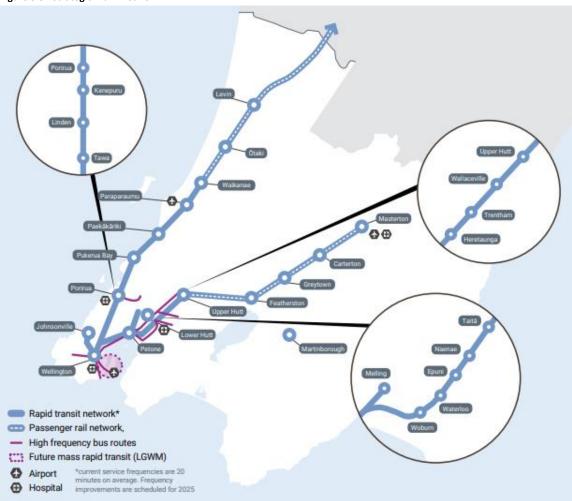
Long Term Plan & Infrastructure Strategy
A requirement under the Local Government Act. The LTP sets out the priorities for 10 years, including what the council will do, how much it will cost and how it will be funded. It must be reviewed every 3 years. The Infrastructure Strategy covers a period of at least 30 consecutive financial years. The purpose is to identify significant infrastructure issues and options for managing them over the period.

Access & Transport AMP 2024-33 | 73



There current train network remains the same in our network in the near future, with rapid transit network south from Waikanae to Welllington, however the restricted passenger rail network north of Waikanae, through Otaki on onward to Palmerston North.

Figure 5.5: Strategic Train Network



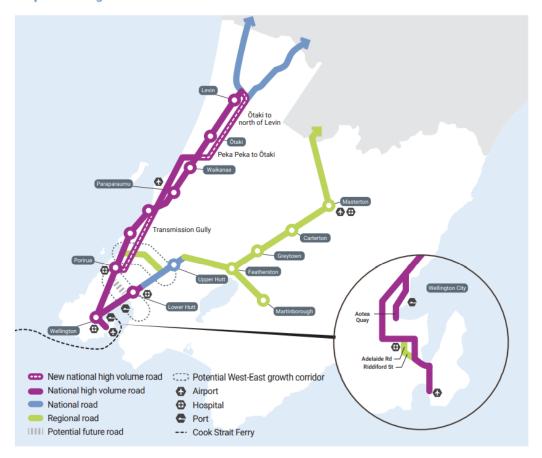
Part 5 of the Framework sets out the spatial framework for the Wellington-Horowhenua region. It identifies areas for growth, development and improvement, including areas to protect, uses and activities, transport, the blue-green network and infrastructure.

Access & Transport AMP 2024-33 | 74



Figure 5.6: Strategic Road Network

Map 8: Strategic Road Network



Access & Transport AMP 2024-33 | 75



# 5.3 Demand Impacts on Assets

Section under development following clarification of projections

Changes in the way roads are used

Increased traffic services, delineation

Increased pathway demand

Safer road widths

# 5.4 Demand Management Plan

# 5.4.1 Promoting Better Utilisation of the Asset

Education of the public can assist with prolonging the economic life of existing assets and reduce the need to provide new assets. Such campaigns may include, discouraging parking on footpaths, encouraging legitimate use of disabled person car parks, and promoting parking in appropriate parking (time) zones.

Encouraging the use of public transport, car sharing and active modes of transport such as cycling and walking can reduce demand on congested roads and/or intersections, thereby reducing or deferring the need to upgrade assets.

The Access and Transport asset team works with schools to promote sustainable travel initiatives. This provides greater awareness of the impact of vehicles on the asset and on others in the community. The benefits of sustainable travel initiatives typically provide benefits to a larger group of the community than just those at the school who are a sub-set of users.

Parking within the District is currently managed through parking restrictions, with some enforcement. This is enforced in the areas around Paraparaumu and Waikanae Town Centre in particular since demand for parking has increased as a result of the provision of new community/civic facilities in Paraparaumu Town Centre and the electrification of rail services to Waikanae.

# 5.4.2 Road Hierarchy

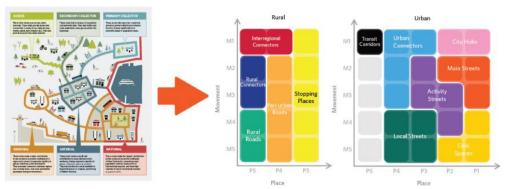
Categorisation of roads within a hierarchy allows for the design and maintenance of the network to be optimized for the type of users network hierarchy

The Council had reviewed roading in the district utilising the road hierarchy framework developed in NZTA's One Network Road Classification (ONRC) and classified its roads accordingly. Roads are assessed based on the functions that they perform as part of a national network.

The introduction of the One Network Framework has been implemented during the 2021-24 period. This represents the next stage beyond ONRC, where the use of roads and streets is considered from a land use and 'place' perspective as well as the traditional measures of movement of vehicles.

Access & Transport AMP 2024-33 | 76





Over the coming years there will be a need to carry out regular reviews of the hierarchy in order to capture the changes that may occur as the expressway nears completion. This may be in form of land use changes and travel patterns and traffic flows.

As Waka Kotahi hand over sections of Old SH1 to KCDC, we are seeing a large increase in arterial road class in Kāpiti.

The aim of the classification is to help NZTA plan, invest in, maintain and operate the road network in a more strategic, consistent and affordable way nationally. Council's annual investment in for example arterial routes will be benchmarked against the investment in arterial routes by peer group Councils.

# 5.4.3 Traffic Management

The use of traffic calming and signage for route identification are other strategies used to control traffic demand. Traffic calming reduces traffic speed appropriately for the surrounding environment, and discourages higher volumes and congestion by through traffic. Calming is used primarily in areas where high pedestrian cross movements exist, such as retail/recreation areas and around schools.

Signage assists drivers with route identification, and also encourages traffic to follow a more appropriate and direct route to its destinations.

Installation of roundabouts and co-ordinated traffic signals on primary routes are also methods used to control the flow of traffic and ensure efficiency of the route by minimising delay.

Over the next 30 year period the construction of three roundabouts are proposed, one in Paraparumu and two in Raumati. These are located on arterial or primary collector roads. The construction of these roundabouts is driven by traffic flow and efficiency as well as improving road safety.

# 5.4.4 Community

With regard to future demand management strategies, Kāpiti Coast District Council will use a number of channels and opportunities to set the community's expectations as to Council's role in the provision of access and transport facilities. We will continue to focus on building stronger relationships with business and community organisations to better understand their needs and also to manage expectations and demand taking into account safety and affordability.

Access & Transport AMP 2024-33 | 77



# 5.4.5 Capacity Management

Techniques used to ensure optimum utilisation of the Council's roading assets may include one or more of the following:

- Modelling network capacity to ascertain 'pinch points' and peak times
   A traffic model is run to perform this function see 5.5.3.
- Improvements to under-capacity assets A broad range of traffic management measures can be used to increase capacity.
   Measures include; improved intersection control, construction of turning lanes, construction of slip roads or merge lanes at intersections to prevent unnecessary delay to through traffic, construction or creation (through signage) of bypass routes to spread the load to under-utilised routes, or construction of shorter/relief routes.
  - Such measures may also require improvements to the physical characteristics of assets if they are to accommodate increased use and maintain a satisfactory level of service. Physical improvements may include widening, or straightening to facilitate use by a broader range of vehicles and to reduce travel time through safer or shorter routes.
- Reducing Capacity of under-utilised assets In some instances, it may be economic to reduce the
  capacity of under-utilised assets. An example of this is narrowing low volume carriageways for the
  provision of car parking or cycleway / footpaths.
- Managing use by regulation or legislation Legislation and regulation can affect the rate of
  consumption of the road asset, particularly by restricting use and minimising excessive
  deterioration caused by inappropriate use. Legislative controls may include restriction of vehicle
  type, weight, dimension, speed, or parking control.
- Managing demand through education and community programmes Awareness of travel options
  and 'different was' of doing business ands social connectivity are opportunities that can be explored
  as part of Travel demand management (TDM) initiatives

# 5.4.6 Capital Projects – Demand and Level of Service Improvements

New works describe the creation of new assets, or construction which upgrades or improves an existing asset beyond its existing capacity or performance in response to changes in usage or customer expectations.

As required by schedule 10 of the LGA 2002, with respect to Council funded development work, this plan also identifies and differentiates requirements of additional asset capacity in terms of increased demand (e.g. growth) or increase in the Levels of Service (LoS) provisions and standards.

Council carries out a prioritisation process of all necessary renewal or development works. The priority list is used to assign funds when preparing the financial plans. It is important that the process be regularly reviewed and that the cost estimates are reviewed at detailed design stage and/or purchase stage. The capital projects programme is captured in chapter: Financial Summary

The prioritising and programming of asset development projects is done based upon the NZTA funding criteria to ensure the highest probability of obtaining NZTA funding.

Depending on the scale of planned improvement projects, a business case process has to be completed closer to the anticipated construction period to obtain and secure funding. An example of a project to cope with demand is the East West Connectors Programme. This package comprises of a number of projects planned to relieve congestion on Kāpiti Road and support economic development

We also carry out minor improvement works each year, these capital work are small scale in nature and are typically aimed a minor safety improvements usually in the form of measures to assist vulnerable road

Access & Transport AMP 2024-33 | 78



users and other low cost signage and line marking improvements. Other planned annual improvements increase the resilience of the network, like retaining walls. These road improvements are discussed in Chapter 6 under the low cost low risk projects in the Programme Business Case

# 5.4.7 Development standards

In April 2022, Council released the Land Development Minimum Requirements. This provided 'pre approved solutions' for subdivision and development, with reference to NZS4404:2010.

Theses standards are expected to be med for new infrastructure to be vested in Council.

Ther document replaced the Subdivision and Development Principles and Requirements which dated back to 2011.



# 5.5 New Improvement Items

#### Improvement Item 2024.5.1

Collaborate with Forestry Companies within the District to better understand their harvesting timelines; develop a lifecycle management strategy for these sites.

# Improvement Item 2024.5.2

Oversee new traffic model development and analyse results in line with community outcomes sought.

Access & Transport AMP 2024-33 | 79



# 6 PROGRAMME BUSINESS CASE

# 6.1 Purpose

This Programme Business Case discusses and develops options for the delivery of the Access and Transport Activity - "How can we do this?"

#### 6.1.1 Structure of the Business Cases

The Strategic Case and the Programme Business Case are developed in combination with the Activity Management Plan.

- The Strategic Case is provides the story context, issues and response options in a concise manner.
- The Programme Business Case discusses each work group separately to explore issues, options and work programmes. The separation benefits the delivery team, where each team member has responsibility for different work groups.
- The Activity Management Plan structure generally follows the International Infrastructure
  Management Manual (IIMM), and covers the areas that are outside the Programme Business
  discussion.

# 6.1.2 Alignment with Problem Statements

The Strategic Case discussed the issues facing the district and the alignment between planning and operations.

Central to the Strategic Case is the Problem Statements. These are considered throughout this Programme Business Case, particular mention is indicated below.

**Fit For Purpose Network** - the current network use differs from the past, and the level of investment needs to support users and different modes of travel now and in the future

**Resilience and Climate Change -** increasing occurrence of severe weather related events and coastal erosion is affecting some structures and challenging network resilience



Demographic Change and Accessibility - demographic change

across Kāpiti is in the younger and older groups. Our transport networks should better suit the older and younger age groups.

**Connectivity** - the Wellington Northern Corridor improvements are, and will continue to change travel patterns, this is evident in congestion, some poor connectivity, and service provider workload.

**Road Safety -** road safety indicators are getting worse, vulnerable users need to be kept safer.

Access & Transport AMP 2024-33 | 80



# 6.1.3 Optioneering

#### Strategic Responses and Developing Options

Developing options for programmes is integral to sound business cases. However, the level of optioneering requires differs across transportation activities.

In 2021 a structured approach has been developed by a group of Wellington Region Road Controlling authorities. This was based on grouping typical Problem Statements and Strategic Responses. This was reflected in the options considered with a focus of the activities with the highest expenditure.

This programme business case will consider the options available through a multi-criteria analysis once again focussing on the areas of greatest expenditure. The combination of these approaches has been applied to ascertain where the greats benefit can be achieved, as indicated below. The options below set up the MCA detailed in the AMP.

The table indicates the favoured optioneering approaches involve policy change (a non-asset solution) or a change in investment (continuous programme or capital works). A risk based approach would be useful where options for savings are being considered, or where safety is being prioritised.

Access & Transport AMP 2024-33 | 81



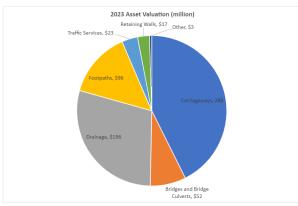
# Consideration of Options and Prioritisation

Extent and impact of options worth considering	Few	Some	Many	
--	-----	------	------	--

Asset Group Response Problem Statements	Footpaths and Shared paths	Streetlights	Traffic Services	Drainage	Unsealed Roads	Sealed Roads	Parking Facilities	Bridges
Carbon Reduction	Policy (set LoS and construction method)	Establish a Centralised management System (light dimming)				Programme Adjustment (i.e. remove projects)	Programme Adjustment (i.e. remove projects) Policy (set LoS)	
Fit For Purpose Network	Policy (set LoS to define what fit for purpose is)	Policy (set LoS to define what fit for purpose is)		Risk Based Assessment	Policy (set LoS for these roads) Demand Management (Restrict Use)	Demand Management (Restrict Use)	Policy (set LoS)  Demand Management (Restrict Use)	Policy(set LoS to define what fit for purpose is Demand Management (Restrict Use – Posted Bridges) Risk Based Assessment
Resilience and Climate Change				Risk Based Assessment		Risk Based Assessment		Demand Management (Restrict Use) Risk Based Assessment
Demographic Change and Accessibility	Policy (set LoS)	Policy (set LoS)					Demand Management (Restrict Use)	
Connectivity	Policy (set LoS)		Risk Based Assessment					
Road Safety	Risk Based Assessment	Policy (set LoS)	Risk Based Assessment		Risk Based Assessment	Risk Based Assessment		Risk Based Assessment

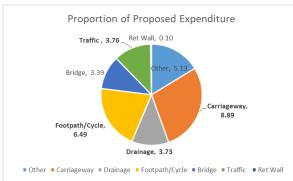


Alongside the options, the value of assets and the level of expenditure considered to ensure the optioneering approaches are commensurate with the asset group.



When the asset values are considered, there are three dominant asset groups:

- 1. Carriageways
- 2. Drainage
- 3. Footpaths/Cycleways



Furthermore, when the level of expenditure is considered, three of the highest four groups are represented:

- 1. Carriageways
- 2. Footpaths/Cycleways
- 3. Traffic Services (including streetlights)
- 4. Drainage

Access & Transport AMP 2024-33 | 83



Based on asset value and expenditure optioneering is proposed in the following framework.

Extent and impact of options worth considering	Few	Some	Many
--	-----	------	------

Asset Group Response Problem Statements	Footpaths and Shared paths	Streetlights	Traffic Services	Drainage	Sealed Roads
Carbon Reduction	Policy (set LoS and construction method)	Establish a Centralised management System (light dimming)			Programme Adjustment (i.e. remove projects)
Fit For Purpose Network	Policy (set LoS to define what fit for purpose is)	Policy (set LoS to define what fit for purpose is)		Risk Based Assessment	Demand Management (Restrict Use)
Resilience and Climate Change				Risk Based Assessment	Risk Based Assessment
Demographic Change and Accessibility	Policy (set LoS)	Policy (set LoS)			
Connectivity	Policy (set LoS)		Risk Based Assessment		
Road Safety	Risk Based Assessment	Policy (set LoS)	Risk Based Assessment		Risk Based Assessment

These options are developed through a multi-criteria analysis within the Programme Business Case sections.



# **6.1.4** Value for Money Outcomes

An important part of programme development is ensuring the benefits of investment are achieved.

This is done by:

- 1. Understanding the needs of stakeholders and aligning programmes with them
- 2. Defining standards for sustainable infrastructure
- 3. Selecting inputs strategically, this includes optioneering and procurement processes
- 4. Seeking cross-activity optimisation
- 5. Monitoring service delivery to ensure it is fit-for-purpose and cost effective

Benefits are more than monetary; the following tables lists achievement indicators that should be considered.

The four well beings	Government Policy Statement on Land Transport: 2024- 34 Strategic Priorities  • Economic Growth and Productivity • Increased Maintenance and Resilient • Safety • Value for money
Thriving economy - Vibrant culture - Diverse community     Resilient community     Wise management of public funds     Democracy through community participation     Strong partnerships	<ol> <li>Road to Zero principles</li> <li>We promote good choices but plan for mistakes</li> <li>We design for human vulnerability</li> <li>We strengthen all parts of the road transport system</li> <li>We have a shared responsibility for improving road safety</li> <li>Our actions are grounded in evidence and evaluated</li> <li>Our road safety actions support health, wellbeing and liveable places</li> <li>We make safety a critical decision-making priority.</li> </ol>
Sustainable Transport Strategy Outcomes  Outcome 1: Improved Access, Connectivity and Integration Outcome 2: Safe and Resilient Communities Outcome 3: Supporting a Vibrant and Thriving District Objective 4: Climate Change Outcome 5: The Environment Objective 6: Amenity Outcome 7: Affordability	<ol> <li>Investment Decision Making Framework Principles</li> <li>Invest in the transport system to achieve multiple outcomes</li> <li>Take a robust approach to delivering best value for money</li> <li>Ensure solutions are future-focused and adaptable.</li> <li>Collaborate and engage with the local government sector to understand and reflect local,</li> <li>regional and national perspectives</li> <li>Make decisions following a transparent, risk-based process informed by a strong</li> <li>evidence base</li> </ol>

The four-wellbeing framework can be used as a basis for classifying the outcomes sought, or more broadly the Living Standards Framework developed by the Treasury. Throughout the business cases for activities, the following have been discussed:

Access & Transport AMP 2024-33 | 85



- Key users
- Customer view and resident satisfaction
- Council objectives
- Wider objectives

# 6.1.5 Procurement

Along with robust planning, achievement of outcomes relies on delivery. While Council is responsible for much of the management of the network, physical works are outsourced. Effective procurement processes are key to this.

In February 2024 Council reviewed the Smart Buyer assessment with scores as follows, items where the scores changed include item descriptions. The improved score is now 57/70 ("Our organisation has embraced Smart Buyer principles but can still improve").

Assessment item	2019/20	2023/24
	Score	Score
Fully understands the different contracting models available	4	4
2. Holds meetings that updates the contracting industry on the forward works	3	4
programme and any changes it is taking in approach and proactively engages with the		
contracting industry to ensure that gains optimal value out of any changes being		
implemented		
3. Has sufficient robust data (or is in the process of gathering robust data) on our	3	5
networks that enables optimal integrated decision-making		
4. Has access to expertise that fully enables best use of the data available	4	4
5. Is open to alternative solutions to those proposed in the contract documents	4	4
6. Understands risk and how to allocate and manage it	4	4
7. Has a Council that is prepared to pay more now to achieve a lower whole of life cost	3	4
8. Actively pursues value for money & does not always award contracts to the lowest	4	4
price		
9. Is able to manage supplier relationships / contracts to ensure that expenditure is	4	4
optimal and sustains infrastructural assets at appropriate levels of service		
10. Supports ongoing skill and competency training and development for its staff	4	4
11. Actively participates in gatherings to share and gain knowledge within the sector	4	4
12. Is effective in keeping up with best practice in procurement including best practice	4	4
RFP / contract documentation		
13. Regularly seeks and receives candid feedback from suppliers on its own	3	4
performance as a client and consistently looks to improve its performance		
14. Explores opportunities for collaboration by either sharing in-house resources with	3	4
neighbours, or by procuring together or tendering together. That exploration could be		
through an LGA s17A evaluation of transport function delivery options		
TOTAL	51	57

Access & Transport AMP 2024-33 | 86



# **6.2 Traffic Service and Corridor Maintenance**

#### The assets

- Traffic Services
- Signs 6806 total
- Pavement Marking 501km of lines
- Sight Rail 205 total
- Streetlights 5352 sets (348 revocated SH)
- Traffic Islands (483 total)
- Traffic signals 12 sets (6 sets revocated SH)



Total activity value \$23 million

#### **Typical Spend**

WC 122: Traffic services maintenance

WC 131 Level Crossing Warning Device

WC 123 Network Operations (signals)

WC 222: Traffic services renewals

\$1,300k 11% of Continuous Programme (MOR)

\$ 35k less than 1% of MOR

\$ 60k less than 1% of MOR

\$ 795k 6% of MOR

#### **Key Users**

#### All road users

#### **Customer View**

Resident satisfaction measured as part of overall satisfaction with roads.

- Residents that agree that the existing transport system allows for easy movement around the district - not met 57% for 2021/22 (target 80%)
- Residents satisfied with streetlights not met 83% for 2021/22 (target 85%)

#### **Relevant Problem Statements**



#### Council objectives

Traffic services are used for the orderly control and safety of vehicles and people on public roads. The function of traffic control devices is to: Regulate, Warn, Guide, Inform

#### Change needed

 Increased volume of long life paint on revocated road (impact next LTP)

#### Issues and Options

 Streetlights from revocated road are old halogen luminairs – proposed upgrade to LCD (low power, low emissions)

#### Wider Objectives

Supports road safety

# Preferred approach

Ongoing maintenance and renewal, isolated project improvements as part of LCLR

Access & Transport AMP 2024-33 | 87



#### 6.2.1 Introduction

This activity covers traffic services in the Kāpiti District that the Council owns and maintains. Traffic services, also referred to as traffic control devices include signs, marking and traffic signals which are used for the orderly control and safety of vehicles and people on public roads.

#### 6.2.2 Context

Council has established objectives and levels of service for traffic services as part of the broader access and transport activity. This is summarised below, while the development process for levels of service is explained in AMP Section LoS.

#### 6.2.2.1 Outcomes sought

#### Council objectives for traffic services

Traffic services are used for the orderly control and safety of vehicles and people on public roads.

The function of traffic control devices is to:

- Regulate
- Warn
- Guide
- Inform

#### Wider Objectives

Council's vision and objectives align with the Wellington Regional Land Transport Plan Mid Term Review 2023 strategic objectives

- People in the Wellington Region have access to good, affordable travel choices
- Transport and land use are integrated to support compact urban form, liveable places, and a strong regional economy
- People can move around the Wellington Region safely
- The impact of transport and travel on the environment is minimised
- Journeys to, from and within the Wellington Region are connected, resilient and reliable

An appropriate and well maintained combination of traffic services support these objectives

#### Policies

Council's current policy is to follow Waka Kotahi (NZTA) guidance

#### **Design Standards**

Council's traffic services assets are currently being maintained and upgraded to comply with Waka Kotahi (NZTA) standards and specifications.

- High intensity grade reflective materials are used in railway crossing signals, signs and chevrons.
- Often the combination of these documents is referred to as the 'TCD (Traffic devices and control) manual'.

Council practice is to adopt the latest standards and specifications for traffic services assets in order to reflect the current traffic rules.

#### 6.2.2.2 Key Users

Traffic services support all road users.

Pedestrians and cyclists benefit greatly from streetlighting, and also intersection controls.

Access & Transport AMP 2024-33 | 88



#### 6.2.2.3 Levels of Service

Combining the expectations and requirements of legislation (mandatory measures), industry standards, users, stakeholders, Council and the New Zealand Transport Agency, Levels of Service and measures have been developed to measure the delivery of the levels of service.

The only levels of service specific to traffic services are:

- Resident satisfaction
- Road Safety
- Customer requests

No changes to the levels of service or targets are proposed.

#### 6.2.2.4 Resident Opinion Surveys

Resident satisfaction for traffic services is measured as part of the overall roading activity.

#	Measure	Target	Results	Trend	Performance
AT001	Residents that agree that the existing	70% (TBC)	81% 2019/20	^	Target Not
	transport system allows for easy	(80%	74% 2020/21		Met
	movement around the district	during	67% 2021/22		
		21/24 LTP)	57% 2022/23		
AT003	Residents that are satisfied with	80% (TBC)	84% 2019/20	7	Target Met
	street lighting	(85%	84% 2020/21		
		during	83% 2021/22		
		21/24 LTP)	83% 2022/23		

Residents continue to show frustration with movement around our district. It is noted 31% of residents surveyed who had an issue with an infrastructure service explained it was due to traffic flow issues. This is reflective of the substantial roadworks associated with stormwater replacement impacting on traffic on Kapiti Rd, the Paraparaumu transport hub, and works associated with revocation of SH1 resulting in disruption to traffic flows.

The customer survey trend for lighting remains stable with 80-90% satisfaction. Council is working on "dark spots" where the light spread of the new LED lights is not as wide as the old-style lights, as this is an area of frustration within the survey responses.

## 6.2.2.5 Safety

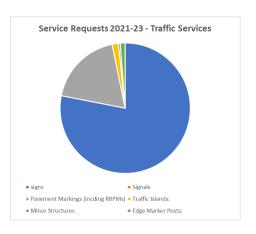
There were no crashes recorded in the 2022/23 CAS data suggesting traffic services issues related to the cause of a crash.

Access & Transport AMP 2024-33 | 89



#### 6.2.2.6 Customer Requests

Customer service request for the 2021-23 period have been assessed to understand road users concerns and expectations, and the items that require response. It is noted that over three-quarters of the contact with Council is associated with signs.



(Source Service request system)

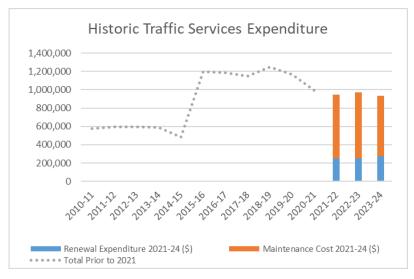
#### 6.2.2.7 Benchmarking

Benchmarking is limited to expenditure comparisons with other road controlling authorities. This is assisted by the Te Ringa Maimoa tools.

Waka Kotahi audits and safety audits undertaken by Council are used to confirm appropriate practice is in place.

## 6.2.2.8 Historical Expenditures

The expenditure on traffic services over the last fourteen years is summarised below.



(Source: TIO and Council General Ledger)

#### 6.2.2.9 Network Growth

On average the network grows at around 1.5 km of vested road per year, with a step change in 2023/24 of 27km added with the M2PP revocation and PP2O local roads.

Access & Transport AMP 2024-33 | 90



As the network has become more urbanised and complex, the portfolio of signs and markings has increased. In 2014 there were around 5,000 signs, now we have a total of 6,806 signs; an increase of nearly 40% over ten years. Similar growth has been experienced with our other traffic services assets.

#### 6.2.2.10 Physical Parameters

Signs, road markings, edge marker posts (EMP), raised pavements markers (RRPMs), sight rail and traffic islands are used for providing delineation, guidance, and control on Council owned roads. The information held is the type of sign, markings and railings RAMM database tables. Guard rails treated as small structures and discussed in **Section 6.8-Bridges, Walls and other Structures.** 

Signs and markings are installed in accordance with the Manual of Traffic Signs and Markings (combined with the Traffic control devices manual https://www.nzta.govt.nz/resources/traffic-control-devices-manual/), Land Transport Rule-Traffic Control Devices 2004, and Road Traffic Standards Guideline RTS5. Council is developing a policy on signs, and has noted that further work is required to complete the installation of information signs.

#### **Road Signs**

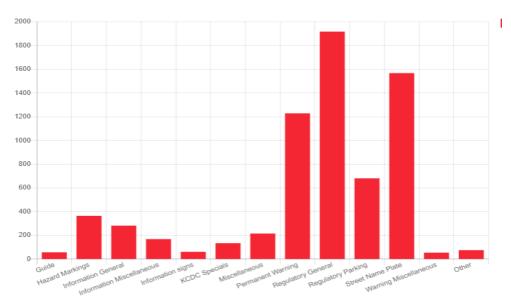
#### Description

The road signage to guide, info, warn, regulate are included in this work group.

#### Quantity

There are 6806 signs on our KCDC network. The bar graph below show the type and number of signs on our Kapiti Coast District Council. The data has sourced from the KCDC RAMM database.





#### (Source RAMM)

#### **Valuation**

The 2023 valuation of our signage stock is \$1.56m as at 30 June 2023. Note this excludes the Old SH1 signs that are revocated after valuation.

Access & Transport AMP 2024-33 | 91



# **Traffic Signals**

#### Description

There are 15 signalised intersections in the Kāpiti District (3 sets owned by Waka Kotahi).

Traffic signals are controlled through SCATS in via the Wellington Transport Operations Centre.

Each set of Traffic Signals comprising six to eight individual signal poles.

The locations of the Signals are shown below



Road	Position	Description	Town	Owner
Old SH1	TBA	Old SH1 (LAR) - Makahuri Traffic Signals	Te Horo	KCDC (from NZTA)
Old SH1	TBA	Old SH1 - Ngaio Rd Traffic Signals	Waikanae	KCDC (from NZTA)
Old SH1	TBA	Old SH1 - Elizabeth St Traffic Signals	Waikanae	KCDC (from NZTA)
Old SH1	TBA	Old SH1 - Te Moana Rd Traffic Signals	Waikanae	KCDC (from NZTA)
Old SH1	TBA	Old SH1 - Kapiti Rd Traffic Signals	Waikanae	KCDC (from NZTA)
Old SH1	TBA	Old SH1 - Ihakara St Traffic Signals	Waikanae	KCDC (from NZTA)
Kapiti Road	350	Kapiti Rd - Rimu Rd Traffic Signals	Paraparaumu	KCDC
Kapiti Road	725	Kapiti Rd - Brett Ambler Way Traffic Signals	Paraparaumu	KCDC
Kapiti Road	915	Kapiti Rd - Arawhata Rd Traffic Signals	Paraparaumu	KCDC
Kapiti Road	1380	Kapiti Rd - Milne Dr Traffic Signals	Paraparaumu	KCDC
Kapiti Road	1460	Kapiti Rd - Te Roto Drive Traffic Signals	Paraparaumu	KCDC
Rimu Road	1290	Rimu Rd - Iver Trusk Pl Traffic Signals	Paraparaumu	KCDC
Old SH1	TBA	Old SH1 - Arthur St Ped Traffic Signals	Otaki	Waka Kotahi
Te Moana Rd	1325	Te Moana Rd - Expressway Traffic Signals	Waikanae	Waka Kotahi
Kapiti Rd	1145	Kapiti Rd - Expressway Traffic Signals	Paraparaumu	Waka Kotahi

(Source: RAMM and staff)

# Step change for this LTP

There are now 12 sets of traffic lights to be managed by KCDC. The additional 6 sets that are handed over from Waka Kotahi in 2023/24 as an outcome from the M2PP revocation process.

# **Valuation**

The Valuation of the signals at June 2023 was \$850k.

Please note this excludes 6 sets of signals that are "KCDC (ex Waka Kotahi)" as these are to be handed over to KCDC during 2023/24, after valuation.

Access & Transport AMP 2024-33 | 92



#### Streetlights

#### Description

This activity covers street lighting that Council owns and maintains. Lighting for amenity purposes is included in the section, but expenditure is separate as it is not funded by Waka Kotahi (NZTA).

Council has completed a major LED upgrade of our streetlights with Waka Kotahi's support in 2017-2019. The inspection and maintenance requirements of LED luminaires is less than that of older models, adding to the cost savings of reduced energy consumption.

Furthermore, Council recognises the benefits of completing the conversion to the LED in terms of cutting its carbon footprint (220 tonnes CO2e per year). This programme will make a significant contribution to the council's corporate greenhouse gas emissions target for 2021-22.

Streetlights are predominantly mounted on columns (pole owned by Council, 54%) or brackets attached to the electricity utility's poles (35%).

#### **Description and quality**

The Access and Transport unit currently owns and maintains streetlights on the network.

Owner	LED	High Pressure Sodium Vapour	Mercury Vapour	Fluor- escent	Belisha	Total	% LED
LA - Transport	4966	191	0	0	58	5215	95%
LA - Property	8	0	0	0	0	8	100%
LA - Parks	34	66	0	0	0	100	34%
Wellington Regional Council	3	28	0	0	0	31	10%
						5354	

#### (Source: RAMM)

63% of lights are located on Council owned poles, while 37% are located on Council owned brackets attached to power authority poles. Council has an agreement and associated fee in place with the power authority (Electra).

Poles	Concrete	Other	Steel
LA - Transport	70	7	3185
LA - Property	0	0	8
LA - Parks	11	1	55
Wellington Regional Council	0	1	12
	81	9	3260

#### (Source: RAMM

Note, the majority of the 191 High Pressure Sodium lights are on Old SH1 and are within the revocation from Waka Kotahi to KCDC. We plan to replace these HPS lights with LED in the 2024-27 LTP period.

#### **Asset Valuation**

The full replacement value of the pavement marking assets as at 30th June 2023 is \$19.5m. This excludes the Old SH1 revocation assets that were not included.

#### State Highway Streetlights

Access & Transport AMP 2024-33 | 93



Streetlights located on State Highways that have not been revocated are owned and managed by Waka Kotahi (NZTA) as the network provider. This includes Otaki Township, the Te Horo Straights, and SH59 in Paekakariki.

## Pavement Markings and Raised Reflectorized Pavement Markers (RRPM)

#### Description

Pavement markings provide key visual delineation for motorists. The heavy trafficked areas tend to have more markings to support motorists. Council requires reflectorized marking as specified in TNZ P/22.

Our long life painted areas are marked when warn, with expected lives of 4-7 years. These are typically green coloured areas for cycleways. The Old SH1 revocated road has a significant amount of long life markings which is in good condition and not expected for remark in the 2024-27 LTP period.

RRPMs are valuable for road delineation both for night time visibility and during wet weather when water enhances their reflectivity. They also provide an audible and tactical warning when crossed by the vehicle.

#### **Data Quality**

The markings have had a major upgrade in our RAMM database, with lines "polylines" to the actual location. This has improved the volume detail significantly.





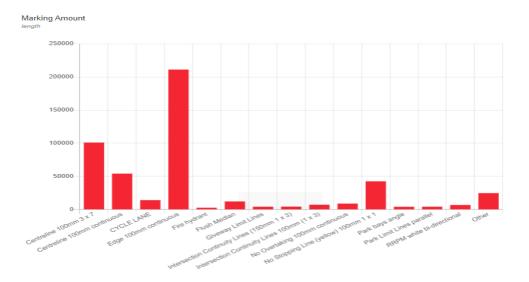
"Polylined" markings upgrade example

Yet to upgrade example

The updated volume of markings across our network is shown in the graph below:

Access & Transport AMP 2024-33 | 94





(Source: RAMM)

#### <u>Valuation</u>

The replacement value of the pavement marking assets as at 30th June 2023 is \$1.20m. This excludes the SH1 revocated road as that data is not included at the time of valuation. This valuation is significantly higher than the 2021 replacement amount of \$0.48m due to inflation and improved asset data quality.

#### Step change for this LTP

The previous LTP was insufficiently funded to undertake routine roadmarking in WC 122. With better inventory data and financial coding we have re-estimated the amount with more certainty.

# **Traffic Islands and Roundabouts**

#### Description

Traffic islands assist traffic routing and safety, they are either solid concrete kerbing or assembled from precast blocks.

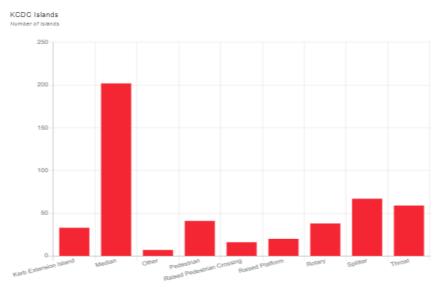
Roundabouts play an important role in regulating the traffic flow and enhancing safety. They are used as an alternative to signalisation at intersections where the installation and maintenance of traffic signals is a concern. They often provide an aesthetic enhancement to the road alignment.

#### Quantity

There are 483 traffic islands across the district. The below graph shows the breakdown by type.

Access & Transport AMP 2024-33 | 95





#### (Source: RAMM)

#### **Valuation**

The full replacement value of the minor structure assets as at 30th June 2023 is \$2.8m. This excludes the SH1 revocated road as that data is not included at the time of valuation.

#### **Minor Structures**

#### Description

Minor structures capture several asset type that guide and support our community in conjunction to our markings and signage.

## Quantity

- 10 Electronic Speed feedback signs, 33 School Zone Solar Sign with solar panels
- 40 speed humps
- 89 sets of bollards
- 44 wheel stops
- 129 Flag Trax frames on streetlights (non-sub asset group)

# <u>Valuation</u>

The full replacement value of the minor structure assets as at 30th June 2023 is \$0.4m. This excludes the SH1 revocated road as that data is not included at the time of valuation.

## **Edge Marker Posts**

#### Description

Edge marker posts are used in rural areas to assist delineation. Currently details are not recorded.

#### Ouantity

Currently not recorded – this is a data improvement opportunity for the next LTP period.

Access & Transport AMP 2024-33 | 96



#### Valuation

No valuation data

#### 6.2.2.11 Asset Capacity and Demand Management

As traffic number have grown the need for regulated controls has increased. This assists with levels of service achievement for road users in a number of ways. Regulatory signs and traffic signals support safety as well as network capacity and congestion. Information signs and traffic island assist drivers with intuitive wayfinding.

#### Asset Capacity/Performance

Crash data and feedback from users both serve as indicators of traffic services performance.

There are no instances recorded in CAS where performance of traffic services is noted as a contributing factor to a crash. This implies the current management approach is appropriate.

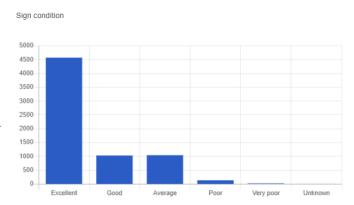
Traffic services performance for assisting traffic movement is analysed through the Kāpiti Traffic model. The model simulates forecast traffic numbers and the impact of different traffic management options. There is a forward programme of works to align traffic services with network demand and capacity.

#### 6.2.2.12 Asset Age and Condition

#### Signs

The condition of the assets ranges from satisfactory to excellent. The condition of most assets is held in RAMM. The Revocation and PP2O new road assets are excluded from this analysis.

The overall condition of sign is good. Many replacements are due to other factors such as crash damage, vandalism or theft.



Access & Transport AMP 2024-33 | 97



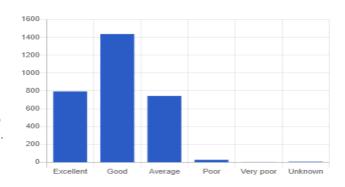
#### Streetlights

The overall condition of streetlight poles is good. However, the consequence of failure (a pole falling down) is significant, therefore a pole replacement programme to remove poor or v.poor condition poles is part of our maintenance programme.

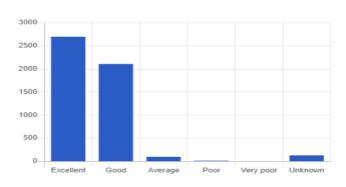
The average age of our steel galv pole assets is increasing, which is related to corrosion at the ground level interface. Recent surveys are finding more poles at end of life that need replacement.

The overall condition of streetlights (luminaires) is v,good. The LED upgrade project contributes to this high-performance result.

Streetlight Pole



luminaire condition



(Source: Ramm database)

There is no condition data for other asset types

## 6.2.2.13 Data Confidence Level

Data confidence is generally high, with the best knowledge for newer more expensive items such as traffic signals. Knowledge decreases through to small signs where the type is sign is known but little else. Edge marker posts are not well recorded and this should be addressed.

The Road Asset Valuation (30/6/2023) notes , traffic signals data, traffic island and signs sourced from RAMM as:

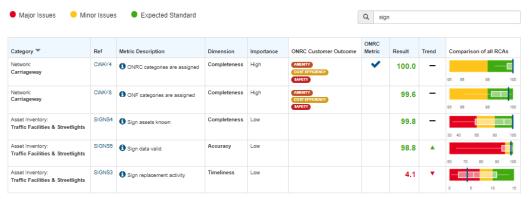
Group	Rating	Notes
Markings	В	B – Reliable - Data based on sound records, procedures, investigation
Traffic Signals	В	and analysis which is properly documented but has minor shortcomings, for example, the data is old, some documentation is
Minor Structures	В	missing, and reliance is placed on unconfirmed reports or some
Signs	В	extrapolation.
Streetlights	В	
Islands	В	

Access & Transport AMP 2024-33 | 98



The Te Ringa Maimoa 2022/23 Data Quality report confirms good level of completeness for traffic services inventory. However, the "replace" functionality has not been used well for signs and streetlights. See the detail on the table below:

These are the provisional results for 2022/23. See the metric library for details of the 2022/23 calculations for each metric. We will finalise and publish the Data Quality Annual reports when all results are verified.



Date imported: 28th July 2023

#### **Risk and Critical Assets**

Signs posted at all railway crossings, chevron boards, stop and give way controls, and traffic lights are considered critical assets. Damage or loss of these assets may cause serious traffic accident and/or injury.

A formal assessment of critical assets has not been undertaken for traffic services alone. They are regarded as integral to roads or routes that are identified as critical.

The Criticality Assessment has identified routes and assets as described in section 7.3.

Access & Transport AMP 2024-33 | 99



# 6.2.3 Management and Options

#### 6.2.3.1 Maintenance Plan and Options

Maintenance is the on-going day-to-day work activity required to keep assets serviceable, prevent premature deterioration or failure and deliver on expected customer levels of service. Maintenance of traffic services includes:

- Planned Maintenance: Night-time visual inspections are carried out annually to check the
  reflectivity of signs, EMPs, RRPMs and annual pavement marking. The traffic signs are also cleaned
  once a year;
- Unplanned Maintenance: Repair works carried out in response to reported problems or defects.

At present, maintenance needs and requirements are identified by Contractors through their inspection programmes, Council engineers in the course of their duties, or via public complaints and feedback from the maintenance contractor. Ideally inspection programme will be optimised to limit the level of faults and public perception of inadequate maintenance.

The road maintenance contractor is currently responsible for the maintenance of signs, traffic signals, markings and RRPMs, Traffic islands, minor structures and edge marker posts.

The current contract details are:

Works Description	Road Maintenance 2018 – 2021
Contract Number	2018/C178
Let	July 2018
Expires	30 June 2025 (3+2+2 (now in final extension)
Contractor	Higgins Contractors

Maintenance contract response times are aligned with levels of service expectations.

Item	Response time	Note:
Critical regulatory sign	One day (24 hours)	
Other types of signs	20 days	
Markings	5 Days	
EMP	1 Day	

#### **Traffic Signs**

Regular inspections are undertake to ensure signs are in place, visible and undamaged.

Annual cleaning undertaken to ensure legibility and reflectability. While the expected life is 15 years, most replacement is due to damage rather than age and deterioration.

# Maintenance Options for Traffic Signs

Maintenance options are limited for this activity. Essentially valid options are:

- 1. Retain the existing signs and plan only for replacement at the end of their useful life
- 2. Install new signs at a frequency and plan only for replacement at the end of their useful life
- 3. Undertake maintenance on signs to keep them in a functional state

Option 1 is the status quo and is used in combination with option 3 where minor repairs are required. A criticality based approach including option 2 as well will be considered as part of the next maintenance contract.

Access & Transport AMP 2024-33 | 100



#### Traffic signals

Signals require specialised skills to be maintained in reliable working order. This work is undertaken as part of a regional contract (WTOC).

Faults are automatically relayed through the control system and the contractor so a quick response is possible.

Faults will either be due to an electrical problem, blown 'bulb' or vehicle crashing into the signal pole.

There are no alternative maintenance options considered as being worthy of assessment.

#### **Pavement Markings**

Pavement marking is included in the road maintenance contract and the contractor is required to reinstate markings where they are observed to be unsatisfactory, or are notified of a fault.

Council specifies water-borne marking products to be used for longevity with the markings on main arterials and Stop and Give Way controls being reflectorised.

Long life paints are now being integrated onto our network. The Old SH1 revocated section is being handed over with substantial lengths of thermoplastics. These are in good condition and unlikely to need work in the next LTP. However with life expectancy of 5-7 years, this will be a step change in the following LTP.

Maintenance options for this activity include:

- 1. Annual full network remark (this was the old regime pre 2019)
- 2. Optimisation of the roadmarking programme. Since 2023 markings on low volume, access roads and minor secondary routes to every 2<sup>nd</sup> year. The Arterial, Primary and significant secondary routes are marked every year. This regime been developed over the past 5-years to balance keeping safe marking condition within an environment of funding pressure.
- Change the delivery of the pavement marking to a Roadmarking contract at the next renewal (1
  July 2025) to enable direct contact with the contractor and allow smaller local contractors
  opportunity to tender directly.

The repaint of Councils road markings have been bundled into the maintenance contract. All work to reinstate markings is part of the maintenance contract. The two year option is being monitored to ensure performance is adequate.

#### **Traffic Islands**

Maintenance of traffic island includes kerbing and the landscaping within the island itself. Some islands have low maintenance features such as paving or concrete and stones, while others are lawn or plantings. Mowing and gardening require temporary traffic management so best undertaken by contractors that are proficient in this as well as the landscaping work.

Kerbing may require minor repairs following a crash, otherwise little work is required until an intersection is reconfigured.

#### **Edge Marker Posts**

The Ministry of Transport's guideline for Rural Road Marking and Delineation 1992 (RTS-5) is the basis for the standard that has been adopted for Council's roads.

Edge Marker Posts are used to delineate the alignment of the roadway ahead and are primarily of use for night-time guidance. This is especially important at horizontal and vertical curves. EMPs are used to delineate full routes or on isolated curves. Their use on isolated sections of road is for safety reasons, for

Access & Transport AMP 2024-33 | 101



example where there are sub-standard curves, areas commonly subjected to heavy rainfall, fog or mist, where there is heavy night or tourist traffic flows, or where accident records indicate a need.

EMPs are installed on gravel roads to delineate isolated safety hazards but the extent of these is not recorded. The high cost of maintenance is a consideration in the number of new posts being installed.

Maintenance is straight forward, they are replaced if missing or cleaned when dirty. Improvement to the records would help ensure sites with EMPs are maintained to the required standard.

# Signs and Marking Legality

Regulatory signs and markings are required to be formally approved to give them legal standing. This approval is given by Community Boards. While more recent approvals have been recorded in RAMM it is unlikely that all the previous the approvals will be found. Further work/improvement is needed in this area.

It is unclear of the legality for restricted parking signs including taxi stands, and disabled person car parks, and no parking markings.

Speed limits are set pursuant to the Speed Limit Bylaw 2015. A register of speed limits is maintained by the Council as required by Land Transport Rule Setting of Speed Limits 2003. The KCDC Speed Management Plan 2023 has been endorsed and will be updated every 3 years going forward.

#### Improvement Item -

>> Review bylaws and processes for restricted parking signs and markings to ensure current and future signage is legally enforceable.

#### Streetlights

Maintenance of Council streetlights is carried out by a contractor under a measure and value contract which includes:

- Planned Maintenance: Visual inspections are carried out at monthly intervals at night time to identify faulty lamps.
- Unplanned Maintenance: Repair works carried out in response to reported problems or defects.
   This includes damage from crashes.

The current contract details are:

Works Description	Streetlight Maintenance and renewals 2019-2022		
Contract Number	2019/C240		
Let	July 2019		
Expires	June 2024 (3+1+1)		
Contractor	Fulton Hogan		

Detailed inspections are carried out on poles and outreach arms at the time any maintenance is carried out to ensure the safety and security of the fittings.

Maintenance options are very limited for this activity, with the change to LED the lives of the luminaires are expected to be much longer.

The inspection and preventative programme has been revised in line with management of LEDs, and replacements are undertaken when there is asset failure.

Access & Transport AMP 2024-33 | 102



An alternative to 'fail and replace;' would be to establish a centralised management system with fault reporting. There may be energy benefits through centralised management of dimming as well. This option is subject to a separate business case.

#### Energy Supply

Electricity for streetlights is purchased through a contract with Contact Energy. This is a competitive method, and offer good value for money for Council.

Alternatives to this would be to consider

- 1. Combined purchasing with other entities
- 2. Whole of government procurement

The establishment of a Centralised Management System (CMS) is also a consideration in terms of energy use and accurate lamp consumption. These systems provide the ability to dim lights through individualised telecells on each light. The LED luminaires installed include NEMA sockets which can have telecells fitted.

Savings have been demonstrated by other Road Controlling Authorities, but this is not currently a priority for Council.



#### 6.2.3.2 Renewal/ Replacement Plan

Renewal work restores, rehabilitates, replaces or renews an existing asset to its original capacity. In the case of traffic services the renewal/replacement process operates with works being identified by inspection, and via public complaints and reports from the maintenance contractor.

Assets in need of renewal are those that do not meet the standards for the level of service expected by road users and the Council; or do not meet the specifications required by Waka Kotahi (NZTA) guidelines and/or the traffic rules.

#### Traffic signs

Signs are generally replaced when they become faded. All types of signs including chevrons, destination and directional signs are being replaced according to the latest standards and specifications. Road signs are replaced every seven to fifteen years, with different deterioration occurring at various locations and fading rates of various colours.

As discussed under maintenance, often signs do not reach their expected life due to damage; otherwise they may last beyond the typical expected life.

#### Traffic signals

Traffic signals have an expected useful life of thirty years. Renewal is planned for that period, but it is acknowledged that renewal could occur earlier as part of an intersection reconfiguration.

#### **Pavement Markings**

RRPMs are replaced as part of the resurfacing programme. However with longer resurfacing lives, inspection and replacement of "dead" RRPMs is required.

#### Traffic Islands

No islands are programmed for renewal, however may be required for damage or

**Minor Structures** 

Access & Transport AMP 2024-33 | 103



See maintenance 4.4.1

#### **Edge Marker Posts**

See maintenance 4.4.1

#### Streetlights

Replacement/upgrading of streetlight assets also takes place in the following cases:

- When faulty or damaged lanterns cannot be repaired because of obsolescence.
- When replacement is more economic than continuing repair.
- To comply with new electrical regulations or standards.

#### Luminaires

The LED rollout of LEDs included a warrantee of ten years on the luminaires, so no planned renewal is anticipated before 2028 for our core network.

Options for renewal include the following:

- 1. On an as required basis (once the asset has failed)
- 2. On a grouped basis by area or ONRC/criticality

Once the performance of the LEDs is better understood – in particular is the failure period short or long, better forecasting of failure (and renewal) will be possible.

#### Poles and Brackets

Poles and outreach arms are replaced when they are no longer structurally sound. The Kāpiti Coastal area has a high corrosive atmosphere because of the salt laden on-shore winds. The effective life is likely to be on the shorter side of the default 25 to 50 years.

Corrosion resistant collars are now routinely included on poles at the ground interface, however the older poles do not have this protection and are prone to structural failure at the ground level. Detailed surveys are used to identity poor condition and the need for replacement.

Typically, 25 poles have been replaced annually, however in recent years the need has been increasing. This year we have seen 4 poles fail – and we need to increase our replacements in response. For the 2024-27 period we have increased the pole replacement allocation to 50 annually. As the galv steel pole stock continue to mature, the need to replace more than 50 is likely in future LTP periods.

Once completed the results of the condition survey will inform a renewal plan. In the interim expected asset lives are considered as a guide for funding requirements.

Туре	Total Useful Life	Indicative Quantity	Indicative Replacement Cost	Note
Poles and Bracket per year (KCDC poles)	25-50 years	50	\$200,000	Increasing demand as stock continues to age
Brackets per year				Replacement on
(on Electra poles)	25-50 years	25	\$62,500	condition
Total			\$262,500	

Access & Transport AMP 2024-33 | 104



Assets within the coastal corrosion zone are expected to have shorter lives for corrosion prone assets (ie steel poles). For existing assets these will be inspected more frequently to ensure they are structurally sound.

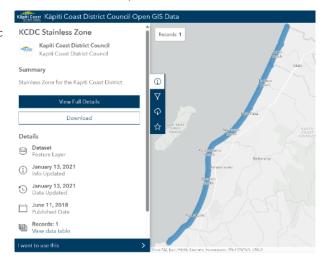
Future consideration for corrosion resistant materials will be assessed for use the coast areas. composite columns or footings are available; however the local cost and suitability needs review.

A recent revision of NZS 3604:2011 Timber-framed buildings requires the use of specific materials in challenging environments.

Exposure zones are based on the risk of windblown seaspray salts coming into contact with the building elements and evidence of microclimate effects, for example from industrial contaminants, geothermal hotspots etc.

"Exposed' where the component is fully exposed to everything the weather and the environment can throw at it."

This is regarded as is applicable to street lights and brackets, so it is proposed the zone where this is required for building be applied to



#### 6.2.3.3 Asset Creation Plan

In general, new traffic services are installed as part of new developments at the developer's expense. A quality control process is in place before these new assets are vested in Council.

As part of Council's safety programmes, intersection upgrades are regularly undertaken. These may be due to crash history, the results of a safety audit, or community request. Other improvements are also made on a case by case basis. These improvements will be funded through the Low Cost Low Risk or Road to Zero work categories. This is discussed further in section 12.

#### 6.2.3.4 Disposal Plan

Council has no current plans to dispose of traffic services assets.

#### 6.2.3.5 The Case for Change

Levels of service and customer satisfaction surveys do not real a level of service performance gap. Improvements will be made in response to capacity or safety concerns.

#### 6.2.3.6 Assessment of Options

There are limited options discussed in the maintenance plan for the assets that make up this activity.

Access & Transport AMP 2024-33 | 105



Extent and impact of options worth considering	Few	Some	Many	
--	-----	------	------	--

Asset Group Response	Streetlights	Traffic Services
Problem Statements		
Carbon Reduction	Establish a Centralised management System (light dimming)	
Fit For Purpose Network	Policy (set LoS to define what fit for purpose is)	
Resilience and Climate Change		
Demographic Change and Accessibility	Policy (set LoS)	
Connectivity		Risk Based Assessment
Road Safety	Policy (set LoS)	Risk Based Assessment

There is an optional New Zealand Standard for street light, which Council has adopted for new development, but is not applied to existing assets. Applying the standard top the existing network is difficult in that it often involves the location of lantern columns, which are regarded as extremely expensive to relocate/replace.

Currently concerns about inadequate lighting are considered on a case-by case basis, with particular attention to cyclists and pedestrians.

Numerous Council staff walk in early morning and evenings which provides useful source on information on lighting performance. It is proposed this will be supplemented by undertaking lux reading where concerns are raised over the 2024-27 period to provide a more robust process for improvement.

For signage and pavement marking risk based assessment are appropriate in terms of connectivity and road safety. This is appropriate as traffic services exist to control traffic or provide direction.

As discussed through this section traffic services support safety and demand management (capacity) outcomes. These factors will drive the options rather than the management of the activity itself.

Levels of service policy determination is appropriate for streetlighting. While there is a recognised standard (NZS), this is not mandatory and Council as ascertained it is required for new developments but will not be used to 'retrofit' the wider network.

It is proposed that 'dark spots' will be assessed when identified through inspection or public service request.

Other traffic service are provided for safety purposes, therefore a risk based approach is appropriate.

Access & Transport AMP 2024-33 | 106



#### 6.2.3.7 Preferred Programme

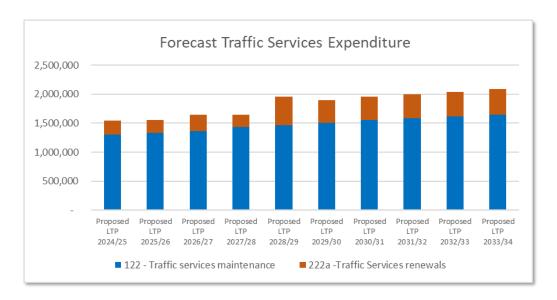
Council has made a strategic decision to 'at least' maintain the current levels of service for this activity, improvement will be project based.

WC	Action/Work	Driver for Action	Estimated Cost	Scheduled For	How this will be funded
122	Traffic services maintenance	Safety, asset condition	\$1.31m to \$1.35m	Per annum	Rates and FAR
133	Level Crossing Warning	Safety, asset condition	\$36k	Per annum	Rates and FAR
123	Network Operations	Safety, asset condition	\$63k	Per annum	Rates and FAR
N/A	Amenity	Aesthetics	\$50	Per annum	Rates (non- sub)
222	Traffic services renewals	Condition assessment and compliance with standards.	\$905k to \$932k	Per annum	Depreciation and FAR

#### 6.2.3.8 Financial Forecast

#### Financial Forecast

The following chart summarises this year and the next ten year forecast. The capital programme is expected to vary from this indicative programme as priorities arise and funding availability changes.



# Step change for this LTP

An LED rollout of the Old SH1 lighting is planned for the 2024-27 LTP, with the request included within the LCLR group. Supply restraints are common on luminaires, therefore we have planned to order the luminaires in 2024-25, and install in 2025-26

Access & Transport AMP 2024-33 | 107



# Future Step change

We expect a future step change in the next LTP cycle for our Traffic Services renewals. This step is for our long-life markings which are currently in good condition, and the significant volume of long life marking we are to receive from the M2PP revocation. These markings will need replacing in 4-6 years. Beyond this we expect the markings to get out of step and become a continuous workload.

# 6.2.4 New Improvement Items

Improvement Item 2024.6.1

Consider Populating Edge Marker Data in RAMM

Access & Transport AMP 2024-33 | 108



# Footpath and Pathways - Walking and 6.3 **Cycling Facilities**

#### The assets

Residential Footpaths (on road) 336 km Walkways (off road) 4 km Cycleways (on road) 15 km Shared Paths (on and off road) 44 km

467km Total Network length 77% of network concrete \$96 million replacement cost

#### Typical Annual Spend

WC 124: Cycle path maintenance \$170,00 1% of Continuous Programme (MOR) WC 125: Footpath maintenance \$420,000 3% \$160,000 WC 224: Cycle path Renewal 1%

WC 225: Footpath Renewals \$490,000 WC 341: Walking and Cycling Improvements \$1,200,000 Increase from \$0 2021-24

# **Relevant Problem Statements**

#### **Key Users**

School children

Older persons and mobility impaired

Commuters

#### **Customer View**

High level of resident satisfaction - last three years 66-69% (target 65%)

#### Council objectives

Council's long standing vision is that

"Kāpiti Coast is renowned for walking, cycling and horse riding".

To realise this vision, Council's objectives are:

To promote active modes of transport including walking, cycling and other alternative modes of transport.

To improve connectivity and cohesion of the network to key destinations.

To provide a fit for purpose and safe facility to encourage mode shift and contribute to emissions reductions.

#### Change needed

A review of the network to ensure current asset management, safety and design practices are being applied.

Upgrades and new connections are needed to improve connectivity, including road crossings.

Fit for purpose maintenance and renewal programmes.

Additional residential footpaths and pedestrian ramps are needed in high use residential areas to improve safety and connectivity. Community support in areas where footpaths and kerb and channel don't exist.

Access & Transport AMP 2024-33 | 109



	Issues and Options
	Options that have been considered
	include:
	Investment levels
	Materials
	Condition based prioritisation of renewals
	Timing of project delivery alongside other
	infrastructure projects including Transport
	Hub, PP20 revocation and private
	subdivisions.
Wider Objectives	Preferred approach
Supports regional and national shift to walking and cycling	The management strategy is to:
a a constant of the constant o	
Assist with connections to public transport	Continue the use of Concrete as preferred
Assist with connections to public transport  Provide destination facilities to support walking and	Continue the use of Concrete as preferred material and Asphalt where appropriate.
l · · · · · · · · · · · · · · · · · · ·	·
Provide destination facilities to support walking and	material and Asphalt where appropriate.
Provide destination facilities to support walking and	material and Asphalt where appropriate. Increase in maintenance activities. Decrease renewal programmes in line
Provide destination facilities to support walking and	material and Asphalt where appropriate. Increase in maintenance activities. Decrease renewal programmes in line with model forecasts.
Provide destination facilities to support walking and	material and Asphalt where appropriate. Increase in maintenance activities. Decrease renewal programmes in line with model forecasts. Prioritise connecting primary commuter
Provide destination facilities to support walking and	material and Asphalt where appropriate. Increase in maintenance activities. Decrease renewal programmes in line with model forecasts. Prioritise connecting primary commuter routes with new on road cycle lanes or

- New residential footpaths and pedestrian crossings.
- New shared path connection for Riverbank Road, Otaki between Miro Street and Old SH1. Connecting into the new shared path on Old SH1.
- New shared path connection for Park Avenue, Waikanae between Te Moana Road and Ngarara Road. Connecting the expressway shared path to Waikanae Township via Ngaio Road as the primary route.
- Peka Peka road widening to accommodate a shared path or on road cycle lane facility.
- Dual pedestrian and cycle crossing on Ratanui Road. Providing a safer crossing outside Little Farm preschool and Nursery and connection to the Ratanui Road Shared Path.
- Surfacing of primary shared path routes from unsealed to sealed on Ratanui Road.
- Surfacing unsealed corners and intersections to improve traction for cyclists and small wheels.

Access & Transport AMP 2024-33 | 110



#### 6.3.1 Introduction

This activity covers footpaths, walkways, cycle lanes and shared paths in the Kāpiti Coast District that the Council owns and maintains through the Access and Transport Team.

Council has established a comprehensive network for a range of users, the 'Cycleways, Walkways and Bridleways (CWB)' initiative being integral to the Kāpiti Coast lifestyle.

Transport Assets include.

- Footpaths on residential roads
- Shared paths on and off road
- Cycle lanes on road

Transports walking and cycling network facilitates commuter access to key destinations such as townships, schools and the expressway shared path that runs the full length of the district. Focus areas include connectivity, safety and mode shift.

Recreational Tracks and Trails are managed by Parks and Open Spaces and not included in this business case.

The 2024-27 LTP focus areas for Walking and Cycling include;

- Increase in maintenance of cycle path network.
- Decrease in renewal of the cycle path network due to good condition
- Increase in walking and cycling improvements, new connections and facilities such as wayfinding and cycle stands.



Access & Transport AMP 2024-33 | 111



#### 6.3.2 Context

Council has established objectives and levels of service for footpaths and shared paths. This is summarised below, while the development process for levels of service is explained in AMP Section 4 LoS.

#### 6.3.2.1 Outcomes Sought

#### Council objectives for walking and cycling

Council's long standing vision is that "Kāpiti Coast becomes is renowned for walking, cycling and horse riding".

To realise this vision, Council's objectives are: To promote walking, cycling and horse-riding as safe everyday modes of transport and recreation To develop safe networks that improve walking, cycling and horse-riding access and linkages throughout Kāpiti

To encourage and improve local, regional and national coordination, cooperating and collaboration in the planning and provision of safe walking, cycling and horse riding opportunities

#### Wider Objectives

Council's vision and objectives align with the Wellington Regional Land Transport Plan Mid Term Review 2023 strategic objectives

People in the Wellington Region have access to good, affordable travel choices

Transport and land use are integrated to support compact urban form, liveable places, and a strong regional economy People can move around the Wellington Region safely The impact of transport and travel on the environment is minimised

Journeys to, from and within the Wellington Region are connected, resilient and reliable

An appropriate and well maintained combination of traffic services support these objectives

In addition to the long term strategic objective Council has aligned with the GPS statement with the inclusion of emissions reductions and climate change.

#### Policies and standards

Council's draft Footpath Policy is to provide: kerb and channel and footpaths on one side of the road in urban areas

footpaths on both sides of the road in high volume urban areas where possible and when funding is available

in beach areas no footpaths are provided but this can be considered if the majority of residents request a footpath

In rural areas no footpaths are provided - kerb and channel is provided to deal with stormwater in some areas where footpaths are provided this need to be in good condition; safe and reliable.

Any new footpaths that are constructed as part of new subdivisions must meet Council standards and requirements before the footpaths will be vested as Council assets.

#### Comment

To meet these objectives, footpaths have been developed within the District over a number of years to make walking easier and safer and provide good connections between residential areas and services.

In this LTP – review standards, Level of Service, Walking Cycling Network Plan

#### 6.3.2.2 Key Users

Footpaths and shared paths are used by many members of the community. Particular consideration is given to the following user groups from a transportation perspective.

- School Children and their access to Walking and Cycling facilities.
- Older persons, mobility and vision impaired. Consideration to the safety, design and condition of our pathways.
- Commuters are a key focus as we encourage people to increase their use of active modes of travel
  to key destinations within the district.

Access & Transport AMP 2024-33 | 112



#### The main expectations of footpaths users are:

#### Safety;

- Traffic speeds and traffic calming measures in high pedestrian use locations.
- Street Lighting and safety features
- Limit conflict points between different users
- Crossing points in appropriate locations with good sight lines.
- Smooth footpaths without tripping hazards and without obstructions.

#### Usability;

- Direct and cohesive connections with commuter routes and wider network
- Appropriate widths relative to use and location
- Footpaths on both sides of the road in high use locations.
- Appropriate for a range of users

#### Facilities;

 Bus shelters located close to key destination points

#### Planting and landscaping

- Public toilets (other Council department)
- Seating, bollards and rubbish bins in high use locations
- Public art

#### The main expectations of cyclists are:

- Safety
- Comfort
- Directness
- Coherence
- Attractiveness
- Routes that are safe, direct, provide a smooth ride, are well signed and have a pleasant and attractive corridor
- Reduced traffic speeds and volumes, or separate facilities where this is not possible
- Safe provision for movement through intersections.
- Route signage
- Smooth, non-slip routes, well maintained and free of debris, gentle slopes and designed to avoid complicated manoeuvres.

#### 6.3.2.3 Levels of Service

Combining the expectations and requirements of legislation (mandatory measures), industry standards, users, stakeholders, Council and the New Zealand Transport Agency, Levels of Service and measures have been developed to measure the delivery of the levels of service.

No changes are proposed to the levels of service statements or targets.

Combining the expectations and requirements of legislation (mandatory measures), industry standards, users, stakeholders, Council and the New Zealand Transport Agency, Levels of Service and measures have been developed to measure the delivery of the levels of service.

The levels of service specific to walking and cycling are:

- Footpath condition
- Resident satisfaction
- Road Safety
- Customer requests

No changes to the levels of service or targets are proposed.

Access & Transport AMP 2024-33 | 113



#### 6.3.2.4 Resident Opinion Surveys

Resident satisfaction for walking and cycling is stable ....

Resident survey we are meeting the current and proposed increased target.

New survey due 2023-24. Intending the new survey to include off road shared paths.

#	Measure	Target	Results	Trend	Performance
AT007	Residents that are satisfied with the	65%	66% 2019/20		Target Met
	condition of footpaths		66% 2020/21		
			66% 2021/22		
			66% 2022/23		
AT008	Percentage of footpaths that fall	90% (TBC)	96% 2019/20		Target Met
	within the level of service or service	(60%	94% 2020/21		
	standard for the condition of	during	98% 2021/22		
	footpaths as set out in the activity	21/24 LTP	99% 2022/23		
	management plan.				

#### 6.3.2.5 Safety

Footpaths and shared paths are regarded as safe locations for vulnerable users. Incidents involving pedestrians and cyclists recorded in CAS over the 2022-23 include.

- Pedestrians/cyclists hit by vehicle reversing from property (3 events)
- Cyclist and pedestrian collision
- Pedestrian stepping off road in front of car
- Car vs mobility scooter and vehicle crossing



#### 6.3.2.6 Customer Requests

146 service requests were received during the 2022/23, cracked concrete paths are the most common issue. There is a higher rate of service requests per km for AC paths than concrete paths.

## 6.3.2.7 Historical Expenditures

The expenditure on footpaths over the last ten years is summarised below. The increase represents the increased emphasis on pedestrian mobility. Since 2015 Waka Kotahi (NZTA) funding has been available for the walking and cycling activities.



Note: Pre-2018 funding information not included and to be researched for full long term view.

Access & Transport AMP 2024-33 | 114



#### 6.3.2.8 Physical Parameters

#### **Description and Quantity**

Council currently maintains approximately 399km of formed footpaths mostly located alongside roads in the urban area. Nearly 89% of the network has a sealed surface.

Туре	Length (km)	Percentage of network (%)	Life Expectancy (years)	Typical residential footpath Width (m)	Typical shared path Width (m)
Concrete	340	85	80	1.4	2.5
Asphaltic concrete	22	5	35		
Chipseal	5	1	20		
Metal	15	4	10		
Interlocking blocks	2	1	60		
Unsealed	15	4			
Total	399	100			

The path width varies from 1 metre to 4 metres and 89% of the network is sealed.

#### **Network Growth**

Urban subdivision are required to allow for pedestrian access with a footpath on at least one side. Around 1.5km of new subdivision is added to our network annually, providing gentle footpath growth.

Cycleways are growing at a faster rate as our cycleway network is in an establish phase – with new routes being added to tie into the expressways and create linkage between in gaps.

#### Asset Value

The full replacement value of the footpath and shared path assets as at 30th June 2023 is shown in the table below.

	Replacement Value (\$)	Depreciated Replacement Value (\$)	Annual Depreciation (\$)
Total	\$95,805,405	\$68,025,511	\$1,361,325

#### 6.3.2.9 Asset Capacity and Demand Management

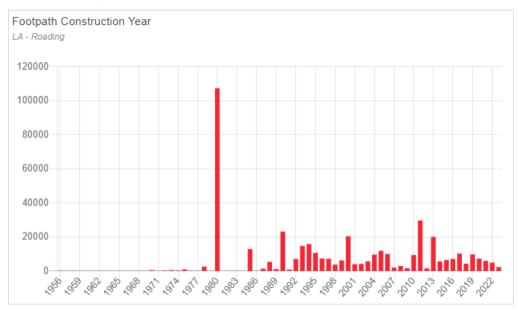
The existing footpath network has developed on an 'as needed' basis usually reflecting population growth, and linkages. Footpaths are provided by developers in new residential areas. There is currently no model for footpath demand, but a prioritisation has been developed focussed on school safety. Within our WCNP – data surveys and monitoring improvements

Access & Transport AMP 2024-33 | 115



#### 6.3.2.10 Asset Age and Condition

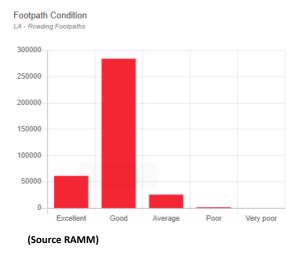
The age of our footpaths has a strong relationship with our districts development. Many lengths of footpath remain the original footpaths laid with the development. Our data has an estimated construction date or 1/1/1980 for older sections that do not know the actual, this makes up 107km (29%) of our network. Over time we are improving this data (low priority) as the maintenance and renewal works have a stronger relationship to condition.



#### (Source RAMM)

Footpaths are inspected on a regular basis to monitor condition and ensure there are no dangerous faults. Council has committed to a five-year programme of condition survey, with 20% of the network inspected each year. The first 5 year inspection has been complete, with the findings summarised on the condition graph below. This shows 99%+ of footpaths in Excellent, Good or Average condition.

In the 2021-24 period Council has invested on an increased footpath replacement programme which has targeted our poor and v.poor sections. The survey suggests that we are now on top of the worst sections and ease of this initiative – our 2024-27 will have lower renewal investment.



We do continue to see localised faults (trip hazards, depressions, heavy cracking). We are increasing our footpath maintenance repair budget to target these faults which are usually less than 20m in length.

Access & Transport AMP 2024-33 | 116



#### 6.3.2.11 Data Confidence Level

Data confidence is high. A comprehensive footpath inspection was carried out in 2016/17 which provided inventory data. The five-year survey will provide robust condition data.

The REG 2022/23 Data Quality report confirms a high level of completeness for footpath inventory.



#### 6.3.2.12 Risk and Critical Assets

A formal assessment of critical assets has not been undertaken for footpaths. There is a priority on routes near schools, commercial areas and the busiest streets.

No lifelines implications associated with footpaths and pathways have been identified.

Council's Enterprise Risk Management Framework has highlighted that

- Kāpiti Coast also has been identified by Waka Kotahi (NZTA) in their Communities at Risk Register as having the 3rd highest personal risk for pedestrian crashes of all local authorities in NZ. The majority (90% or more) are on local urban roads
- An under investment in footpaths is likely to increase risk of injured pedestrians as footpath levels of service reduce.
- Low quality assets that don't meet Council requirements could be vested in Council from developers and contractors



(Photo: kapiticoast.govt.nz)

Access & Transport AMP 2024-33 | 117



# 6.3.3 Management and Options

#### 6.3.3.1 Maintenance Plan and Options

Maintenance is the on-going day-to-day work activity required to keep assets serviceable, prevent premature deterioration or failure and deliver on expected customer levels of service.

Maintenance options are limited for this activity. Essentially, the valid options are:

- Construct paths and plan only for replacement at the end of their useful life
- Undertake maintenance at selected sites where damage has occurred, or the condition is below a standard acceptable to the community.

Option 2 is the status quo and is regarded as the most practicable option. This limits repairs and considers Council's duty of care to users.

Our renewal volume will be decreasing from the 2021-24 investment. The maintenance input to keep footpaths safe and responds to faults will increase.

#### 6.3.3.2 Renewal/ Replacement Plan

Footpath renewal work relates to replacement of lengths of path rather than isolated sections. Combining renewal works with kerb and channel work is optimal but not always achievable.

Council is seeking greater alignment of these renewal actions; in the future these may be dictated by the timing of carriage pavement renewals and major stormwater projects.



(Photo: kapiticoast.govt.nz)

#### Renewal/replacement options

The following options are available to Council for the renewal/repair of footpaths and shared paths;

- 1. Renew footpaths using a 'like for like' approach (same as what was there)
- 2. Use Concrete for all renewals
- 3. Use Asphaltic Concrete (AC) for all renewals
- 4. Use Fit For Purpose surface (with future use focus) < Councils preferred option

The fit for purpose approach considered are performance and cost. For low use areas or where movement is expected (trees or peat areas), then asphalt will be considered. Concrete remains a long life cost effective solution for most areas in our network.

Footpath widths will be considered during renewals, to increase to the Pedestrian Network Guidance standard where practical.

With the updated condition information, our renewal volumes are decreasing. The focus will be on poor and v.poor footpaths to preserve network asset integrity.

We will also consider the One Network Framework. On high pedestrian use areas we will also consider replacement of average sections to increase the level of use experience (Main street/Activity Street environment)

Waka Kotahi subsidise footpath replacement to a fit for purpose standard. If Council wishes to increase the footpath renewal standard for aesthetic purpose, then the additional cost will not be subsidised.

Access & Transport AMP 2024-33 | 118



#### 6.3.3.3 Asset Creation Plan

In general, new footpaths are installed as part of new developments at the developer's expense. A quality control process is in place before these new assets are vested in Council.

Council has identified some poor linkages in the pedestrian and cycle network. Addressing these is regarded as a priority by the community to ensure the network is integrated and supports a range of modes (e.g. walking to catch a train).

#### **Asset Creation options**

A budget for these works will be developed for consideration by Community Boards and Council. This will determine the programme as the rate of progress will need to be balance with the cost to be funded. The following projects have been identified through the 2015 Strategic Network Plan as primary routes to connect the community. A review of the Strategic Network Plan is underway in 2024 to identify the next 10-year programme of works.

**Riverbank Road** - New 3.0m wide shared path connection for Riverbank Road, Otaki. From Miro Street to Old SH1.



North side of the Riverbank Road, approx. 750m in length. Miro Street to Main Hwy

Riverbank road is anticipated to continue to have significant development and growth. The proposed shared path is an important project to connect the commercial area to the Main Highway and expressway shared path. The recently completed PP20 expressway shared path and currently under construction Main Highway shared path between Waerenga Road and Riverbank Road are bringing shared path users to Otaki Township. Riverbank Road is a primary route for people visiting Otaki Township and for the community to safely access to these facilities and Riverbank Road.

Access & Transport AMP 2024-33 | 119



Park Avenue - New shared path connection for Park Avenue, Waikanae



Indicative image of route on north side of the Park Avenue, approx. 1200m in length.

Park Avenue is the primary route to connect the Expressway shared path to Waikanae Township. The completion of this gap in the network will connect the existing shared path on Te Moana Road and Ngaio Road, via Russel's Reserve and Waikanae Park.

Park Avenues shared path will further connect immediate residents and accommodate the increase in users with the development of Sommerset Retirement Village. Pedestrian crossings and foot pathing on the southern side of park avenue is including in the scope of this project and connectivity to the Waikanae Park upgrades.

#### Peka Peka cycle facility



Indicative image of route Peka Peka Road cycleway section.

Peka Peka Road connects the expressway shared path to Paetawa Road. Peka Peka road is a high use route for on road cyclists following the Kapiti Coastal Cycle Route.

Peka Peka road has narrow lane widths with no sealed shoulder which is causing conflict between vehicles and cyclists. This project will focus on safety improvements including segregation between vehicles and cyclists, delineation and awareness.

Access & Transport AMP 2024-33 | 120



#### Residential footpaths and pedestrian crossings upgrades.

Some existing urban streets lack our minimum standard of pedestrian facilities. In some locations no footpaths are preferred by residents, and in low volume streets a footpath on one side is suitable. However, for high use roads in proximity to primary routes and facilities there is a need for designated pedestrian crossings and footpaths on both sides to improve safety and connectivity.

Example 1 - Ngarara Road is an example of a high use road with only footpath on one side of the road.





Example 2 - Dual pedestrian and cycle crossing on Ratanui Road. Ratanui Road connects Mazengarb shared path to the Expressway Shared path via Otaihanga Road. This project will look at a crossing to connect the eastern footpath and western shared path. Other minor safety improvements along this route are included. This project aligns with Part B of the Speed Management Plan and will seek feedback for the 50km/h section of Ratanui Road.



Indicative image of Ratanui Road crossing location in proximity to little farm preschool

Access & Transport AMP 2024-33 | 121



#### Surfacing of gravel or unsealed pathways

The transport network has approx. 15km of gravel and grassed pathways that vary in user volumes and modes of transport. For locations with high use, steep gradients and tight corners become problematic for many of Kapiti Coasts user groups. Select areas of surfacing will provide a suitable surface for all users, reduce falls, encourage use and mode shift.

#### 6.3.3.4 Disposal Plan

Council has no current plans to dispose of footpath assets.

#### 6.3.3.5 The Case for Change

Levels of service and customer satisfaction surveys do not real a level of service performance gap.

However, the asset is aging, and declining condition is a concern. The condition survey programme will provide a sound view of the asset condition and enable prioritisation of the renewal programme and inform the maintenance programme of what assets need to be kept in service for longer.

#### 6.3.3.6 Assessment of Options

The optioneering assessment undertaken in section 1.3 suggests the following options may be valid for consideration in terms of footpaths and shared paths.

Response	Footpaths and Shared paths
	(
Problem Statements	
Carbon Reduction	
	Policy (set LoS)
Fit For Purpose Network	Policy (set LoS)
Resilience and Climate Change	
Demographic Change and Accessibility	Policy (set LoS)
Connectivity	Policy (set LoS)
Road Safety	Risk Based Assessment

The most relevant Strategic Response Option Groups are Policy change (Increase/decrease LoS) and Funding (Increase/decrease Investment). Through the development of the Sustainable Transport Strategy in 2022 there was strong support for walking and cycling, particularly addressing incomplete links.

Policy change is an option for new paths, as the design parameters would be more appropriate for current use. There is no option to restrict use.

Where there is conflict between road users separation is typically the preferred solution. Elsewhere speed limit reductions have been implemented to reduce the impact of any crashes that may occur. Kāpiti has an expensive network of separated cycle routes, and forward planning is proposed to continue to provide safe options for cyclists.

Access & Transport AMP 2024-33 | 122



#### 6.3.3.7 Preferred Programme

Council has made a strategic decision to 'at least' maintain the current levels of service for this activity. This means a combination of renewals as well as maintenance works to keep the network in a safe and appropriate condition.

The desire to improve linkages will drive the capital programme.

WC	Action/ Work	Driver for Action	Estimated Cost	Scheduled For	How this will be funded
125	Footpaths and shared paths maintenance	Inspect, programme, & complaints	\$412k to \$424k	Per annum	Rates and FAR
225	Footpaths and shared paths renewals	Asset condition	\$484k to \$498k	Per annum	Depreciation and FAR
124	Cycle path maintenance	Inspect, programme, & complaints	\$169k to \$174k	Per annum	Rates and FAR
224	Cycle path renewal	forward works programme	\$160k to \$165	Per annum	Depreciation and FAR
	New footpaths and shared paths	Refer low cost low risk			

#### Step change for this LTP (figures rounded)

Footpath Maintenance – increasing from \$200k to \$412k (more resource to respond)

Footpath Renewal – decrease from \$1.0-1.4k annually to \$484k (worst condition is under control)

Cycleway Maintenance – increase from Nil to \$169k (to correct omission)

Cycleway Renewal – decrease from 400k to \$160k (pathway renewals now up to date)

Net reduction of - \$575k annually

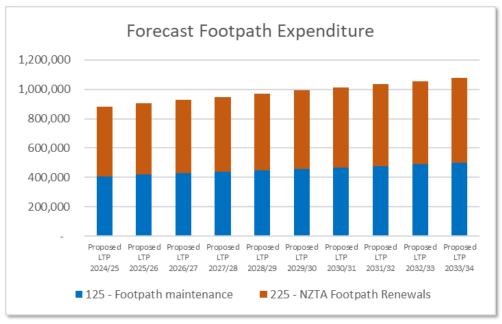
This significant reduction is through optimising our investment. Through building better understanding of asset inventory and condition has allows improved decision making.

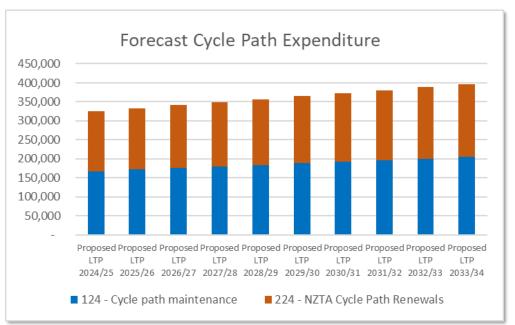
#### 6.3.3.8 Financial Forecast

The following charts summarise this year and the next ten year forecast. The capital programme is expected to vary from this indicative programme as priorities arise and funding availability changes.

Access & Transport AMP 2024-33 | 123







Access & Transport AMP 2024-33 | 124



# 6.3.4 New Improvement Items

>> Develop a long term renewal plan for footpaths. With improved data we can build a multi-year programme that gives better confidence of the required workload and be used to coordinate with other works in the area, such as resurfacing, 3-waters projects or minor safety works sites.

Access & Transport AMP 2024-33 | 125



#### **Drainage** 6.4

#### The assets

kerb and channel, 471km sumps, 5300 Sump Leads, 45km

Total activity value \$196 million



#### **Typical Spend**

WC 113: Routine drainage maintenance \$750k 6% of Continuous Programme (MOR)

WC 213: Drainage renewals \$750k 6% of Continuous Programme (MOR)

## Key Users

Residents where stormwater runoff from roads affects their property

# **Relevant Problem Statements**



#### **Customer View**

Resident satisfaction measured as part of overall satisfaction with roads.

Resident satisfaction has been declining for three

# Change needed

Renewal programme to replace aging/poor condition assets

Integration with comprehensive stormwater project (includes protection of private properties form road runoff)

# Council objectives

To provide a system for stormwater runoff from the carriageway, footpath/shared paths.

To provide clear delineation and a safe road for all road

To protect the road pavement from the ingress of water – reducing the potential for structural deterioration

# **Issues and Options**

- Investment levels
- Timing with other projects
- Condition based prioritisation

# Wider Objectives

Reducing flooding, protecting assets from storm damage.

# Preferred approach

 Ongoing maintenance and renewal, isolated project improvements as part of LCLR. Larger projects combine with the comprehensive stormwater upgrade project

Access & Transport AMP 2024-33 | 126



#### 6.4.1 Introduction

This activity covers drainage control assets in the Kāpiti District that the Council owns and maintains. Drainage control assets consist of two assets groups:

#### Drainage assets:

- culverts (up to 3.4m2 plus vehicular crossings)
- sumps and sump leads
- enviropods
- soakpits (point location access)
- sump leads (pipe connectors)
- soakaway crates

Surface Water Channel (SWC) assets (linear assets):

- kerb & channel
- swales (sealed, earth/grass swales and planted swales),
- dish channels.

Drainage assets terminate at the Council's stormwater system manholes or where a sump lead discharges into a watercourse.

Sump leads are included in our Access and Transport maintenance and renewal workload. This ends main or manhole to the main system.

There is an increasing number of soakaway crates in the district. Typically these are installed in new developments and provide a degree of buffering to attenuate flow.

Drainage assets perform a vital function in managing stormwater on the roading network and contribute to the ONRC customer service outcomes is as follows:

Purpose	ONRC performance measures
To provide a system for stormwater	Resilience (roads impacted by unplanned events,
runoff from the carriageway,	road access compromised)
footpath/shared paths.	Accessibility
To provide clear delineation and a safe	Safety (all measures in particular loss of control on
road for all road users	wet roads and hazardous faults)
To protect the road pavement from the	Cost efficiency (pavement rehab and resurfacing)
ingress of water – reducing the potential	Safety
for structural deterioration	Accessibility
	Resilience

Improper maintenance of the drainage system can lead to blocked drainage and can cause the pavement layers to be submerged with excess water leading to loss of shear strength and rapid pavement failure.

Investment in drainage assets is cost-effective way (taking into account constrained budgets for pavement renewals) to ensure optimum pavement performance.

Because of the essential role drainage assets play in providing a fit for purpose and safe roading network, all drainage assets are considered to be critical assets.

Access & Transport AMP 2024-33 | 127



#### 6.4.2 Context

Council has established objectives and levels of service for drainage that are part of the overall service levels for transportation or the stormwater activity.

This is summarised below, while the development process for levels of service is explained in AMP Section LoS.

#### 6.4.2.1 Outcomes sought

Drainage supports the roading function. It does not achieve and objective or provide a level of service for the Access and Transport activity in itself but supports the overall activity.

As development occurs, Council's overall aim is for stormwater neutrality. This will reduce the discharge of stormwater from adjacent properties to the road corridor.

#### **Design Standards**

Current Council drainage standards require assets to be designed for a primary system return period of ten years, and a total system return period of 100 years. A review is proposed of the current Council subdivision standards in the next three years in which the Access & Transport team will be involved. Design of drainage assets and systems in the road reserve is assessed by the A&T and Stormwater teams as part of the resource consent process and this process should ensure fit for purpose assets that can be maintained in a cost effective way are vested in Council. Vesting of non-fit for purpose assets that are costly to maintain is considered a significant risk and is incorporated in the Risk register.

#### 6.4.2.2 Key Users

All road users as well as adjacent property owners benefit from the drainage network performing well. Drainage of the road improves safety and amenity for users while protecting the pavement structure from damage. Network resilience is often affected by poor drainage when there is surplus surface water, or flooding. In some locations water runs off the road into private property. In this situation Council has a responsibility to control the water. While water will run downhill, if it is channelled and concentrated on the road this becomes the Councils responsibility.

Due to its geography and the climate, Kāpiti Coast has experienced many food events. This is a priority for Council to address and a comprehensive stormwater upgrade is proposed. Managing water on roads is part of that, and the two activities need to be considered in combination.

#### 6.4.2.3 Levels of service

There are no directly applicate level of service or resident opinion survey for drainage at this time.

#### 6.4.2.4 Benchmarking

There is no benchmarking undertaken for the drainage activity as there is too much variation between locations and weather.

#### 6.4.2.5 Safety

There were no instance identified in CAS where drainage failure was a contributing factor.

#### 6.4.2.6 Budgets and Waka Kotahi (NZTA) funding

Waka Kotahi (NZTA) funding is available for drainage maintenance at the normal FAR. Historically Council did not allocate drainage costs appropriately and the FAR was not correctly applied, this is one of the reason the spend was low in the past. Since 2018 this has been correctly funded and claimed.

#### 6.4.2.7 Historical Expenditures

Prior to 2015 Council has under invested in the renewal of drainage assets. Expenditure was well below the depreciation calculation.

Under investment resulted from

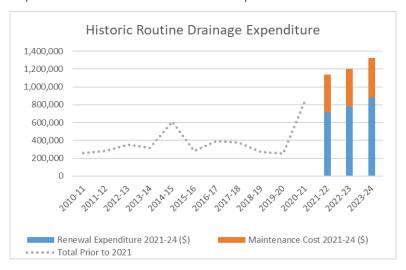
- a large part of the assets being unknown due to in accurate RAMM data
- available budgets being low as a result of not requesting/obtaining Waka Kotahi (NZTA) subsidy.

The investment level has become more focussed and aligned with the issues experienced on the network since 2018.

Access & Transport AMP 2024-33 | 128



The expenditure on traffic services over the last ten years is summarised below.



#### 6.4.2.8 Network Growth

On average the network grows at around 1.5 km of vested road from subdivisions per year. This provides a useful indication to index future costs in line with network growth. In terms of the drainage asset over the last three years the average increase in length or number or assets equated to 0.5% per year

Also of note is the M2PP revocation of Old SH1 and PP2O local road extensions with 26.5 km of additional road in 23/24. This including significant drainage assets to our network.

Extensions to the stormwater network are generally associated with subdivisions. Access and transport initiated drainage work are limited to renewals.

#### 6.4.2.9 Physical Parameters

#### Description

A summary of the Council's drainage control assets, taken from the RAMM inventory (Sept 2023):

Item	Unit	Amount
Culverts	ea	884
Sumps	ea	5300
Drop Chambers	ea	73
Manhole SW	ea	54
Soakpits	ea	171
Soakaway Crates	ea	75
Kerb and Channel	km	474

(Source RAMM)

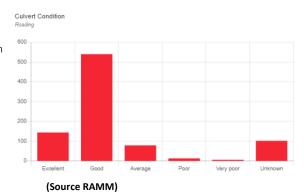
Access & Transport AMP 2024-33 | 129



#### Drainage (including Culverts)

#### **Description and Quantity**

Culverts are inspected annually and information about their size, location, material type and condition is collected and entered into RAMM. The overall condition of the culverts is considered to be satisfactory, with poor and v.poor culverts put forward for our renewal programme.



Culverts convey water from one side of the road to the other. Culverts with a cross-sectional areas overs above 3.4m2 are treated as bridges.

Culvert data has been "polylined" to show the layout in plan view – this is an upgrade from a point asset. This exercise has improved the length detail of each culvert.

The accurate age profile of culverts is unknown.

Other pipe assets include sump leads and limited stormwater reticulation have traditionally been managed as part of the stormwater activity. We have brought these assets into the Access and Transport workload as we understand that these will not be transferred to the new entity within the Water Services Reform Programme.

#### Valuation

The 2023 valuation of our drainage assets is \$74.7m as at 30 June 2023. Note this excludes the Old SH1 signs that are revocated after valuation.

#### Sumps and Sump Leads

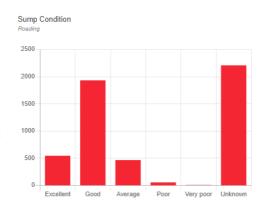
#### **Description and Quantity**

As with other drainage assets, the sumps and soakpits are inspected and part cleaned annually. High risk sumps are cleaned more often.

Some condition ratings are known but with this asset as well the condition of the majority of these assets is currently classified in RAMM as unknown.

Sumps found in poor condition on the annual cleaning programme are re-inspected and put forward for renewal.

Site with regular flooding that is caused by poor sump layout or condition are also put forward for renewal.



A full network upgrade of sump and soak pit inventory location has been completed in 2022 – now all sumps are located within 1m of their location. This exercise provided an opportunity to delete duplicates and add missing assets.

The accurate age profile of sumps and soakpits is unknown. The average life of soakpits and soakpit-sumps is 5 to 10 years. The asset life for sumps is between 60-80 years.

Access & Transport AMP 2024-33 | 130



#### Valuation

Valuation of sumps in included within drainage (above)

The 2023 valuation of our sump leads is \$12.2m as at 30 June 2023. Note this excludes the Old SH1 signs that are revocated after valuation.

#### Surface Water Channels and Kerb and Channels

#### **Description and Quantity**

Surface water channels are formed in the earth and provide a defined channel for overland water flow. They are well defined when first established but become overgrown and irregular overtime.

Renewal of earth surface water tables are conditioned as part of the pre-reseal repair programme. Similarly, if pavement maintenance is causing concern, then drainage is reviewed as this is often a contributing

Kerb and channel, typically constructed in concrete are long life assets that define the edge of the carriageway and protect the pavement structure from water damage. They are often the at the edge of the footpath and provide a level of safety in delimitation the pedestrian and vehicle areas. Dish channel are semi-circular with either a shallow or deep profile. Sometime a channel is provided through the shape of the road itself with a depression in the surface directing the flow of surface water.

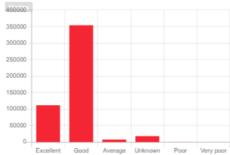
An annual RAMM visual condition inspection is carried out by the contractor of all surface water channels, inclusive of any broken channels, high lips, broken surfaces, uphill grades, blockages, blocked SWC, inadequate SWC and insufficient shoulders. The roading contractor also performs regular inspections of these assets.

The method of channel condition surveys will need to reviewed as the consistent condition data capture programme (nation wide initiative) will not include channels.





Kerb and Channel Condition



The majority of kerb & channel now captured in RAMM has been labelled as constructed in 1980 (40 years old), which coincides with the start of the use of RAMM. It is however certain that the majority of these assets are much older than that.

#### Valuation

The 2023 valuation of our surface water channels and kerb and channels drainage assets is \$109.1m as at 30 June 2023. Note this excludes the Old SH1 signs that are revocated after valuation.

Access & Transport AMP 2024-33 | 131



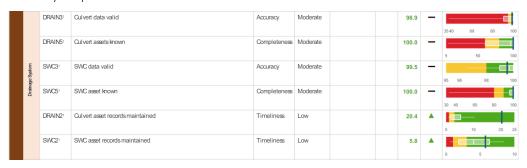
#### 6.4.2.10 Data Confidence Level

The Infrastructure Valuation (30/6/2023) notes Drainage sourced from RAMM as:

B - Reliable Assumed construction dates and some assumed installation dates and pole details for signs.

The construction date is not regarded as an issue for assets that are condition rated, while installation dates for signs will be recorded as replacements occur.

The Te Ringa Moimoa 2022/23 Asset Management Data Quality Report shows the inventory data is effectively complete.



#### 6.4.2.11 Risk and Critical Assets

All drainage control assets are considered critical in providing an effective drainage system to promote safety and reduce risks such as flooding.

A formal assessment of critical assets has not been undertaken for drainage services alone. They are regarded as integral to roads or routes that are identified as critical.

The Criticality Assessment has identified routes and assets as described in section 7.3.

Access & Transport AMP 2024-33 | 132



# 6.4.3 Management and Options

#### 6.4.3.1 Maintenance Strategy

Inadequate maintenance of the drainage system can lead to blockages and can cause the pavement layers to be submerged with excess water leading to loss of shear strength and rapid pavement failure. It can also lead to water on road, increasing the safety risk for its users. Both need to be considered when considering where to spend limited budgets and the effort to spend the budget wisely needs to be directed to the areas with the highest risk.

Currently using the inspections programme, feedback from the maintenance contractors, the complaints system and sound knowledge of the local network and its issues, the strategy is to

- identify areas on the network where inadequate drainage has or can have a significant effect on pavement performance or creates a traffic risk
- identifying 'weak spots' on the network where specific drainage features, although in an area of low risk, can result in water flowing across the road (for example blocked sumps)
- perform an annual inspection including condition rating identified areas (condition rating to be improved to be complete) and
- ensuring that regular inspections continue and maintenance is carried out, especially before forecast heavy rain in the identified areas.

During inspections the inspectors identify; sediment deposit and silting, eroded drainage side slope or scour around the structure, vegetation and debris blocking the drainage path and erosion at the shoulder.

Erosion and scour, sediment or silt deposit should be minimised, the other possible causes of drainage blockages can be controlled with proper maintenance.

High risk areas are included in planned maintenance programme currently and are checked and cleared before significant rainfall.

Routine maintenance is the on-going day-to-day work activity required to keep assets serviceable and prevent premature deterioration or failure.

Routine maintenance activities for drainage control assets include:

#### Preventative maintenance:

- clearing water tables and other drainage assets
- street sweeping (set frequency)
- sump cleaning (set frequency)
- flushing soakholes (set frequency)

# Reactive maintenance:

- unblocking sumps and pipes
- rehabilitation and replacement of the damaged portion of structures

Whereas unplanned maintenance activities include:

- Replacement
- Lowering of culverts
- Increasing culvert sizes

Access & Transport AMP 2024-33 | 133



#### 6.4.3.2 Maintenance Plan and Options

Maintenance is the on-going day-to-day work activity required to keep assets serviceable, prevent premature deterioration or failure and deliver on expected customer levels of service.

Councils current contract for drainage maintenance and renewals is:

Works Description	Road Maintenance 2018 – 2021
Contract Number	2018/C178
Let	July 2018 (3+2+2yr separable portions)
Expires	Last 2-year extension is underway and ends 30 June 2025
Contractor	Higgins Contractors

#### Maintenance for this activity includes:

Street sweeping - routine. The suction sweeper completes regular cycles to clear urban channels.

- This keep the channel clear for water flow (reducing flooding)
- reduces the amount of debris entering the stormwater system (reducing flooding and reducing stormwater system maintenance costs)
- reducing vegetation growth

Sump Cleaning – routine. Sump sucker completed regular cycle to clean sumps of debris

 reduces the amount of debris entering the stormwater system (reducing flooding and reducing stormwater system maintenance costs)

Culvert inspection and cleaning – routine.

- reduces the amount of debris entering the stormwater system (reducing flooding)
- · identifies and repair damaged assets
- record condition for renewal consideration

#### Step change for this LTP

The current regimes remain similar, however the previous estimated cost was lower than required to undertake the activity. Dumping and additional traffic management has also increased costs beyond the escalation factor.

#### Renewal/Replacement Plan

Renewal expenditure is work that restores, rehabilitates, replaces or renews an existing asset to its original capacity.

Replacement/upgrading of drainage assets takes place in the following cases:

- Where faulty or damaged structures cannot be repaired because of obsolescence.
- Where replacement is more economic than continuing repair.
- Where compliance with new legislations is required.

A visual condition assessment is carried out annually on the drainage assets and condition recorded in RAMM – poor and v.poor assets are conditioned for renewal.

A camera programme is undertaken on risk routes for culverts. In 2022, the Akatawara Road camera programme identified 13 culverts that were replaced in 2023. The initiative will continue through the 2024-27 period.

Access & Transport AMP 2024-33 | 134



#### **Kerb and Channel**

Generally Kerb and Channel renewals are planned in order to complement and coincide with the renewal of footpaths or carriageway rehabilitation. This is an effective and cost efficient renewal that also contributes to the overall safety improvements achieved by renewing footpaths.

Similarly kerb and channel renewals will be required as part of surface water management in the comprehensive stormwater upgrade project. This programme is under development, and improvements will be addressed within low cost low risk in combination with renewals.

#### Sumps/Soakpits / Catchpits

Thorough maintenance of basic soak/catchpits is not possible due to the design, while modern manhole riser type soakholes can be flushed and cleaned.

Bolder lined soakpits need to be replaced once they fail to dispose of stormwater sufficiently. Any replacement will consider the stormwater reticulation upgrade programme underway, as system extension may leave the soakpit redundant. Boulder pits which are no longer working well are being identified and planned for replacement or decommissioning in conjunction with the stormwater project.

#### **Culvert Replacement Strategy**

The following culvert replacement strategy is currently used:

- Criticality of the road network is the primary consideration. Resilience and impact from flooding, slip, dropout or other asset damage is considered in the justification for replacement.
- Small culverts below 300mm in diameter or can get easily blocked and it is difficult to maintain them and keep their waterways clear from debris. When these are justified for renewal then a 300 mm is typically considered more appropriate. Similarly all renewals consider the high flow demand and are upsized were required.
- The butt-jointed culverts are structurally weak and vulnerable to lateral displacement. They should be gradually replaced according to their importance.
- A visual condition assessment is carried out annually on the drainage assets and condition recorded in RAMM – poor and v.poor assets are conditioned for renewal.
- A camera programme is undertaken on risk routes for culverts. In 2022, the Akatawara Road camera programme identified 13 culverts that were replaced in 2023. The initiative will continue through the 2024-27 period.
- Culverts are upgraded in conjunction with pavement rehabilitation works as necessary, at specific sites known to be trouble spots and where the need is flagged when considering land use demands.



#### Surface water channels

There is an ongoing planned works programme to maintain and clean these channels to restore capacity.

#### **Project and Initiatives**

Where one-off large drainage items are identified, these are treated as a project or initiative for funding. This ensures they do not impact the routine renewal programme and can be phased effectively. The projects and initiatives identified are:

Access & Transport AMP 2024-33 | 135



Projects	2024-27	Beyond 2027
Te Horo Beach culvert replacement (Jewel Creek)	Design and planning 2024/25 \$120k	Construction 2027/28 \$1100k
Mazengarb twin culvert replacement	Design and planning 2025/26 \$67k	Construction 2028/29 \$600k

#### Step change for this LTP

Drainage projects and initiates is a new area for our programme. This avoids taking money away from our routine renewal programme for large one-off replacements.

#### 6.4.3.3 Asset Creation Plan

Council currently has no plans to create new drainage control assets.

#### 6.4.3.4 Disposal Plan

Council has no current plans to dispose of drainage assets.

#### 6.4.3.5 The Case for Change

Levels of service and customer satisfaction surveys do not a level of service performance gap beyond that associated with wider stormwater issues.

#### 6.4.3.6 Assessment of Options

The optioneering assessment undertaken in section 1.3 suggests the following options may be valid for consideration in terms of drainage.

Response	Drainage
Problem Statements	
Carbon Reduction	
Fit For Purpose Network	Risk Based Assessment
Resilience and Climate Change	Risk Based Assessment
Demographic Change and Accessibility	
Connectivity	
Road Safety	

A policy change is not deemed appropriate as stormwater needs to be controlled to ensure road pavements perform well, and to protect people and property. Council is actively seeking to improve stormwater outcomes for the community and surface water running off roads into private property is not acceptable.

The options associated with funding (Increase/decrease Investment) will align with the stormwater implementation programme

Consideration of the changes associated with climate change are integral to programme design.

The depreciation calculation for decline in service potential of the drainage asset is \$860,000. This figure is used to confirm the extent of the renewal programme.

Access & Transport AMP 2024-33 | 136



#### Step change for this LTP

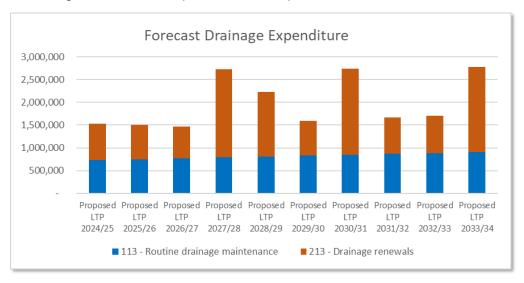
The amount of sump and culvert renewals is higher as a response to building resilience in our at risk areas (flooding sites for sumps, slip/dropout areas for culverts)

# Preferred Programme

WC	Action/Work	Driver for Action	Estimated Cost	Scheduled For	How this will be funded
113	Routine drainage	Maintenance	\$736k to	Per year	Rates and
	maintenance	strategy as above	\$758k		FAR
213	Drainage Renewals	Renewal strategy, LOS standards, critical assets	\$810k to \$703k	Per year	Depreciation and FAR
	Drainage upgrades	Refer to Low Cost Low Risk			

#### 6.4.3.7 Financial Forecast

The following chart summarises this year and the next ten year forecast.



#### Future Step change beyond LTP 2024-27

Significant culverts and drainage assets are now being programmed into the future. These have traditionally been treated with a response with major impact to the continuous programme

Access & Transport AMP 2024-33 | 137



# 6.5 Environmental Maintenance

The assets	
None	
Typical Spend	
WC 121: Environmental Maintenance \$920k 7% of	Continuous Programme (MOR)
WC 221 Environmental Renewals \$ 10k Less t	han 1% of Continuous Programme (MOR)
Key Users	Relevant Problem Statements
All road users	Fit for Purpose
Customer View	Network
Resident satisfaction measured as part of overall satisfaction with roads.  Resident satisfaction has been declining for three years.	PROBLEM STATEMENTS  Connectivity  Connectivity  Connectivity  Connectivity  Connectivity  Connectivity  Connectivity  Connectivity  Connectivity  Connectivity
Council objectives	Change needed
Supports road safety	Greater focus on safety includes maintaining sight lines
	Issues and Options
	Increased vegetation control required to manage sight lines.
Wider Objectives	Preferred approach
Supports road safety	Small increase to target safety outcomes

Access & Transport AMP 2024-33 | 138



#### 6.5.1 Introduction

Environmental maintenance is a support activity. It involves no assets itself, but is a cost centre for important programmed and responsive works.

Work category 121 provides for the routine care and attention of the road corridor to maintain safety, aesthetic and environmental standards.

Examples of qualifying activities include, but may not be limited to:

- snow clearing and ice control
- vegetation control (see conditions of funding below)
- litter collection on rural roads and associated public footpaths, shared paths and cycle paths
- removal of, and protection against, graffiti on road structures
- maintenance and removal of effluent from stock-truck effluent disposal facilities
- any special treatment of run-off from the road to maintain water quality
- sweeping loose chip and detritus from road intersections
- removal of rocks and minor slip material from the road or catch fences
- maintenance of rest areas
- maintenance of protection planting, including maintenance pruning
- non-recoverable costs arising from clearing the carriageway or associated footpaths, shared paths
  or cycle paths of damaged vehicles, crash debris and spillages that are not the responsibility of
  emergency services
- non-recoverable costs associated with removal of abandoned vehicles from road reserves.

Stormwater treatment is expected to become a greater issue as the impact of the National Policy Statement on freshwater and Regional Plan are implemented.

#### 6.5.1.1 Levels of service

There are no directly applicate level of service or resident opinion survey for drainage at this time.

As a proportion of the asset portfolio, these numbers are quite small and need to be considered alongside the parks and other community services activities.

Some complaints are received from rural areas where sufficient drainage hasn't been provided as part of subdivisions and Council supports residents in finding solutions where possible and affordable, taking into account that Council is not responsible for stormwater discharge onto private properties.

#### 6.5.1.2 Benchmarking

There is no benchmarking undertaken for the environmental maintenance activity as there is too much variation between locations and weather.

#### 6.5.1.3 Safety

There were no instance identified in CAS where drainage failure was a contributing factor.

#### 6.5.1.4 Budgets and Waka Kotahi (NZTA) funding

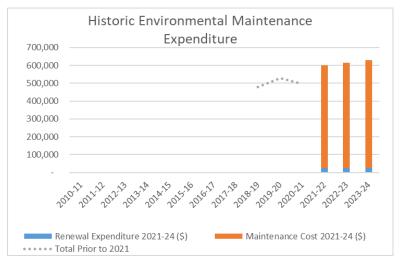
Waka Kotahi (NZTA) funding is available for environmental maintenance at the normal FAR.

#### 6.5.1.5 Historical Expenditures

The expenditure on traffic services over the last fourteen years is summarised below.

Access & Transport AMP 2024-33 | 139





Note: No data before 2018-19

# 6.5.2 Management and Options

#### 6.5.2.1 Maintenance Plan

This work is included in the maintenance contract and scheduled programmed works include

- Litter collection
- Intersection sweeping
- Weed spraying (4 times per year)
- Pest plant spraying annually (in compliance with the regional pest plant strategy)
- Rural berm mowing (4 times per year)
- Tree trimming including high (includes overhead) cut annual programme

Reactive works allowed for include

- Extra ordinary litter collection
- Extraordinary sweeping (e.g. vehicle crash, lost load, slip)
- Graffiti removal

Rates for the works are provided for in the contract.

#### 6.5.2.2 Renewal/ Replacement Plan

Renewals are limited to the purchase or replacement enviropods, which will be stored for deployment when required.

#### 6.5.2.3 Asset Creation Plan

No new assets are proposed

#### 6.5.2.4 Disposal Plan

No disposals are anticipated.

#### 6.5.2.5 The Case for Change

With an increase in the network these operational type works increase proportionally.

Access & Transport AMP 2024-33 | 140



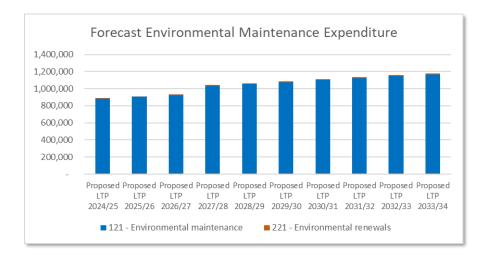
With a greater focus on safety there is an opportunity to improve sight lines, sign visibility, streetlight performance with tree trimming, and pedestrian security and safety. There is a small increase proposed to cover this.

#### 6.5.2.6 Preferred Programme

WC	Action/Work	Driver for Action	Estimated Cost	Scheduled For	How this will be funded
121	Environmental maintenance	LOS	\$887k to \$913k	Per year	Rates and FAR
221	Environmental renewals	End of life	\$10k	Per year	Depreciation and FAR

#### 6.5.2.7 Financial Forecast

The following chart summarises this year and the next ten year forecast.



# 6.5.3 New Improvement Items

## Improvement Item 2024.6.3

Ensure appropriate consents are transferred with revoked state highways.

Access & Transport AMP 2024-33 | 141



# 6.6 Sealed roads maintenance and surfacing

#### The assets

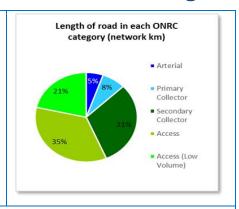
431km Sealed Road length 262km urban and 169km rural

\$143m formation (not depreciated)

\$45m surfacing

\$99m pavement layers

\$144 million replacement cost (excluding formation)



#### **Typical Spend**

WC 111: Sealed pavement maintenance \$1,500k 12% of Continuous Programme (MOR) WC 212: Sealed road resurfacing \$2,200k 18% of Continuous Programme (MOR)

WC 214: Sealed road pavement rehabilitation \$965k 8% of Continuous Programme (MOR)

#### **Key Users**

All road users

#### **Customer View**

Resident satisfaction measured as part of overall satisfaction with roads.

Resident satisfaction has been declining for three years.

The National led government in 2023/24 made its views on sealed road maintenance clear. A considerable improvement is sought, and funding has been ring-fenced for pavement activities. Funding has also been increased for sealed pavement maintenance.

# Suggestions have beenb made on national renewal Rates wihich Are discussed innsection

#### Council objectives

The purpose of sealed pavements is to provide a smooth, safe riding surface.

#### Issues and Options

Investment levels

Relevant Problem Statements

PROBLEM

STATEMENTS

required to respond to downward pavement

A significant increase in investment is

Materials

Change needed

condition.

- Timing with other projects
- Condition based prioritisation

#### Wider Objectives

Supports road safety

## Preferred approach

Request increased funding to hold the current condition and network level asset deterioration.

Access & Transport AMP 2024-33 | 142



#### 6.6.1 Introduction

Sumi	Summary of Changes from 2021-24 to this programme						
111	Sealed pavement	Pavement and Surfacing focus to stop network deterioration and					
	maintenance	hold the current condition.					
212	Sealed road resurfacing	Pavement and Surfacing focus to stop network deterioration and					
		hold the current condition.					
214	Sealed road pavement	This LTP is a step change to respond to pavement faults. End of					
	rehabilitation	life pavement issues are occurring on rural seal multilayer sites –					
		example is the Waitohu Rd 4 year old sandwich seal that is now					
		heavily flushed and has extensive cracking.					

This section discusses the sealed carriageways that Council owns and maintains. The basic purpose of sealed pavements is to provide a smooth, safe riding surface. The key issues relating to sealed pavements are:

- Understanding the road user's expectation regarding access and transport levels of service.
- Optimising the issue of limited funds to maintain the condition of assets.
- Poor quality pavements due to historic road construction techniques.
- Effect of heavy vehicle flows created by forestry industries and 50MAX.
- Deteriorating pavement condition with the "sweating the asset" pavement strategy



The maintenance and renewal of sealed roads are a significant portion of the expenditure within the Access and Transport activity. Accordingly, there is a greater level of information captured and rigor in decision making.

#### 6.6.2 Context

Council has established objectives and levels of service for sealed roads. Much of the user experience is derived from the use of sealed roads. These are summarised below, while the development process for levels of service is explained in AMP Section LoS.

#### 6.6.2.1 Outcomes sought

Councils objectives for sealed roads relate to connectedness, safety and cost efficiency. They cascade from Councils strategies and plans, along with regional and national directives.

Maintaining roads in good order is cost effective for road users, as well as Council and Waka Kotahi (NZTA) as investor.

#### Policies and standards

Many of our new roads are developed to meet NZS 4404 Land development and subdivision infrastructure and the KCDC Land Development Minimum Requirements and vested by the developer to Councils.

Older roads have been developed to a mix of standards and have existed 'as they are' for a period of time.

Access & Transport AMP 2024-33 | 143



#### **Design Standards**

Council currently follows design standards and specifications published by Waka Kotahi (NZTA) for the construction, maintenance and rehabilitation of sealed roads. The design standards are either based on the guidelines prepared by AUSTROADS, if the mechanistic design approach is used, or more commonly the NRB State Highway Pavement Design and Rehabilitation Manual if an incremental design approach is adopted. However, the design of a pavement depends on many factors including traffic volume, material strength, sub-grade soil condition and axle loading.

#### Council objectives for sealed roads

While there is no strategy specific to sealed roads, however the 2022 Transportation Strategies is the key guiding document.

The 2022 Sustainable Transport Strategy vision is -To achieve an attractive, well connected, responsive, and safe transport system that enables mode choice.

There are no specific policies.

#### Policies and standards

The Streetscape Strategy and Guideline provides information on the components of good design and standards for construction. There are comprehensive details in the Subdivision and Development Principles and requirements.

#### Wider Objectives

Council's vision and objectives align with the Wellington Regional Land Transport Plan Mid Term Review 2023 strategic objectives

- People in the Wellington Region have access to good, affordable travel choices
- Transport and land use are integrated to support compact urban form, liveable places, and a strong regional economy
- People can move around the Wellington Region safely
- The impact of transport and travel on the environment is minimised
- Journeys to, from and within the Wellington Region are connected, resilient and reliable

A well maintained sealed road network contributes to each of these objectives.

#### 6.6.2.2 Key Users

Sealed roads are the lifeblood of the network, benefiting all road users as the core infrastructure connections.

They are used by motorists, truck drivers, buses, cyclists and sometimes pedestrians.

The main expectations of sealed roads are:

- Smooth surface free of unexpected depression and bumps
- Skid resistance that enables safe braking and cornering
- Free of loose material
- Always available few closures or disruptions

#### 6.6.2.3 Levels of Service

#	Measure	Target	Results	Trend	Performance
AT001	Residents that agree that the	70% (TBC)	81% 2019/20		Target Not
	existing transport system allows	(80%	74% 2020/21		Met
	for easy movement around the	during	67% 2021/22		
	district	21/24 LTP)	57% 2022/23		
AT002	The change from the previous	5 year	10 crash ave 19/20		Target Met
	financial year in the number of	rolling	12 crash ave 20/21		
	serious and fatal crashes on the	average	10 crash ave 21/22	,	
	local road network, expressed as a	decreases	9 crash ave 22/23		
	number.				
AT004	Length of sealed local road	16.5km for	4.3% (18.0km) 19/20	_	Target Not
	resurface meets planned length	2024-27	2.7% (11.0km) 20/21		Met
	(reworded from a % target)	LTP	3.0% (12.1km) 21/22		

Access & Transport AMP 2024-33 | 144



		(5% during	2.9% (11.5km) 22/23		
ĺ		21/24 LTP)		İ	
AT005	Residents that are satisfied with	70%	77% 2019/20		Target Not
	the condition of roads		73% 2020/21		Met
			66% 2021/22		
			55% 2022/23		
AT006	Roads that meet smooth roads	80%	87% 2019/20		Target Met
	standards, measured by smooth	(85%	86% 2020/21		
	travel exposure.	during	84% 2021/22		
		21/24 LTP)	84% 2022/23		

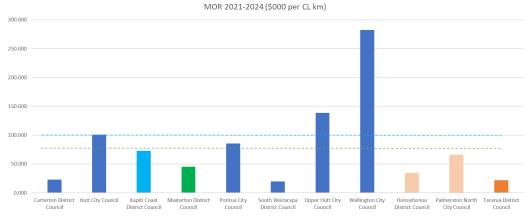
#### 6.6.2.4 Resident Opinion Surveys

Resident satisfaction monitoring is not split between sealed and unsealed roads. The results for roads overall are applicable.

The opinion surveys (AT001 and AT005) both have a downward trend. The comments with the survey show frustration with the roadworks (SH revocation, drainage and KCDC maintenance) and the number of traffic lights on the network. These factors are part of a developing network, however awareness of the impact on customers is made clear through these measures.

#### 6.6.2.5 Benchmarking

A comparison with other Wellington Region Road Controlling Authorities and neighbours shows Kāpiti Coast expenditure lower than other urban authorities.

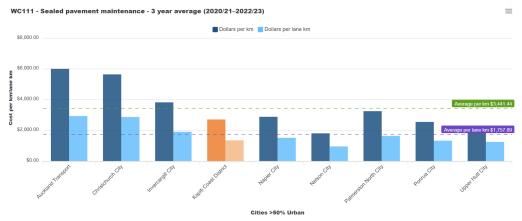


#### (data sourced from NLTF regional tables)

A comparison with other Cities >50% urban shows Kapiti spends on the lower amount on sealed pavement maintenance.

Access & Transport AMP 2024-33 | 145





(data sourced from Te Ringa Maimoa)

#### 6.6.2.6 Safety

Most of the crashes in the district occur on sealed roads. The crash data has been analysed to determine where road factors have been a contributor, and there is little evidence for this.

Inspections are undertaken to ensure that unexpected hazards and out of context issues do not cause drivers to take evasive action.

Two key issues requiring management through the pavement management programme are flushing and potholes.

Potholes are repaired as reactively works while flushing is programmed to be addressed through water cutting or resurfacing treatments. Where many layers of seal this can contribute to flushing and resealing is not a valid option and pavement renewal is required.



### 6.6.2.7 Budgets and Waka Kotahi (NZTA) funding

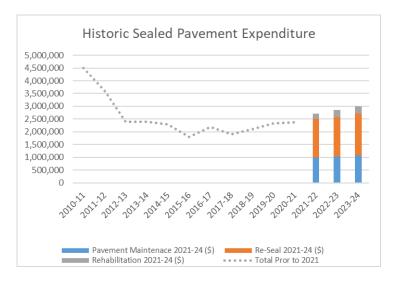
Sealed roads receive the standard FAR rate of 51%

#### 6.6.2.8 Historical Expenditures

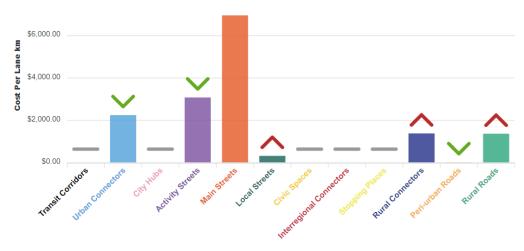
The expenditure on traffic services over the last fourteen years is summarised below. The changes over time reflect a shift in approach to undertaking less pavement rehabilitation. This business case considered the combination of works applied to keep sealed roads delivering an appropriate levels of service in a value for money manner.

Access & Transport AMP 2024-33 | 146





The issues experienced across the network tend to be so focussed on higher trafficked roads and this is considered in the development of the pavement management strategy.



#### (data sourced from Te Ringa Maimoa (ONF - Maintenance Costs, Pavement))

Looking over the long term (last 30 years), there have been spikes and troughs in the length of surfacing undertaken each year.

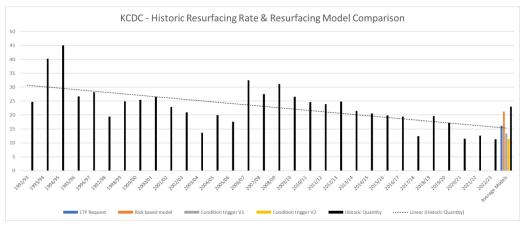
This is likely to be due to:

- Affordability
- Network Condition
- Other spending priorities
- Mix of chip seal and asphalt surfacing programmed.

Overall the has been a reduction, with around half of the length of resurfacing being achieved compared to ten or thirty years ago.

Access & Transport AMP 2024-33 | 147



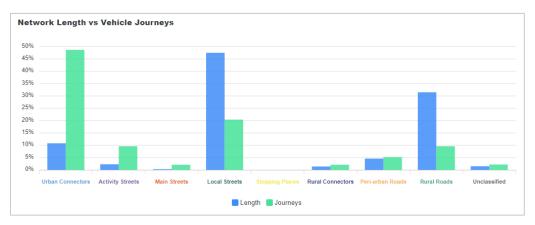


#### 6.6.2.9 Physical Parameters

The following table summarises the key attributes of the sealed pavement network. These exclude the PP2O local roads and M2PP revocated route that is due to be received from Waka Kotahi and added to our network.

Urban Sealed (km)	Rural Sealed (km)	Total Sealed (km)
262km	169 km	431 km
59% of total network length	38% of total network length	97% of total network length (443km)

Most of our sealed network is made up from urban local roads and rural roads. However, the graphic below shows the heavily traffic roads are urban/rural connectors, activity streets and main streets which make up 14% (60km) of the network. The majority of the PP2O local roads and M2PP revocated to be handed over from Waka Kotahi are also these higher trafficked types of road.



Graph exported from Te Ringa Maimoa – Transport Insights

#### Road Width

Only 7km of the sealed network is identified as 'single lane'

Access & Transport AMP 2024-33 | 148



On average 88.5% of the length of single lane sealed roads complies with the target width, while only 68.5% of the double lane sealed roads complies with the Austroads recommendations. The maintenance consequences of under-width roads are edge break and unsealed shoulder rutting.

#### **Asset Valuation**

The 2023 valuation for sealed assets is shown on the table below as at 30 June 2023. Note this excludes the PP2O local roads and M2PP revocated assets that were not in the network at the time of valuation.

Valuation	Asset	2023 Valuation (ORC)
	Sealed Pavement - Surface	\$ 45,283,919
30-Jun-23	Sealed Pavement - Layers	\$ 98,534,251
	Total	\$143,818,170

#### **Network Growth**

On average the network grows at around 1.5km of vested road per year. This provides a useful indication to index future costs in line with network growth.

In terms of the components of the sealed pavement asset over the last ten years the average increase equated to 0.4% per year

#### 6.6.2.10 Asset Capacity and Demand Management

Being mostly urban, there are pinch points on the network.

Many of these relate to interaction with the Expressway and/or former State Highway 1.

Kapiti Road is the busiest road in the district and some portions carry 25,000 per day. The proposed East-West link is intended to provide better traffic movement and take pressure off Kapiti Road and several key intersections

High Productivity Motor Vehicle (HPMV) routes are also a priority for maintenance and surfacing treatments due to their contribution to economic activity, and the rapid deterioration that can an occur if intervention is not appropriate. Maps of HPMV routes have recently been updated and are now centralised on the Waka Kotahi Website: Waka Kotahi HPMV

The majority of these roads are categorised as collectors (except Waitohu Valley Road) which provides access to a large quarry.

Image: Pre-approved HPMV routes (Waka Kotahi webview)



Access & Transport AMP 2024-33 | 149



#### 6.6.2.11 Asset Age and Condition

#### **Asset Condition**

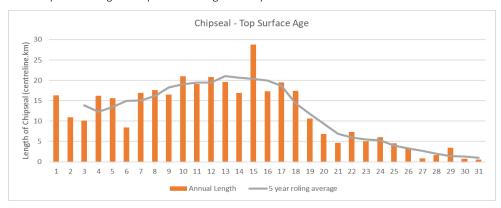
The following sections describe the physical condition of the sealed roads using a range of collection processes and criteria. The information is combined to develop the forward works programme.

#### **Pavement Age**

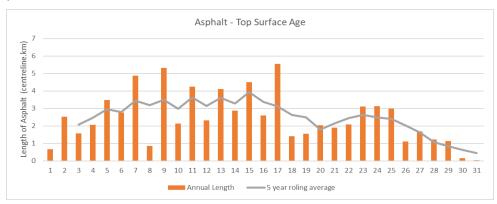
Historically no record of the sealed pavement structural layer has been kept. Condition testing is the key input into programme development. While age is not regarded as priority information there is some benefit is ensuring reasonable records are available and Council. Subgrade and Pavement Layers are now being populated in RAMM for new pavements. Retrospective pavement data will be captured where opportunities allow.

#### **Surface Age**

The 90<sup>th</sup> percentile age of chipseal surfacings is 19.4 years.



The average age of Asphalt surfacing is 12.4 years. The 90<sup>th</sup> percentile age of chipseal surfacings is 23.2 years.



#### Road Roughness (and smooth travel exposure)

Road roughness is a measure of the acceptability of the longitudinal ride and is closely linked to vehicle operating costs. As the roughness of the road increases, the ride starts to deteriorate and the repair effort needed to maintain surface condition increases.

The Council carries out a roughness survey of its sealed roads every year. The roughness data is held within the RAMM system. RAMM summarises the roughness data into Smooth Travel Exposure (STE)

Access & Transport AMP 2024-33 | 150

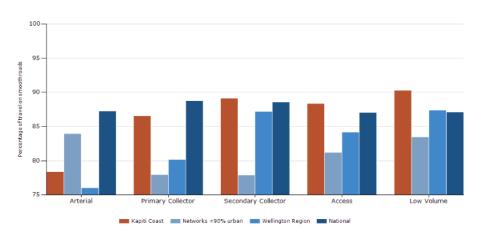


reporting. The Smooth Travel Exposure is an Amenity Customer Outcome and measures the proportion (%) of vehicle kilometres travelled in a year (VKT) that occurs on 'smooth' sealed roads and indicates the ride quality experienced by road users.

The older ONRC report groups have been chosen for our reporting below as the standard reporting is very good at showing the trends.

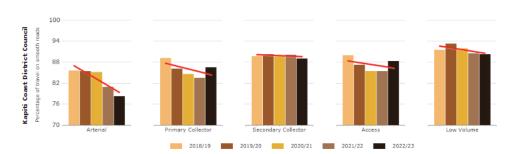
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The trend of percentage of travel on roads smoother than the threshold





The percentage of travel on roads smoother than the threshold for each traffic grouping



#### Source: Te Ringa Maimoa Transport insights

The high traffic volumes routes (Arterial and Primary Collectors) have a strong downward trend (road getting worse), whereas the lower traffic routes are stable.

This reporting also compares Kapiti Coast to similar networks, Wellington Region and the National average. On average, Kapiti Coast is on the low side for arterials, however does perform well on all other routes.

Access & Transport AMP 2024-33 | 151



#### **Pavement Deflection**

Falling weight deflectometer (FWD) survey has been used to ascertain the strength of the road pavement. Given the geology of the district, this very useful as it informs the likelihood of failure. The FWD surveys undertaken on the Kapiti Coast network are site specific – therefore do not provide Network level information.

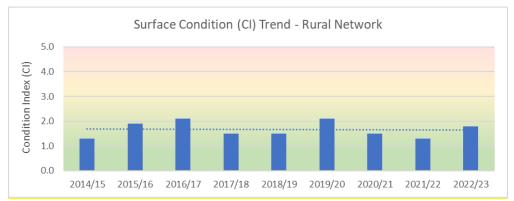
The site-specific detail is highly valuable to build confidence with when designing renewal options. The example below shows the Raumati Road from Hillcrest to Matatua. This green shows stiffer pavements, and the yellow orange and red show increasingly weak pavements.

This data is captured in grid format and held in the RAMM database, which allows the designer to see detailed deflection and curvature data.



### Condition Index (CI)

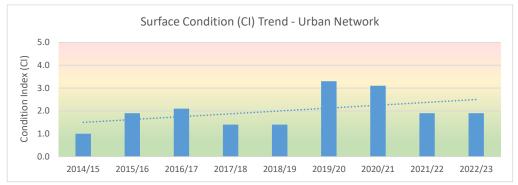
The Condition Index is a combined index, a 'weighted sum', of the surface faults in sealed road surfaces. CI combines alligator cracking, scabbing, potholes, pothole patches and flushing. The information is derived from rating surveys.



The rural surface condition remains stable. There are localised issues, however this overarching network metric suggests the holding and steady. Our rural network are dominated by secondary collectors and lower use roads.

Access & Transport AMP 2024-33 | 152





The urban surface condition index is rising (this indicates more failures and worse condition). This is consistent with our other metrics.

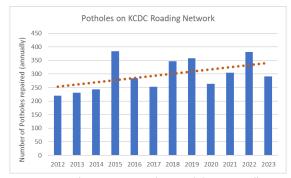
#### **Pothole Trend**

Potholes have become a national topic of conversation over the past several years – everyone hates potholes. We have summarised our annual number of potholes repaired to create an objective measure and trend on our Kapiti Coast Roads.

The graph shows an increasing number of potholes are occurring and being repaired in Kapiti.

Some years vary significantly from the norm. Very wet periods such as late 2021 and 2022 are likely factors in this variance.

The overall trend is significant with the annual number of potholes increasing from around 250 in 2012 to 340 in 2023. This represents a 3% increase year on year. An



active preventative and early signs maintenance programme than targets cracking and drainage will reduce potholes occurring, however the maintenance practices have not been changed significantly over the past decade.

#### **Condition Summary**

All metrics are indicating a reduction on levels of service, with worse conditions and more faults. This is not exponential, however this gentle creep is becoming a significant change. The factors that are likely to be impacting condition are:

- More traffic (district growth with more vehicles on the road)
- Heavier traffic (High Productivity Motor Vehicles and Electric vehicles become normal in New Zealand)
- Lower reseal rates, with longer seal lives, therefore less waterproof
- Age of pavement increasing as the network matures, with more renewal and maintenance required.

Access & Transport AMP 2024-33 | 153



#### 6.6.2.12 Data Confidence Level

Condition surveys for carriageway rating and carriageway roughness have been undertaken annually. High speed pavement condition data and pavement deflection data has been captured bi-annually.

The Te Ringa Maimoa 2022/23 Data Quality report confirms the data held for sealed roads is highly accurate. This is reassuring, given the focus Council has put on sealed road data management.

#### Carriageway metrics

		•											
Cat	Sub	Ref'	Metric Description	Dimension	Importance	ONRC Customer Outcome	ONRC Metric	Result	Trend <sup>2</sup>	Maj Issu	or Min	ior Exp uss Star	ected idard
		CWAY1	Road network data complete	Accuracy	High	AMENITY COSTEFFICIENCY SAFETY		99.0	-	95	96	98	100
		CWAY4	ONRC categories are assigned	Completeness	High	AMENITY COSTEFFICIENCY SAFETY	~	100.0	-	95	96	98	100
		CWAY7	Sealed/unsealed network correctly defined	Accuracy	High	AMENITY COSTEFFICIENCY SAFETY	~	99.1	-	95	96	98	100
	Carriageway	CWAY8	ONF categories are assigned	Completeness	High	AMENITY COSTEFFICIENCY SAFETY		100.0	-	95	96	98	100
	Camia	CWAY2a <sup>3</sup>	Rural number of lanes matches carriageway width	Accuracy	Low	AMENITY COSTEFFICIENCY SAFETY	~	95.6	-	95	96	98	100
		CWAY2b3	Urban number of lanes matches carriageway width	Accuracy	Low	COSTEFFICIENCY SAFETY	~	97.7	-	95	96	98	100
Network		CWAY6a <sup>3</sup>	Rural carriageways are generally not short	Accuracy	Low	AMENITY COSTEFFICIENCY SAFETY	~	100.0	-	80	85	90 95	100
		CWAY6b3	Urban carriageways are generally not short	Accuracy	Low	AMENITY COSTEFFICIENCY SAFETY	~	99.0	-	95	96	98	100

#### Pavement and Surfacing metrics

		a carracing meanes									
	PAVE14	Achieved pavement renewal programme as-builted	Timeliness	High		NA	NEW	0	50		100 12
ı	PAVE2 <sup>3</sup>	Pavement layer records have valid attribute data	Accuracy	High		100.0	-	45	60	20	10
ı	PAVE3 <sup>3</sup>	Pavement layer records with Work Origin	Completeness	High		100.0	-	70	80	-	
	SURF1a <sup>4</sup>	Achieved chipseal resurfacing renewal programme as builted	Timeliness	High		97.0	-	-	80	<b>1</b>	
& Sufacino		Achieved asphaltic concrete resurfacing renewal programme as- builted	Timeliness	High		100.0	-	65	80	100	120/2
Pavement	SURF2	Surface records have valid attribute data	Accuracy	High		100.0	-	0	50	100	-
ı	SURF3	Surface records correctly located	Accuracy	High	~	86.6	•	95	96	98	1
ı	SURF4	Surface records with Original Cost	Completeness	High	~	100.0	-	85	90	95	1
	SURF5	Surface records with Work Origin	Completeness	High	~	100.0	-	90	_	95	1
	SURF6	Surface records newer than pavement	Accuracy	Moderate	~	99.5	_	95	96	98	
								85	90	95	1

#### 6.6.2.13 Risk and Critical Assets

A formal assessment of critical assets has been undertaken as described in section 7.3.

Access & Transport AMP 2024-33 | 154



### 6.6.3 Management and Options

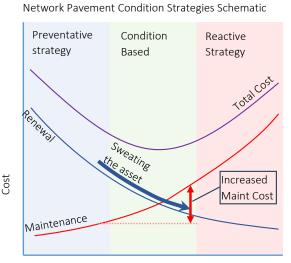
The maintenance and renewals (reseal, asphalt, reconstruction) of sealed roads are intertwined. The volume of renewals on the Kapiti Coast District network has decreased since 2010 due to best practice guidance to "sweat the asset". Resurfacing is now prioritised for condition and deterioration, rather than a "birthday" approach. This puts more maintenance pressure to respond to pavement faults with localised repairs.

In practice, this strategy has put the network under strain due to constrained funding (not increasing budgets to meet programme and the impact of inflation) and resource constraints (meeting programme during Covid). The CAPEX renewal rate in the past 4 years has been lower than optimal, and we are seeing increased reactive need. In real terms, our networks level of service has decreased as we see more potholes and rougher roads.

The schematic shows the relationship between renewal and maintenance — from a preventive strategy across to reactive strategy. The condition-based strategy is understood as the optimal balance.

The "sweating the asset" swing shown on the schematic demonstrates shift since 2020. To keep the same level of service now requires increased maintenance work (and funding) as also shown.

Our OPEX budget for maintenance not kept pace with the high volume of work required, nor the full extent of recent inflation. In short, more maintenance effort is required to hold the level of service.



Number of failures

Our options as we look forward are:

- 1. **Keep sweating the asset**. This will continue to move us towards a reactive strategy, with more potholes, rougher rides and a less satisfied community. Other roading authorities in New Zealand are further down this line than Kapiti Coast, and we do not want to follow. This strategy will have similar quantities of work but will cost more than past years due to inflation.
- 2. **Hold and seek balance**. The asset is sweating, so we hold and do not stretch it further. We aim for an optimal balance of condition-based renewals. Increased renewal and maintenance quantities will be required to achieve this strategy and hold the level of service and asset integrity.
- 3. **Return to a preventative strategy**, with significantly higher renewal rates we may see a reduction of maintenance activities, however this will take substantial investment.

#### 6.6.3.1 Maintenance Plan and Options

Maintenance is the on-going day-to-day work activity required to keep assets serviceable, prevent premature deterioration or failure and deliver on expected customer levels of service. Maintenance includes:

- Pothole and edgebreak repairs
- Repair of deformation, shoves, cracking, and other pavement faults
- Pre-reseal repairs

Access & Transport AMP 2024-33 | 155



The current contract details are:

Works Description	Road Maintenance 2018 – 2021 (Including asphalt renewals)
Contract Number	2018/C178
Let	July 2018 (3+2+2)
Expires	Expires 30 June 2025 (including extensions)
Contractor	Higgins Contractors

Works Description	Chipsealing 2018 – 2021
Contract Number	2018/C198
Let	Dec 2018 (3+1+1+2) The final 2-year extension was added to align with the
	Maintenance contract.
Expires	Expires 30 June 2025 (including extensions)
Contractor	Higgins Contractors

Our road maintenance contract requires regular network inspections to identify faults. Faults are also received through our Service Request system, these are reviewed by our contractor and included in the prioritisation process.

- Urgent repairs are completed to the contractual response times.
- Non-urgent repairs are prioritised with consideration for road safety, customer complaints, asset integrity, efficient delivery, and preparation for reseals. The faults are put into a 3-month rolling programme where budgets are monitored, and contractor resource are allocated.

Repair works are undertaken in accordance with the contract specification and quality assurance by the contractor, with overview and validation by Council.

#### Preventative maintenance approach.

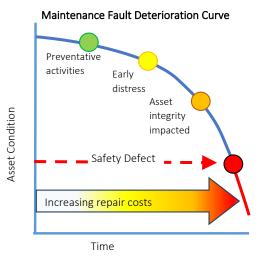
Identification and repairing the root causes of deterioration at early signs of distress provide a value for money approach, with lower repair cost and pushing out renewal projects. This avoids impacts to asset integrity and faults that deteriorate to a safety defect. The following diagram shows this relationship.

This is enabled through working with our inspection teams (Contractor and Council) to increase

knowledge of root causes of failure, early fault identification and effective repair methodology,

Preventative activities are typically low cost in comparison to pavement repairs. Activities include:

- effective drainage maintenance for drier pavements.
- removal of detritus for less abrasive surface and better drainage,
- levelling manholes/rough areas for smoother load on pavement,
- bandage sealing utilities and pavement repairs for waterproofing).



Access & Transport AMP 2024-33 | 156



Early distress repairs include are also lower cost than heavier pavement repairs:

- Crack sealing to improve waterproofing
- Levelling ponding, rutting to reducing water intrusion

**Asset integrity impact** relates to where the pavement has lost strength and reactive response is required, including:

- Deformation of pavement (loss of shape)
- Shear in pavement layers (shoves)
- Heavy cracking (loss of waterproofing)
- Potholing (loss of waterproofing)

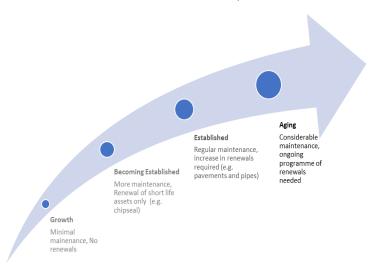
**Safety defects** include any fault that has continued to deteriorate to a stage where vehicles safety is affected, examples are:

- Large potholes
- Shoves/deformation that could affect cyclist and motorcycle, particularly on corners.
- Detritus on the carriageway, particularly on corners and intersections

The maintenance teams challenge is to put effective programmes and resource into preventative maintenance to reduce responsive workload for faults that deteriorate into the asset integrity impacted zone. All faults are to be targeted before safety defects occur.

#### **Network Maturity**

The diagram below shows an asset management principle, where the maturity of assets on the network effects the maintenance and renewal requirements.



Growth areas from new subdivisions have low initial needs.

Over time areas become established the maintenance and renewals needs increase.

Kapiti Coast District Council transport network has a mix of maturity across our transport network. Compared to other districts we are relatively young district, however there are pockets of much older.

The older areas are coming a phase of heavy renewal and replacement with higher associated costs.

Investing at the right time is an important part of the of the maturity cycle – investing too early is wasteful as the value of the asset is not achieved, however too late has increased maintenance and higher replacement costs.

Access & Transport AMP 2024-33 | 157



#### 6.6.3.2 Renewal/ Replacement Plan

Our surfacing renewals options focus is on long term asset preservation. Maintaining a weatherproof surface to protect the pavement is a vital preventative maintenance investment. Chip seal surfaces are cost effective and used widely across the network, however asphalt surfacing is used in high stress areas (roundabouts, cul-de-sac) and in high amenity locations (activity streets, main streets). Where pavement have reached the end



of their serviceable life, they are programmed for rehabilitation.

A long-term Forward Works Plan (FWP) has been developed for sealed road renewals. The network has been broken into treatment length segments. All treatment lengths have traffic demand, road condition, and existing pavement and surfacing information updated. Each treatment length has the next renewal treatment allocated into a future year with a 20-year horizon. This allows future budget forecasting.

Our FWP is housed in the JunoViewer tool and has been challenged with models with a range of parameters and test treatment scenarios. The JunoViewer results model was developed and run to support this business case.

Our field validation has confirmed our short-term FWP, however has identified medium and long-term development needs. The first round of data improvements is complete and iterative development to our modelling and associated FWP are now set for annual updating.

#### JunoViewer Overview

The JunoViewer platform is a data analytics tool, using the existing data from within the KCDC RAMM database and other data sets. The JunoViewer platform also contains a data decision modelling framework. This model framework has been in use for over 18 years, with the original development used on the Toll concession contracts TRAC N4 and N3TC in South Africa. JunoViewer has been in place in New Zealand since 2005, with the web developments completed in 2014. This framework provides a flexible engineering approach to modelling and treatment selection for pavements, surfacings and other road related assets.

#### Condition based prioritisation for renewals.

Councils renewal Forward Works Programme (FWP) is developed with a condition based prioritisation philosophy. The JunoViewer modelling uses these principles to predict future treatments, and the Asset Management practitioners validate and commit renewal treatments with this strategy.

While age and existing surface type are considered, the surface condition and pavement environment dominates the decision making process.

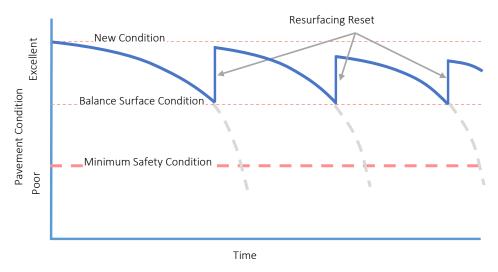
- For old surfaces the early sign defects of cracking, localised potfill can trigger a renewal to lock in the longer life and waterproof before asset integrity is impacted.
- For young surfaces that are experiencing pavement stress and require asset integrity repairs, the renewal is brought forward to waterproof and reduce maintenance commitments.
- Where surfaces have short lives and maintenance costs are heavy rehabilitation is considered.
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 Pavement environment relates to risk of deterioration. Sands and Gravels provide a sound base therefore longer renewal cycles, whereas peats, clays and silts would be treated more conservatively.

The following diagram represent the renewal resets where the surface deterioration has reached a balanced surface condition. A reactive strategy would wait until safety or extensive failures are occurring, which has high maintenance costs. The traditional "birthday" reseal strategy reset at set ages of surfaces

Condition based periodic renewal schematic.



tended to be conservative, high renewal and lower maintenance costs.

Most pavements in New Zealand have a finite life, where each resurfacing reset don't bring the condition to the new condition and surfacing lives become shorter as the pavement deteriorates. Typically, after 6 to 8 reseals the surface layer becomes unstable and heavy flushing is common. This represents a common end of life scenario where rehabilitation resets the pavement to a new condition.

During the "sweating the asset" strategy phase from 2010-2023, rehabilitation quantities have significantly reduced. A hold and balanced approach would see a step in rehabilitation lengths and associated funding.

#### Forward Works Programme Resurfacing

Our network modelling effort is young – with work commencing in 2020. Early validation found significant data accuracy issues and needed major assumptions. The reliability of the models continues to improve, however the variance from our conservative "risk based" to aggressive "condition based" models is large.

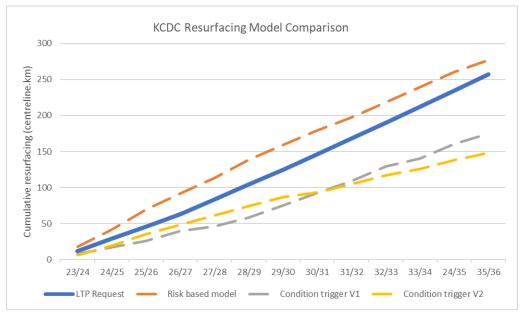
Our "LTP Request" programme is the validated FWP. This sites between the two modelling predictions and feels right from experienced staff on site for the short term (next 3 years).

During the next LTP cycle (2024-27), our modelling team need to continue to refine the model. We expect the next iteration to include the PP2O local roads and M2PP revocations and may include the PP2O revocation too. These routes have a low level of input required in the short term as most of these routes have recently been resurfaced.

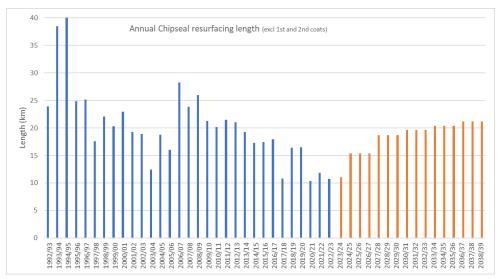
The below graph shows our current models with the LTP Request shown in blue.

Access & Transport AMP 2024-33 | 159





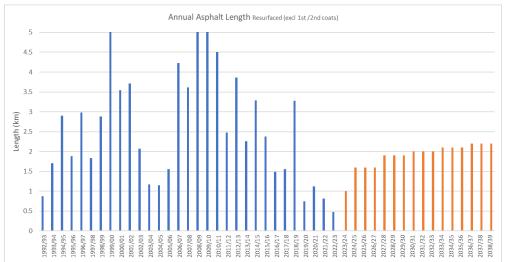
The two bar charts below show these long term trends with the current LTP request quantities separated into Chipseal and Asphalt. The 2024-27 is a step up from the current quantities, however further step changes in future LTP's will be required to plateau into a balanced condition-based programme.



Chipseals in our lower traffic roads are typically achieving 20+years life when placed on sound pavements in good condition, therefore an conservative target has been set. The modelling and validation on the 2024-27 cycle will be important to challenge and refine assumptions for the longer term.

Access & Transport AMP 2024-33 | 160





The higher quantities related to asphalting several urban connector and local road in the past, where these may not be justified in the future - as the need for asphalt from as asset integrity or safety perspective is not needed.

The types and thicknesses of asphalt continue to evolve – where "AC" grades are now much more commonly used in urban environments with more macrotexture than the previously dense mix types. The 20-30mm asphalts of the past are prone to early cracking and delamination, with 50-60mm with membrane seals now becoming the norm.

#### Sealed Road Rehabilitation

In the "sweat the asset" strategy phase from 2010-2023, rehabilitation had been reduced to nearly no work over the past several years. This strategy ignores the "ageing" sections of network, therefore increasing maintenance costs and building a bubble of renewal need.

Our modelling and field validation shows that rehabilitation needs to be reinstated as a workstream going forward. The Present Value prioritising process justifies these sites over a surfacing renewal tactic.

Older rural collector roads with multiple layers of seal are showing high signs of stress, with heavy flushing, short seal lives, and high maintenance needs. Granular overlays with/without stabilisation with a chipsealed surface will bring the pavement back to a new condition.

Old pavement with asphalt surfacing on high demand urban routes with high deflections (peat/weak subgrades) are failing early with heavy cracking and deformation. The economics to justify replace full pavements is weighted towards heavy maintenance and resurfacing with polymer modified asphalts for flexibility common renewals. However, the worst of these sites will be considered for rehabilitation. Localised areas of structural asphaltic concrete will also be considered within this group, to work around utilities services or high traffic impact sites.

Pavements with deep seated roughness with peat or similarly weak subgrades will be levelled with grader-laid asphalt. The first site at the south end of Matai Road is programmed for this year (2023/24).

Rehabilitation Treatment	Unit	Target
Granular overlays/Stabilisation - chipseal	m2	5600
Asphaltic overlays or grader-laid asphaltic material	m2	1000
Pavement replacement – asphalt / structural asphaltic concrete	m2	1000

Access & Transport AMP 2024-33 | 161



#### Proposed Resurfacing and Pavement Rehab Qualities for 2024-27

Based on the LTP Request model, the following is the recommend minimum road centreline length of renewal work to be undertaken for the Kapiti Coast network for 2024-27.

	Average Annual Qty (cl.km/year)	Length of	% network per Year	Average Asset Life
Rehabilitation	1.2 km/yr	425km network	0.3 %	300 years
Chip Resurfacing	15.4 km/yr	375km chipseals	4.1 %	24 years
Thin AC Resurfacing	1.6 km/yr	50km asphalts	3.2 %	31 years

The table above does not represent long term sustainable quantities, with future increases required to bring a balance condition-based programme. These quantities are higher than the achievement in the 2021-24 period and are the first step change towards a sustainable programme.

The lower quantities for this 2024-27 period are appropriate due to lower short-term need identified within the validation process. This is due to an unbalanced long-term programme and the addition of the PP2O local roads and M2PP route with mostly new surfacing.

Future step changes to bring balance are shown in the long-term FWP, however the magnitude will need challenge in the 2024-27 period with modelling and field validation.

#### Increasing quantities beyond 2027

In the 2027-30 period a further step in quantities will be implemented to respond to increased demand and bring our average asset lives into balance. Then again, a further step in 2030-33.

2027-30 indicative quantities	Average Annual Qty (cl.km/year)	Network Length	% network per Year	Average Asset Life
Rehabilitation	1.2 km/yr	425km network	0.3 %	300 years
Chip Resurfacing	18.7 km/yr	375km chipseals	5.0 %	20 years
Thin AC Resurfacing	1.9 km/yr	50km asphalts	3.8 %	26 years

2030-33 indicative quantities	Average Annual Qty (cl.km/year)	Network Length	% network per Year	Average Asset Life
Rehabilitation	1.2 km/yr	425km network	0.3 %	300 years
Chip Resurfacing	19.6 km/yr	375km chipseals	5.2 %	19 years
Thin AC Resurfacing	2.0 km/yr	50km asphalts	4.0 %	25 years

The Average Asset Life measure is a powerful tool to consider long term investment rates. The Average Asset Lives shown on the above tables are longer than traditional lives, which is expected as we move from the "sweating the asset" strategy.

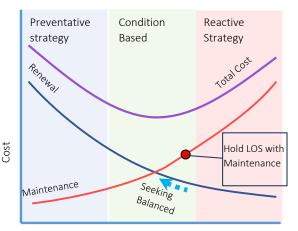
Access & Transport AMP 2024-33 | 162



The "hold and seek balance" strategy challenges our asset management assumptions, as we pursue the steady state between the shorter traditional life cycles and longer sweating the asset replacement programmes.

The revised schematic shows the change in strategy to the "hold and seek balance" approach.

Through iterative improvements to our JunoViewer modelling, we will continue to refine our FWP beyond 2027.



Number of failures

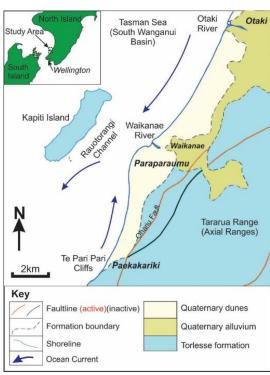
#### 6.6.3.3 Local Pavement and Surfacing design factors

The following factors are considered by our asset management team at Forward Works Programme development, renewal design and during maintenance programming.

#### Kapiti District's geological pavement factors

Kapiti District lays on the Western Coast of southern North Island, between the Manawatu Plains to the north of Otaki and the Sea Cliffs south of Paekakariki. The distinctive zones from a geological perspective, which are shown on the diagram below.

- Dunes (Quaternary dunes) The Kapiti Coast is low laying and made up of several belts of sand dune that have formed over the past 6000-6500 years.
   Swampy areas with peat are common between the sand dunes, however these have been modified through urban development and rural drainage schemes.
- Alluvium (Quaternary alluvium) the Waikanae and Otaki rivers have deposited alluvial gravels forming the inland plains. These dominate the Otaki, Upper Te Horo, upper Waikanae and Reikorangi areas.
- Rangers (Torlesse Formation) Inland Kapiti reaches into the Tararua Ranges, which is part of the Torlesse Formation and generally composed of greywacke rock. The distinctive sea cliff to the south are also seen behind Raumati, Paraparaumu and Waikanae, showing the coast line from before the quaternary dunes formed.
- Localised exceptions are also common. Examples
  include clay is typical of the terraces of northern
  Otaki, alluvial gravels are seen at the upper
  Wharemaku stream around Coastlands, silt deposits
  also common in the swampy areas, Pumice within
  our southern sand dunes, and swamp areas in the
  ranges associated with the river systems.



(Nolan Thesis, 2017)

Access & Transport AMP 2024-33 | 163



#### Subgrade qualities for roading

**Peat and organic deposits** – poor material with low bearing strength and poor drainage. Typical treatment is to bridge over peat with a thick layer of sand (1-2m) with geotextiles and geogrid improved performance further. Differential densification is common – causing long term pavement deformation.

**Clay** – Average subgrade material with poor bearing strength when wet. Robust subbases and drainage are required. Excavation and replacement is recommended where the water-table is high and a bridging layer is not possible.

**Silt** - Average subgrade material with poor bearing strength when wet. Robust subbases and drainage are required. Excavation and replacement is recommended where the water-table is high and a bridging layer is not possible.

**Sand** (including sand-dunes) — excellent material with high bearing strength and good drainage. Care needed to ensure water-table is well below the base of road as bearing strength is compromised with saturation.

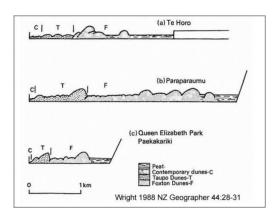
**Gravels** – excellent material with high bearing strength and good drainage.

**Rock** (including greywacke) – excellent material with high bearing strength. Often associated with steep terrain. Care needed with fill on the outside edge of roads as slumping or dropouts can occurs.

# The challenge for Kapiti's roading and construction teams

Kapiti District geology is diverse and complicated. This diagram from Wright in 1988, helps to show the complexity of the Quaternary dunes.

The underlaying subgrade often changes along a street, and the effects need to be considered by roading teams.



#### The matrix below shows indicative maintenance and renewal input requirements.

Subgrade	Identification	Drainage need	Maintenance Needs	Reseal Life	Note
Peat and Organic	Challenging	High	High	Shorter	Focus on levelling and needs waterproofing
Clay	Challenging	High	Medium	Shorter	Needs waterproofing
Silt	Challenging	High	Medium	Shorter	Needs waterproofing
Sand (dunes)	Easy	Low	Low	Average	More forgiving
Sand (non-dune)	Challenging	Medium	Low	Average	More forgiving
Gravel	Easy	Low	Low	Longer	More forgiving
Rock	Easy	High	Low	Average	Often steep, keep drainage maintained to avoid dropouts

This matrix provides the maintenance and renewals teams guidance on factors to consider with treatment selection and timing.

Access & Transport AMP 2024-33 | 164



#### Skid resistance design

The Polished Stone Value (PSV) requirements of Waka Kotaki T/10 are followed by KCDC.

Various sources of sealing chip from the lower North Island have adequate performance for almost all our sites. The seal designer's selection of the sealing chip needs to document the T/10 site demand and the stone source that will meet the demand. This gives confidence that a skid performance will be satisfactory for the life of the surfacing.

We accept a pragmatic approach for very high skid resistance sites. The very high skid performance materials such as Melter Slag are also expensive and have limited supply. The demand for such material needs to be retained for the sites with the highest need. The designer is to identify constraints and work with the KCDC team to manage the risk on such sites.

#### Binder Selection (chipseal)

KCDC adopts the Waka Kotahi M/01 Bitumen standard.

We are changing our recommended bitumen grade from penetration grade B180/200 to B130/150. With our moderate climate, local experience has found the B180/200 is suitable across our network and has been used across Kapiti Coast district for many years. However, there is an increasing amount of flushing on our chipseal roads with multiple seal layers.

The Penetration Grade B130/150 will provides a stiffer binder with a higher softening point to reduce flushing and bleeding. Bitumen sprayed now could remain in use within the surfacing layers for many decades, therefore the stiffer bitumen will be beneficial within the context of



Image from NZTA - Chipsealing in New Zealand

global warming and higher summer pavement temperatures. The B130/150 is being used by other Road Controlling Authorities successfully in the lower north island, demonstrating that the bitumen is holding chip at the lower winter temperatures.

Both standard bitumen and emulsions are acceptable to KCDC.

#### **Binder Modification**

For sites with high demand, the opportunity to modify the bitumen can provide a cost-effective improvement for both sealing and asphalt. The type and expected performance are to be agreed at design stage.

In recent years our Asphalt sites with marginal pavement deflections have use a polymer modified bitumen to increase design life, with more crack resistance. This will not stop cracking in the longer term, however there is evidence than cracking is retarded enough to extend surfacing life. This practice will be continued.

#### 6.6.3.4 Asset Creation Plan

Most new sealed roads are added to Councils portfolio through subdivision development. There are some small roading projects undertaken by Council.

Access & Transport AMP 2024-33 | 165



In the future key additions are revoked state highway and expressway links, or the proposed east-West link in Paraparaumu central.

#### 6.6.3.5 Disposal Plan

Council has no current plans to dispose of sealed road assets.

#### 6.6.3.6 The Case for Change

Levels of service and customer satisfaction surveys do not reveal a level of service performance gap. However, the sealed road asset requires a constant level of maintenance to provide that level of service and limit costly rehabilitation.

There is no significant change in practice proposed. Council's expenditure levels compare well against others and the results achieved are sound. There does not appear to be a backlog of work being deferred.

The main issue faced is the addition of revoked State Highway. Adding 10% to the sealed pavement length is considerable, and the addition is complex with heavy use. This will require a very focussed management going forward.

#### 6.6.3.7 Assessment of Options

The optioneering assessment undertaken in section 1.3 suggests the following options may be valid for consideration in terms of footpaths and shared paths.

Response	Sealed Roads
Problem Statements	
Carbon Reduction	Programme Adjustment (remove projects)
Fit For Purpose Network	Demand Management (Restrict Use)
Resilience and Climate Change	Risk Based Assessment
Demographic Change and Accessibility	
Connectivity	
Road Safety	Risk Based Assessment

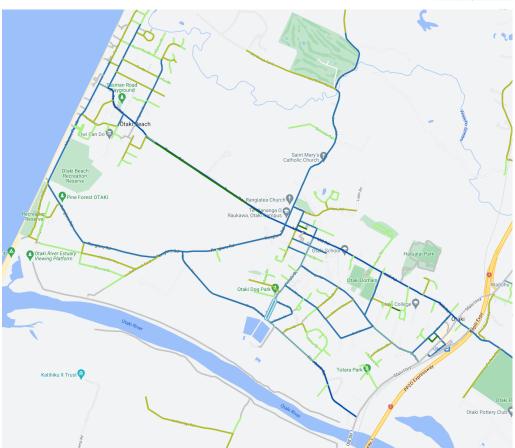
The most relevant Strategic Response Option Groups is to manage demand and take a more strict approach to network hierarchy. Limiting heavy traffic can be achieved through bylaws and the nature of the road environment itself.

Changes to the corridor environment and reduces speeds on routes with an access focused are effective for encouraging route selection. The objective of this would be to focus traffic (particularly heavies) onto key routes and reduce the deterioration of access routes.

<u>For Illustrative purpose only -</u> many of the roads in Otaki are collectors, a more focused approach would involve a central spine for through traffic and other roads for local access.

Access & Transport AMP 2024-33 | 166





The maintenance and renewal programme drives the expenditure and therefore funding options. This represents a significant investment by Council and Waka Kotahi, so thorough decision-making processes are appropriate. The multi criteria approach applied used JunoViewer and relies on robust data collection and management system to undertake a risk-based approach and test carriage treatment limits against levels of service and investment levels.

The Te Ringa Maimoa Differential Levels of service Tool is being adapted to fit the KCDC context. Initial analysis and results are shown below.

Access & Transport AMP 2024-33 | 167

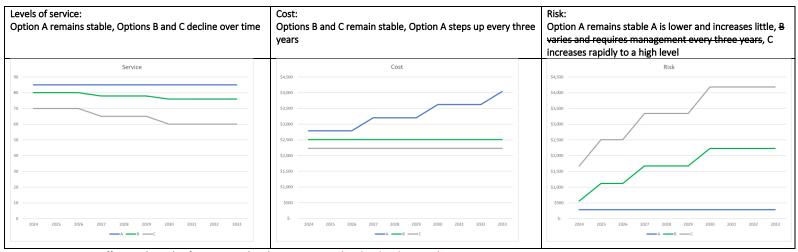


#### <u>Te Ringa Maimoa – Differential Levels of Service Tool</u> (EXAMPLE being progressed across asset groups)

#### Operational Levels of Service

LoS ref	Level of Service	Service Outcome	Risk	Work Category	Performance Metric
Op01	Sealed Pavement Maintenance	Safety	Vehicle damage	WC 111	% Faults responded to in time

LoS ref	Level of Service	Option	Benefits/Consequences
			Sealed pavement faults are responded to in a timely manner, proactive
Op01	Sealed Pavement Maintenance	A	maintenance is enabled.
			Sealed pavement faults are mostly responded to in a timely manner, proactive
Op01	Sealed Pavement Maintenance	В	maintenance is partially enabled.
			Sealed pavement faults are not responded to in a timely manner, proactive
Op01	Sealed Pavement Maintenance	С	maintenance is not done



Te Ringa Maimoa – Differential Levels of Service Tool with Optioneering (Under development)

Access & Transport AMP 2024-33 | 168



#### 6.6.3.8 Preferred Programme

WC	Action/ Work	Driver for Action	Estimated Cost	Scheduled For	How this will be funded
111	Sealed pavement maintenance	Safe roads, asset preservation.	\$1.48m to \$1.52m	Each year	Rates and FAR
212	Sealed road resurfacing	Asset preservation	\$2.67m to \$2.75m	Each year	Depreciation and FAR
214	Sealed road pavement rehabilitation	Restoring asset to suitable condition	\$0.94m to \$0.96m	Each year	Depreciation and FAR
	Rehab associated works	See LCLR			

#### Step change for this LTP (figures rounded)

Sealed Pavement Maintenance – increasing from \$1.0m to \$1.5m annually to respond to increased maintenance demand and increasing cost to delivery.

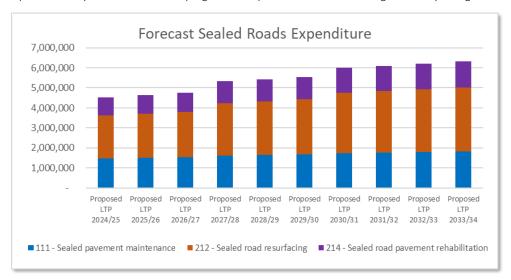
Sealed Road Resurfacing Renewal – increasing from \$1.1m to \$2.2m. Increased cost to deliver, but also a change in strategy – away from stretching the asset to holding LOS for asset preservation.

Sealed Road Rehabilitation – increasing from \$0.1m to \$0.95m. Restarting a rehab programme, to rebuild the worst roads and stop patching/holding.

This significant increase in investment is in respond to downward pavement condition indicators – with request for funding to hold the current condition and network level asset deterioration.

#### 6.6.3.9 Financial Forecast

The following chart summarises this year and the next ten year forecast. The capital programme is expected to vary from this indicative programme as priorities arise and funding availability changes.



Access & Transport AMP 2024-33 | 169



# 6.7 Unsealed Roads

#### The assets

Unsealed roads (gravel)

11.9km total

Nearly half of the length are secondary collectors <\$1 million replacement cost (excluding formation)



#### **Typical Spend**

WC 112: Unsealed pavement maintenance WC 211: Unsealed road metalling

\$60k

Less than 1% of Continuous Programme (MOR) Less than 1% of Access & Transport Activity

#### **Key Users**

Access for landowners and sites that appeal to tourists /recreational user.

# Customer View

Resident satisfaction measured as part of overall satisfaction with roads.

Resident satisfaction has been declining for three years.

# Relevant Problem Statements



#### Council objectives

Council aims to provide a surfacing and pavement structure that is appropriate to the location and function of the road.

#### Change needed

No change identified

#### Issues and Options

- Monitor safety
- Optimise maintenance and renewal investment levels

#### Wider Objectives

Supports road safety

#### Preferred approach

Continue with same approach – regular grading and metaling as needed to hold LOS

Access & Transport AMP 2024-33 | 170



#### 6.7.1 Introduction

This activity covers unsealed roads within the District, these roads are formed and maintained by Council.

Council aims to provide a surfacing and pavement structure that is appropriate to the location and function of the road.

There are very few remaining unsealed roads within the Kāpiti Coast District. These are spread throughout the district and are generally lower volume roads that provide access from individual properties to collector or arterial roads. The exceptions are Waterfall Road which provides a short route when coming from the south along the State Highway to a substantial area of developed urban housing and Otaki Gorge Road which is a popular leisure route/destination.

Unsealed roads generally have a lower speed environment than sealed roads, with the aim of providing a suitable surface for the public to travel comfortably at 60 to 70 km/h on straight sections.



Unsealed roads are generally categorised as local roads in the Council's road hierarchy.

#### 6.7.2 Context

Council has established objectives and levels of service for all road including unsealed; unsealed roads are part of the network so all levels of service apply. These are summarised below, while the development process for levels of service is explained in AMP Section LoS.

#### 6.7.2.1 Outcomes sought

Council aims to provide a surfacing and pavement structure that is appropriate to the location and function of the road. There are no seal extensions identified in Council's Long Term Plan.

#### Policies and standards

None specific to unsealed roads.

#### Design Standards

Council currently uses pavement standards based on the Waka Kotahi (NZTA) specifications for construction, maintenance and rehabilitation of unsealed roads. The design parameters adopted for unsealed pavements use are outlined below. In effect unsealed roads will continue to be maintained rather than reconstructed or new unsealed roads built.

Council does not use running course.

#### 6.7.2.2 Key Users

Unsealed roads generally carry lower volumes of traffic and provide access for landowners and sites that appeal to tourists /recreational user.

There are specific safety issues around recreational users as they not be competent at driving on unsealed roads.

#### 6.7.2.3 Levels of Service

Resident satisfaction monitoring is not split between sealed and unsealed roads. The results for roads overall are applicable.

Access & Transport AMP 2024-33 | 171



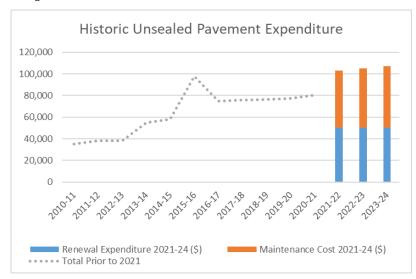
LONG TI	LONG TERM PLAN CUSTOMER LEVELS OF SERVICE (Some noted below under ONRC measures)							
#	Measure	Target	Results	Tren	Performanc			
				d	е			
AT001	Residents that agree that the existing	70% (TBC)	81% 2019/20		Target Not			
	transport system allows for easy	(80%	74% 2020/21		Met			
	movement around the district	during	67% 2021/22					
		21/24 LTP)	57% 2022/23					
AT005	Residents that are satisfied with the	70%	77% 2019/20		Target Not			
	condition of roads		73% 2020/21		Met			
			66% 2021/22					
			55% 2022/23					

#### 6.7.2.4 Budgets and Waka Kotahi (NZTA) funding

The standard FAR applies to unseal road maintenance and renewal works.

#### 6.7.2.5 Historical Expenditures

The expenditure on traffic services over the last fourteen years is summarised below. The change in 2015/16 reflects investment following a storm event, further weather damage, and commitment to providing a safe access.



#### 6.7.2.6 Network Growth

There is typically no increase in the unsealed network due to subdivision or other developments.

There has been no change in the extend of unsealed road. Should Otaki Gorge road be closed or reconfigured due to the Blue Bluff slip this will change the amount of unsealed road.

#### 6.7.2.7 Physical Parameters

#### **Description**

The unsealed roads have developed from tracks to roads, with the vegetation removed and metal laid over a long period of time. The standards and requirements in terms of width and strength have improved over time.

Access & Transport AMP 2024-33 | 172



#### Quantity

The RAMM inventory records show Council has approximately 13km of unsealed roads as summarised below.

Road	Start	End	Sub-Area	Length (m)
MANGAONE NORTH RD	1957	3829	RURAL - HAUTERE	1872
MAUNGAKOTUKUTUKU RD	3514	6539	RURAL - MAUNGAKOTUKUTUKU	3025
OTAKI GORGE RD	9743	10468	RURAL - OTAKI GORGE	725
OTAKI GORGE RD	12981	14365	RURAL - OTAKI GORGE	1384
OTAKI GORGE RD	14365	16241	RURAL - OTAKI GORGE	1876
WAIMANU RD (OTAKI)	0	651	RURAL - EAST OTAKI	651
WAIRONGOMAI RD	1955	3322	RURAL - NORTH OTAKI	1367
WATERFALL RD	486	1508	RURAL - MAUNGAKOTUKUTUKU	1022
				11922

#### Valuation

The full replacement value of the minor structure assets as at 30th June 2023 is shown in the table below. All road markings are repainted on an annual basis, and therefore the annual depreciation is equivalent to the full replacement value.

Valuation	Replacement Cost	Depreciated Replacement Cost	Annual Depreciation
30-Jun-23	\$840,885	\$733,526	\$53,679

#### 6.7.2.8 Asset Capacity and Demand Management

All unsealed roads in the network have low volumes of traffic. There has been some increase in traffic on Waterfall Road where users have sought an alternative the SH1 when congested. This has not been encouraged and despite some requests Council intends to leave the road at its current classification and unsealed. This has eased with Transmission Gully opening, however we do see peaks when there is disruption in the general area.

#### 6.7.2.9 Asset Age and Condition

The unsealed road asset is in a reasonable but constantly changing condition depending on traffic use, weather, position in its maintenance cycle etc. Routine maintenance work is undertaken to limit defects and to provide an acceptable level of service. The condition is monitored by Council engineers, contractors and consultant inspections, as well as via complaints and queries from users.

Formal RAMM assessment of condition rating or roughness is not undertaken on unsealed roads.

#### 6.7.2.10 Data Confidence Level

Inventory data quality is regarded as reliable with data collected for an stored in RAMM, and there are records from grading operations and maintenance metalling.

The Te Ringa Maimoa 2022/23 Data Quality report has limited unsealed data information, however the detail is highly accurate.



#### 6.7.2.11 Risk and Critical Assets

None of the unsealed network has been identified as critical in terms of the overall (Waka Kotahi (NZTA) & KCDC network)

Access & Transport AMP 2024-33 | 173



### 6.7.3 Management and Options

#### 6.7.3.1 Maintenance Plan and Options

Maintenance is the on-going day-to-day work activity required to keep assets serviceable and prevent premature deterioration or failure.

The maintenance strategy has been developed to achieve cost-effective maintenance to maintain the assets at the intended level of service.

With an unsealed road, deterioration can sometimes be very rapid – e.g. a road that was adequate when used by the occasional heavy vehicle becoming impassable when new logging or dairy activity take place along it. In these circumstances the strategy must be flexible and responsive to change.

The current contract details are:

Works Description	Road Maintenance 2018 – 2021
Contract Number	2018/C178
Let	July 2018
Expires	30 June 2021 + 2 year extension + 2 year extension (expires
	30 June 2025)
Contractor	Higgins Contractors

In line with outsourcing requirements, Council has determined that the most effective way to provide satisfactory unsealed roads is through the term maintenance contract.

The contractor has to perform the following day to day maintenance works on gravel roads:

- Grading and reshaping of the road
- Providing and laying maintenance gravel
- Vegetation control
- Marker post and drainage maintenance
- Repairing potholes
- Digging out soft points
- Clearing slips, dropouts and washouts
- In situ stabilisation works

#### Contractor's performance monitoring

The Council needs to be vigilant in monitoring the performance of contractors to ensure that performance standards are continually achieved. The Council's inspection programme therefore becomes a crucial element in managing these assets. The Council audits the contractor's performance by inspection and measurement of the contractor's work and the access and transport assets.

#### Performance criteria

- Requirements of the specification are met
- A pro-active maintenance programme is implemented
- Inspection is undertaken at frequent enough intervals to ensure that the requirements of the specification are met
- Repair works are programmed and completed in a timely manner
- The carriageway, feather edges and tapers retain their widths and cross-fall to ensure good drainage is maintained
- No reasonable complaints are received by the engineer concerning the contractor's operation or condition of the road during the contract period

Access & Transport AMP 2024-33 | 174



- During maintenance operations the carriageway shall remain passable to all traffic that would normally be expected to use that road
- There is no debris within the carriageway, which compromises the safety of the road users or threatens the integrity of the pavement
- There is no drift of chemicals during spraying and there is minimum damage to the environment
- Visibility of traffic signs and roadside furniture is not hindered by vegetation

#### 6.7.3.2 Renewal/ Replacement Plan

Gravel loss is to be expected, and replacement is required at a different frequency and depth depending on the site.

Grading is generally undertaken four times per year, with a section or metalling also completed.

Council typically renews the running/wearing course every three years, with the basecourse renewal required where loss or damage to the pavement is evident.

Maintenance options are limited for this activity and tied in with the renewal approach – these are discussed under renewals.

Essentially valid options are:

- 1. Continue programme of combined maintenance and renewal (remetalling) there are variations on this option
- 2. Upgrade roads to a high (unsealed road) standard and minimise maintenance
- 3. Upgrade roads to a non-permanent sealed surface (e/g/ Otta Seal)
- 4. Upgrade roads to a sealed road
- 5. Limit traffic on unsealed roads.

**Option 1** is the status quo and is regarded as the most practicable option, there are opportunities to optimise the metalling programme through quantity and composition.

Different materials have different performance qualities and are subject the different result depending on traffic and weather

**Option 2** would involve a capital improvement to bring all roads up to a standard where maintenance could be minimised. This option is not deemed to be beneficial from a level of service perspective or financially advantageous.

**Option 3** could be used where there are problematic portions of the unsealed network, but not the entire network. This option has not been identified as appropriate for any specific sites.

#### 6.7.3.3 Asset Creation Plan

#### New assets

There is no intention to construct any new unsealed roads, nor are unsealed roads accepted as vested assets through development.

### Minor Improvement Works

Minor improvement projects are defined under Waka Kotahi's (NZTA) work categories and are generally small safety projects that are typically remedial projects identified by crash reduction studies. The following minor safety works are generally undertaken on unsealed roads:

Small, isolated geometric improvements

Access & Transport AMP 2024-33 | 175



- Provision of guard railing
- Sight benching

#### 6.7.3.4 Disposal Plan

Council has no current plans to dispose of unsealed road assets.

#### 6.7.3.5 The Case for Change

Levels of service and customer satisfaction surveys do not suggest there is a real a level of service performance gap.

Any change would be around optimising the level of investment.

#### 6.7.3.6 Assessment of Options

Given the relatively small level of investment, a structured assessment of options has not been undertaken.

The impact of the Blue Bluff on the use of Otaki Gorge Road is subject to a separate business case which will affect a large portion of the unsealed network.

Heavy traffic can cause rapid deterioration of condition . Forestry operations are a risk that needs more understanding. A heavy traffic routes/forestry report is to be sort in the 2024-27 period (funded from WC151/1791J Network Management)

#### 6.7.3.7 Preferred Programme

The unsealed roads require routine maintenance to maintain the required level of service. Annual operating expenditure for this asset has stayed static over the last few years, and expenditure is forecast to continue at current levels in the future, as detailed in the table below.

There is currently no major upgrading programme planned for this asset in the next ten years.

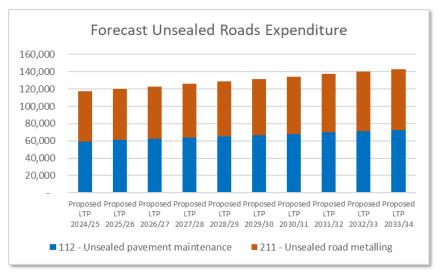
WC	Action/ Work	Driver for Action	Estimated Cost	Scheduled For	How this will be funded
112	Unsealed pavement maintenance	Inspection, programme, complaints	\$60k to \$62k	Per annum	Rates and FAR
211	Unsealed road metalling	Inspection programme, forward works programme	\$58k to \$60k	Per annum	Depreciation and FAR

#### 6.7.3.8 Financial Forecast

The following chart summarises this year and the next ten year forecast.

Access & Transport AMP 2024-33 | 176





# 6.7.4 New Improvement Items

#### Improvement Item 2024.6.4

Assess long term management options for Otaki Gorge Road



#### Bridges, walls and other structures 6.8

#### The assets

34 Bridges, total length 520m 25 large culverts, total length 205m Predominantly concrete construction, with some corrugated steel culverts

\$52 million replacement cost 265 Retaining walls, 6.0km total length \$17 million replacement cost

Railings/Barriers, 7.8km total length \$1.8 million replacement cost Total activity value \$70 million



#### **Typical Spend**

WC 114: Structures maintenance \$83k (pa) 1% of Continuous Programme (MOR)

WC 215: Structures component replacements \$93k (pa) 1% of Continuous Programme (MOR)

WC 216: Structure renewal

#### **Key Users**

All road users

Particular requirements for heavy vehicles (50MAX,

#### **Customer View**

Resident satisfaction measured as part of overall satisfaction with roads.

Resident satisfaction has been declining for three years.

**Relevant Problem Statements** 

# PROBLEM

#### Change needed Council objectives Supports road safety Nothing specific Resilience of network reliant on structures Provide connectivity

# **Issues and Options**

Bring revocation assets into ownership and management (see section 16)

#### Wider Objectives

Supports road safety

#### Preferred approach

Continue current maintenance programme and renewals as planned to replace weight restricted or deteriorated assets

Improve data held for walls and develop more structured management plans

Access & Transport AMP 2024-33 | 178



#### 6.8.1 Introduction

This activity covers all bridges and large culverts along the Kāpiti Coast District local network that the Council owns and maintains. There are some private bridges providing property access which are not Council owned or managed.

New Zealand Transport Authority (Waka Kotahi - NZTA) defines a bridge as a road structure that has a waterway area of greater than 3.4m2, and so will include some large single or double-barrel culverts and arch culvert structures. Waka Kotahi (NZTA) currently part funds maintenance and renewal of bridges as part of the access and transport infrastructure, and requires the bridges to be maintained in accordance with the guidance contained in the Waka Kotahi (NZTA) Bridge Manual.

Council has adopted the Waka Kotahi (NZTA) definition on the roading network. Council owns and is responsible for a number of other bridges on the CWB network and in parks and reserves, but the maintenance and renewal strategies for these are contained in the Parks Asset Management Plan and these assets are not the responsibility of the Access and Transport team.

Also located on the Council Network is Bridge 12 known as Roaring Meg on the Otaki Gorge Road, and this high risk flooding structure is both owned and maintained by the Greater Wellington Regional Council.



#### 6.8.2 Context

Council has established objectives and levels of service for bridges as part of the overall access and transport activity. This is summarised below, while the development process for levels of service is explained in AMP Section LoS.

#### 6.8.2.1 Outcomes sought

The objectives for bridges and wall are consistent with the access and transport activity. Access, safety and resilience are key factors for road users

#### Policies and standards

There are NZTA specifications for inspection (routine and seismic) as well as construction.

Council aims to provide a surfacing and pavement structure that is appropriate to the location and function of the road.

Access & Transport AMP 2024-33 | 179



#### **Design Standards**

All new structures are designed to either HN-HO-72 or 0.85HN (Class 1) standards. Where there is no documentation available, it has been assumed that bridges have been designed to the approved NZ code of practice of the day.

#### 6.8.2.2 Key Users

Bridges are key for access. All road users benefit from bridges – whether this be in motor vehicles or via other modes. Bridges are also used by other utilities to connect cables/pipes.

Walls enable the use of the roading corridor, generally supporting the carriageway/footpath, or land on the uphill side. All road users benefit from this.

#### 6.8.2.3 Resident Opinion Surveys

There is no direct measure for bridges.

#### 6.8.2.4 Levels of Service

There are no performance measure that are directly related to bridge or structures within the Long-Term Plan framework for Access and Transport.

Bridges are subject to comprehensive design and monitoring programmes. Inspections are undertaken to ascertain general maintenance as well as deterioration affecting structural performance. These are effectively technical level of measure measures.

#### 6.8.2.5 Benchmarking

In general bridges are maintained in perpetuity, with the necessary work undertaken to keep them in service, or upgrade them to meet demand. This varies considerably from bridge to bridge and between road controlling authorities, so cost efficiency benchmarking is of little value.

The provision of bridges is key to network connectivity and road user efficiency. This is reflected through the ONRC accessibility performance measures./ The measures identifies the amount of network that cannot be accessed by heavy vehicles, and is therefore worthy of comparative analysis.

Posted bridges/large culverts:

- Ames Street Paekakariki (culvert)
- Otaki Gorge Road
- Waihoanga Road (suspension bridge)
- Kāpiti Road Culvert (due for replacement)
- Marine Parade Paraparaumu beach culvert (due for replacement)
- Ngarara Road, Waikanae
- Matatua Road , Raumati Beach (culvert programmed for replacement)

#### 6.8.2.6 Budgets and Waka Kotahi (NZTA) funding

Bridge maintenance and component renewal costs are funded at the normal finial assistance rate.

Bridge replacement assistance levels vary and are subject to approval through the Regional and National Land Transport programme processes. The following bridges/large culverts have been identified for funding approval.

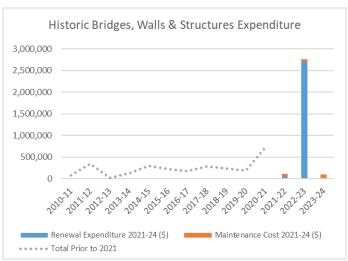
Bridge	Road	Location	Replacement	Bridge Type
CULVERT 47 - MARINE PARADE	MARINE PARADE	36	2025/26	Culvert >3.4m2
CULVERT 48 - KAPITI RD	KAPITI RD	3630	2025/26	Culvert >3.4m2
CULVERT 31 - MATATUA RD	MATATUA RD	296	2039/40	Culvert >3.4m2

Access & Transport AMP 2024-33 | 180



#### 6.8.2.7 Historical Expenditures

The expenditure on traffic services over the last fourteen years is summarised below. The changes over time reflect damage repairs from vehicles or storm events.



#### 6.8.2.8 Physical Parameters

#### **Bridges**

#### Description

Council's roading network includes 59 structures classed as bridges that include both bridges and large culverts.

The portfolio of bridges across the district is varied, with a range of age, materials and size. The oldest bridge recorded in the bridge database was constructed in 1923. 15 of the bridges are more than 50 years old. There are no cattle underpasses in the district.

#### Quantity

These structures are constructed from a number of materials in different styles, as summarised below. The data was sourced from the bridge information contained in RAMM.

Bridge Type	Number	Centreline Length (m)
Comp Beam and Slab	15	208
Culvert	25	74
Non Comp Beam & Slab	4	79
Other - Foot	2	
Precast Units - Slab	1	11
Precast Units Only	10	152
Suspension	1	69
Grand Total	59	593

#### **Asset Valuation**

The full replacement value of the bridges and large culvert assets as at 30th June 2023 is \$53m. This excludes bridges that are associated with the new roads at PP2O or the Revocation routes.

Access & Transport AMP 2024-33 | 181



Vesting of bridges because of subdivision is relatively limited, so the asset portfolio is reasonably generally steady.

The revocation will bridge a major step in asset quantity to KCDC. The expected bridges for handover are shown in the table below. The total length of 510m is similar to our current bridge network length. The typical size of these structures is larger than our bridge stock.

Road	RP	Length	R/U	Name	Bridge Type	Age
PP2O Local Road	s (handing	over 202	3/24)			
GEAR RD	767	4	Rural		Culvert	4
SCHOOL RD	54	4	Rural		Culvert	4
SCHOOL RD	362	4	Rural		Culvert	3
SCHOOL RD	522	6	Rural		Culvert	5
SCHOOL RD	700	6	Rural		Culvert	3
JIM WINIATA	166	5	Rural		Culvert	3
		29				
PP2O (** handing	g over 202	23/24, ren	nainder e	st 2028)		
01P-0995/03.70	3998	28	Rural	WAITOHU STREAM BRIDGE	Concrete Reinforced	84
01P-0995/03.70	4776	41	Urban	TH OTAKI MAIN RD UNDERPASS	Concrete Super T beams	5
01P-0995/03.70	4835	20	Urban	NTH OTAKI RAIL OVERPASS	Concrete Super T beams	5
01P-0995/03.70	6724	210	Rural	OTAKI RIVER BRIDGE	Concrete Reinforced	68
01P-0995/03.70	10416	5	Rural	MANGAONE STREAM BRIDGE	Concrete Reinforced	79
01P-0995/03.70	10675	3	Rural	MANGAONE OVERFLOW CULVERT	Conc Culv Box Single	52
		307				
M2PP (handing o	ver 2023/	24)				
01K-1013	4194	81	Rural	WAIKANAE RIVER BRIDGE	Concrete Reinforced	60
01K-1013	6579	4	Rural	MUAUPOKO ARMCO CULVERT	Conc Culv pipe Singl	66
01K-1023	0	39	Rural	PARAPARAUMU RAIL OVERBRIDGE	Concrete U Beams	85
01K-1023	998	8	Rural	WHAREMAUKU STREAM CULVERT	Conc Culv Box Multi	50
				PARAPARAUMU PEDESTRIAN		
01K-1023	809	5	Rural	SUBWAY	Conc Culv Box Single	25
01K-1013/09.85	10250	37	Rural	LINDALE OVERBRIDGE	Conc Double H/Core	19
		174				

(Source - NZTA RAMM)

#### Walls

The integrity and safety of roads can be compromised by slips or dropouts which are typically associated with emergency events. Walls providing vital access, or the reinstatement of traffic services are funded from the Emergency funding group.

Monitoring the condition of walls is an important element to managing these assets, to identify maintenance requirements and end of life for renewals. Planned work on walls is completed within the Structures maintenance, component replacement and renewal funding groups.

New walls are considered for funding through the Low Cost Low Risk programme.



Description

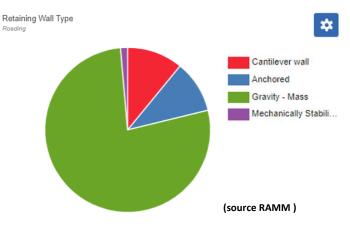
Access & Transport AMP 2024-33 | 182



Council own 265 walls across our network.

The pie chart shows the majority of walls are gravity mass walls. There is a large stock of gravity walls in our urban areas, particularly Raumati and Paekakariki, were walls enabled development in the dune areas. These walls area often old, however remain in reasonable condition.

There is also a significant rural wall stock, which tend are dominated by cantilever type. These walls tend to be installed at very difficult locations in response to land slide or underslips.



#### Valuation

The 2023 valuation of our signage stock is \$17.33m as at 30 June 2023. Note this excludes the Old SH1 signs that are revocated after valuation.

Data quality for walls has improved for urban walls, however our rural walls needs a field validation and update to have confidence of actual location, type, size and condition.

#### **Barriers**

Railings/Barriers, 7.8km total length

There is a major increase in railings and barriers that will be brought into our network from the Revocation and PP2O Local roads. These are all new and in excellent condition.

The full replacement value of the rails assets as at 30th June 2023 was \$1.79m. This excludes the revocation routes.

#### 6.8.2.9 Asset Capacity and Demand Management

#### **Asset Capacity**

The capacity of the bridge assets is considered to be satisfactory for carrying most existing traffic loadings.

A number of different loading standards have been adopted throughout the history of the bridge network. All new structures are designed to either HN-HO-72 or 0.85HN (Class-1) standards where no overloads are expected. Where there is no documentation available, it has been assumed that bridges have been designed to the approved NZ code of practice of the day.

The suspension bridge across the Otaki River (Bridge 14) is currently the only formally "posted" (weight and/or speed restricted) bridge in the network. A posted bridge is considered to have insufficient capacity to carry Class 1 loadings (0.85HN) at normal operating traffic speeds.

The calculations of the loading capacity for each bridge are based on data gained from reviewing the original plans where they are available, and from on-site inspections of the physical condition of the members and the structural integrity of the bridge. The calculations and load recommendations are now stored in the bridge database.

Access & Transport AMP 2024-33 | 183



Bridge No	Bridge Name	Posted Restriction	on	Comment	
		Weight (kg)	%	Speed	
14	Waihoanga	20t Gross and	45	5kph	Needs to be maintained at
	Suspension	6t axles			current posting standard
7	Ngarara Road	26t	60	5kph	65% of Class 1

The Waka Kotahi (NZTA) led programme to manage routes throughout NZ for larger and heavier vehicles (50MAX) has increased the focus on heavy vehicle routes.

From December 2017 45-46t vehicles that met the axle loading criteria have access as of right onto the local roading network, a permit from Council is no longer required. For this reason the bridges on the network have been re-assessed to ensure that the bridges than cannot take this weight are posted as weight restricted. A first assessment was carried out by a consultant put forward by Waka Kotahi (NZTA) using a simple pass or fail method and was peer reviewed by Council's bridge consultant who carry out the annual inspection programme.

The assessment was done in July 2017, leading to the conclusion that 4 bridges should be posted or would require strengthening. These bridges have been posted in December 2017 and the information has been passed on to Waka Kotahi (NZTA). Bridges 29 and 30 were planned for renewal in 19/20 and 20/21 respectively.

Bridge number	Name	Proposed gross posting
13	Otaki Gorge Culvert no 3	92%
29	Kāpiti Rd culvert	86% (renewal planned)
30	Marine Parade culvert	86% (renewal planned)
31	Matatua side culvert	95%

Other bridges needed further investigation as there was insufficient evidence to pass or fail under the simple method :

Bridge number	Name
35	Freemans Road
28	Ames Street
47	Tasman Culvert
50	Ranguiri Road
51	Mahakai Road (dam access)

These investigations were carried out by Council's bridge consultant considering concrete strength and the presence of steel reinforcement. All five bridges were concluded to be able to take the new 'as of right' 45t/46t weights.

Council will consider whether some roads should also be restricted for access of these heavier vehicles and liaise with Waka Kotahi (NZTA) should this be deemed necessary.

Access & Transport AMP 2024-33 | 184



All the assessment information has been passed on to Waka Kotahi (NZTA) to include and update the overweight routes map.

#### 6.8.2.10 Asset Age and Condition

#### Bridge and Large Culvert Age

Bridges are located district-wide and are subject to a range of local climatic conditions. Wet weather conditions have a big effect on the life of timber structures when they are in service. The salty coastal environment also has a big effect on steel Armco culverts, which is now showing up in the number of renewals being required.

A planned programme of bridge inspections is carried out by a specialist consultant Bridge Engineer; again following the guidance contained in the Waka Kotahi (NZTA) S6 (2011) Bridge Inspection Policy. This programme includes a two yearly inspection for each bridge to identify structural faults and outstanding maintenance items; and every third inspection on a bridge is a Detailed or Principal inspection. These Principal inspections look at the bridge in some detail and consider all of the structural elements and their interplay. Any bridges that are deficient are then considered for posting and discussed with the client. Higher risk structures are also inspected on an annual basis following the Bridge Engineer's recommendations.

These inspections provide data which is then input into a planned physical works maintenance programme for the following two years which Council implements. If the inspections reveal further investigation is needed, such as more detailed structural analysis or possible examination of renewal or upgrading options for the structures, this is included in the professional services forward works programme.



#### Mangaone South No1

Image from WSP Inspection report with tag:

Cracking and localised spalling at the pier column had been observed in pervious inspections. Physical works were carried-out in 2022 (alongside the abutment works), which involved concrete patch repairs at this location. These works were completed on 1 June 2022 (date of WSP's site walkover for completed works at the TR abutment and pier column).

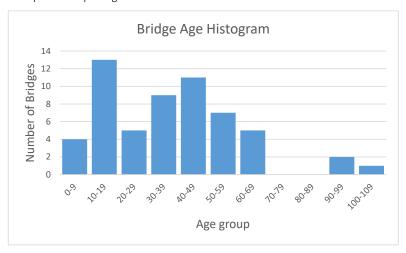
This is an example of the inspection programme being put into practice with remedial works.

A forward works structural replacement programme has been developed and is updated following the completion of each annual inspection programme. This programme then allows for 20yr and 30yr renewal and capex forecasts to be generated.

Access & Transport AMP 2024-33 | 185



The bridge network is in generally good condition due to these regular inspections and maintenance programme. Repairs are generally made before they threaten the integrity of structures. This includes a programme of regular inspections and reactive inspections of the bridge structures and waterways after flood or earthquake events. Where the cost of repairing a structure becomes significant and uneconomic, the option of replacing the structure is considered.



Previously bridge data was stored in separate spread sheets and paper files, but has now been transferred into a bridge inventory within RAMM. This transfer was made as part of an overall programme to improve security of data being used to manage key Council access and transport assets, and to make the data more accessible to all users. All bridge inspection reports are annually uploaded to RAMM as a multimedia file attached to each asset.

#### **Retaining Wall Age**

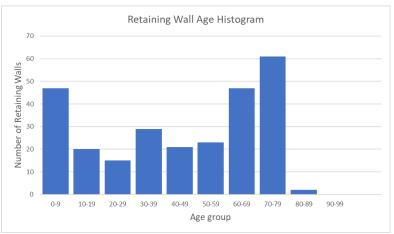
Retaining walls vary in age with the majority being 60 to 80 years old. Often the age is associate with the development of the area.

There is also a cluster of Walls aged between 0-9 years. These are dominated by rural walls on high risk alignments that have been required or replaced due to slip and dropout events.



Access & Transport AMP 2024-33 | 186





(Source KCDC RAMM)

#### Bridge and large culvert Condition

Due to the regular inspection programme, condition information is robust. (Source RAMM)  $\,$ 

The two bridges in Poor/ V.Poor are on the renewal programme for 2025/26. They are:

- CULVERT 47 MARINE PARADE
- CULVERT 48 KAPITI RD

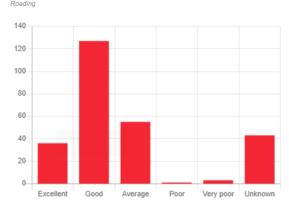


#### **Retaining Wall Condition**

Our condition data is developing from earlier periods where most walls were unknown. 95% of urban walls are now condition rated, however more work is required on the rural walls.

There are four walls with a rating of poor or v.poor. Two are programmed for replacement in the next three years. The other two will be monitored.





Access & Transport AMP 2024-33 | 187



#### 6.8.2.11 Data Confidence Level

Data confidence is high for bridges as they are inspected regularly. The confidence relable for walls and rails. The Infrastructure Valuation (30/6/2023) notes bridge, wall and rail data sourced from RAMM as:

A - Highly ReliableBridges and Bridge Culverts
 B - Reliable Retaining Walls

• A-B – Reliable Railings

The REG 2022/23 Data Quality report does not define bridge asset metrics, however do for retaining walls and railings. All available metrics met expected standard.

Cat	Sub	Ref <sup>1</sup>	Metric Description	Dimension	Importance	ONRC Customer Outcome	ONRC Metric	Result	Trend <sup>2</sup>	Maj or Issues	Minor Issues	Expect Standa	ed ard
		RETAIN3	Retaining wall data valid	Accuracy	Moderate			98.1	-	65 70	80	90	100
	Structures	RETAIN5	Retaining Wall assets known	Completeness	Moderate			99.6	-	50 60		80	100
		RETAIN2	Retaining wall asset records maintained	Timeliness	Low			13.3	<b>A</b>	5 20	40	60	80
	ties & Streetli	RAIL2	Railing asset records maintained	Timeliness	Low			25.2	-	0	10	20 3	30 35
	Traffic Facilities	RAIL31	Railing data valid	Accuracy	Low			98.9	_	95 96		98	100
		RAIL41	Railing assets known	Completeness	Low			100.0	-	10	50		100

#### 6.8.2.12 Risk and Critical Assets

Bridges are key assets when considering critical routes and lifelines.

A formal assessment of critical assets has been undertaken as described in section 7.3.

The bridges identified from the assessment include:

Road	Bridge	Alternative (if any)	Options to consider		

Table to be updated once criticality analysis has been completed



#### 6.8.3 Management and Options

#### 6.8.3.1 Maintenance Plan and Options

Routine maintenance inspections are carried out by the Road Maintenance Contractor under the existing contract. This includes a programme of regular inspections and reactive inspections of the bridge structures and waterways after flood or earthquake events.

Planned maintenance programmes are prepared as a result of work identified during the annual bridge inspection programme with subsequent maintenance works programmed and carried out by the Road Maintenance Contractor. Structural Maintenance programmes are compiled for action by a specialist contractor and procured in line with the procurement strategy.

The current contract details are:

Works Description	Road Maintenance 2018 – 2021
Contract Number	2018/C178
Let	July 2018 (3+2+2 separable portions)
Expires	Expires 30 June 2025
Contractor	Higgins Contractors

Maintenance is the on-going day-to-day work activity required to keep assets serviceable, prevent premature deterioration or failure and deliver on expected customer levels of service. Maintenance of bridges and other structures includes:

- Inspections for damage or failure
- Repair of uneven surfaces
- Repair of damaged sections
- Vegetation control
- Removal of graffiti

Maintenance options are limited for this activity. Essentially valid options are:

- Construct and plan only for replacement at the end of their useful life
- Undertake inspections to identify any faults
- Undertake maintenance at selected sites when damage has occurred, or the condition is below a standard acceptable to the community.

A combination of Options 2 and 3 is the status quo and is regarded as the most practicable option. This limits repairs and considers Council's duty of care to users.

#### 6.8.3.2 Renewal/ Replacement Plan

#### Bridge Replacements 2024-27

Two large culverts (>3.4m2) have been identified for replacement due to structural deterioration with current condition ratings of poor and v.poor. They are:

Bridge	Road	Location	Replacement	Bridge Type
CULVERT 47 - MARINE				
PARADE	MARINE PARADE	36	2025/26	Culvert >3.4m2
CULVERT 48 - KAPITI RD	KAPITI RD	3630	2025/26	Culvert >3.4m2

Access & Transport AMP 2024-33 | 189







Image or Culv 47 - Marine Parade inlet

Aerial layout of the two culverts

The culverts provide access over the Tikotu Stream and are in the coastal environment, with the inlet of the Marine Parade Culvert only 100m from the high tide line. The culverts are exposed to storm surge during on-shore events, along with flood pressure during high rain.

The Condition Assessment Reports identify corrosion and section loss of the armco steel culverts has reached a level where failure is imminent. Engineers report supports this opinion, as per Willie Mandeno (materials and corrosion engineer) dated 8 June 2022.

Constructability of these culverts is proving to be a challenge. Among resource consent requires is the need to retain fish passage, however the tight confines make traditional cut-and-cover replacement not possible. Alternative construction methodology are currently being workshopped. The impact of the constructability has significantly increased our budget requirement from earlier estimates.

The current programme is for design to be finalised and procurement underway in 2024/25 for physical works in 2025/26.

#### Retaining Wall Replacements 2024/27

Two walls have been identified as in Poor/V.Poor condition and asset integrity under threat.

These walls are:

# Wall ID113 - Ngarara Rd RP2921 - Gravity Wall (40m x 2m)

 The existing gravity wall is 2-3 layers of 44 gallon drums to hold up the sand dune.
 The drums are rotten and starting to fall out. Replacement required to keep the sand dune off road.



Access & Transport AMP 2024-33 | 190



# Wall ID38 - Glen Rd RP39 - pile and boards (15m x 1.2m)

 Existing cantilever post and board wall is rotating. The gap in the footpath is increasing over time and sagging. The handrail has developed a noticeable lean. The wall is above a house.



#### Bridge Replacement Programme

Potential renewals are identified through the different inspection programmes. Where a structure can no longer be economically maintained or upgraded to carry Class-1 loads, the structure may be upgraded. Factors such as the number of properties served, the availability of an alternative route and the numbers of heavy vehicles carried are taken into account in determining the need to upgrade or replace the structure

Network hierarchy and asset criticality are factors in the prioritisation of the bridge renewal programme.

The following table shows the indicative forward bridge replacement programme which has been prepared from the data obtained from annual visual condition rating and inspection of the bridges.

Costs have been projected to the year before replacement is due to cover design and consenting phase and the following year the physical renewal work (inflation is included).

Access & Transport AMP 2024-33 | 191





Bridge ID	Bridge Name	displacement	Cundition & RUL	Condition	Condition General	Condition Sub	Condition Super	Condition Vaterway	Remaining Life	Notes
ш			Arrerrmen t Tear		inc	SUD	Super	inc scour	Life	
1	Ngatiawa	0.07	22-23	Very Good	Good	Very Good	Very Good	Very Good	>40	
2	Mangaone South No.1	0.34	22-23	Good	Good	Good	Very Good	Good	>40	
3	Mangaone South No.2	4.17	22-23	Very Good	Good	Veru Good	Very Good	Very Good	>40	
4	Mangaone South No.3	4.25	22-23	Very Good	Good	Very Good	Very Good	Very Good	>40	
6	Pharazyns	0.24	22-23	Very Good	Good	Very Good	Good	Very Good	>40	
8	Mangaone North No.1	0.882	22-23	Very Good	Very Good	Excellent	Very Good	Very Good	>40	
9	Mangaone North No.2	1.023	22-23	Excellent	Very Good	Excellent	Very Good	Excellent	>40	
10	Hautere Cross	1.849	22-23	Very Good	Good	Very Good	Good	Good	20-40	Inspection every year due to scour
15	Te Horo Beach No.1	1.623	22-23	Very Good	Good	Very Good	Good	Good	20-40	inspection energy grant due to 2004.
16	Te Horo Beach No.2	2.694	22-23	Very Good	Good	Very Good	Very Good	Very Good	>40	
17	Sims	0.01	22-23	Very Good	Good	Very Good	Good	Very Good	20-40	
19	Waitohu Valley	0.969	22-23	Good	Good	Very Good	Very Good	Very Good	>40	
21	Convent Road	0.854	22-23	Very Good	Very Good	Very Good	Good	Very Good	20-40	
22	Akatarawa Road	0.618	22-23	Very Good	Good	Very Good	Very Good	Very Good	>40	
23	Reikorangi Road	3.053	22-23	Very Good	Good	Very Good	Good	Very Good	>40	Next inspection ideally after dry weather to access scour
24	Alexander Road	0.295	22-23	Very Good	Very Good	Very Good	Good	Good	>40	Track inspection racing area by reaction to access social
25	Epiha Street	0.252	22-23	Good	Average	Very Good	Very Good	Good	20-40	
26	Matatua	0.22	22-23	Excellent	Excellent	Excellent	Very Good	Excellent	>40	
27	Mazengarb Road	1.003	22-23	Very Good	Very Good	Very Good	Very Good	Good	>40	
29	Kapiti Culvert	3.583	22-23	Average	Good	Average	Average	Good	<10	Continue to monitor for deterioration on a yearly bases until replacement
30	Marine Parade Culvert	0.046	22-23	Average	Good	Average	Average	Good	<10	Continue to monitor for deterioration on a yearly bases until replacement
31	Matatua Side Culvert	0.220	22-23	Average	Very Good	Average	Average	Very Good	10-20	Culvert scheduled to be removed in next 20 years.
33	Woodleigh	0.024	22-23	Good	Good	Very Good	Very Good	Good	>40	Conservation and the second and the
34	Waterworks	3.080	22-23	Very Good	Good	Very Good	Good	Very Good	>40	
36	Howarth Bridge	0.482	22-23	Good	Good	Good	Very Good	Good	20-40	
38	Otaki Gorge Culvert No.2	6.851	22-23	Good	Very Good	Good	Good	Good	20-40	Recommended to be inspected following spells of dry weather to inspect
43	Pukenamu Culvert	1.909	22-23	Good	Very Good	Good	Good	Very Good	20-40	recommended to be inspected following spens of any weather to inspect
44	Bennetts Culvert No.1	0.100	22-23	Very Good	Good	Very Good	Very Good	Very Good	>40	
45	Waterfall/Emerald Glen	0.900	22-23	Very Good	Very Good	Very Good	Very Good	Good	20-40	
47	Tasman Culvert	1.580	22-23	Very Good	Good	Very Good	Very Good	Good	20-40	
48	Riwai Culvert	0.290	22-23	Good	Very Good	Good	Good	Very Good	20-40	
52	Rangiora Road Culvert	0.650	22-23	Very Good	Good	Very Good	Very Good	Excellent	>40	
53	David Street	0.296	22-23	Excellent	Excellent	Excellent	Very Good	Excellent	>40	
54	Mahia Lane ROW 2 Bridge	0.006	22-23	Very Good	Very Good	Excellent	Very Good	Very Good	>40	
55	Maurice 2 Bridge	0.028	22-23	Excellent	Very Good	Excellent	Excellent	Excellent	>40	
56	Southern Bridge	1.896	22-23	Excellent	Very Good	Excellent	Very Good	Excellent	>40	
57	Waimeha	0.063	22-23	Excellent	Very Good	Excellent	Very Good	Very Good	>40	
C15	Mangaone South Road	3,440	22-23	Very Good	Very Good	Very Good	Very Good	Good	20-40	Concrete lining undertaken return to standard programme
C27	Paekakariki Hill Road (523)	0.227	22-23	Good	Good	Good	Good	Good	<10	Only inspect if planned invert repairs are not carried out. Access from below.
V100	Matatua Road Retaining	0.937	22-23	Very Good	Very Good	Very Good	Veru Good	Very Good	20-40	any map - 1 m p - 2 me a me en repaire are mes came a cast i 100 c



#### 6.8.3.3 Asset Creation Plan

There are no new bridges, walls or other structures proposed for the local roading network. Some new bridges, walls or other structures are installed as part of new developments at the developer's expense. A quality control process is in place before these new assets are vested in Council.

As part of the State Highway revocation process there are numerous assets that are scheduled to become council assets. This is discussed earlier in this section

#### 6.8.3.4 Disposal Plan

There are currently no plans to dispose of bridges , walls or other structure assets.

#### 6.8.3.5 The Case for Change

Levels of service and customer satisfaction surveys do not reveal a level of service performance gap. There are some upgrades which will coincide with renewals to address weight restriction.

However, the asset is aging, and declining condition is a concern. The condition survey programme will provide a sound view of the asset condition and enable prioritisation of the renewal programme and inform the maintenance programme of what assets need to be kept in service for longer.

#### 6.8.3.6 Assessment of Options

Optioneering has not been undertaken in a formal manner.

Condition and performance are regularly monitored and an overall assessment of network performance will be undertaken once the expressway extensions are complete and traffic demands are better understood.

Most of the Strategic Response Option Groups appear relevant, but in reality the options are limited.

Using policy would typically limit the use of a bridge. This is occurring at the upper and lower end of the scale – with 50MAX and HPMVs driver higher requirements and some upgrades/renewals. At this lower end there are restricted (posted) bridges which limit use. Where there are alternative routes available this may be satisfactory

The main approach used is risk based. This is appropriate given the dire consequences of asset failure. Inspection to ascertain condition and capacity to develop a long term programme is favoured.

The maintenance and renewal programme will be refined year on year as condition survey results become available.

Options for walls will be considered once asset data collection is complete.

#### 6.8.3.7 Preferred Programme

Action/ Work	Driver for Action	Estimated Cost	Scheduled For	How this will be funded
WC 114: Structures	Results from inspection programme	\$0.082m to \$0.084m	Each year	Rates and FAR
maintenance				

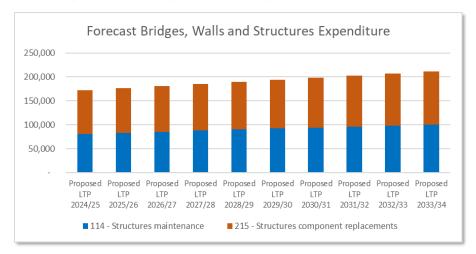
Access & Transport AMP 2024-33 | 193



WC 215: Structures component replacements	Warn components and protective actions	\$0.122 to \$0.125m	Each year	Depreciation and FAR
WC 216: Bridge	Bridge 47 Marine Parade - End of Life	\$2.21 m	Design 24/25 Construct 25/26	Depreciation and FAR
and structures renewals	Bridge 48 Kapiti Rd - End of Life	\$2.21 m	Design 24/25 Construct 25/26	Depreciation and FAR
	Retaining walls x 2 End of Life	\$0.304 m	Both walls in 26/27	Depreciation and FAR

#### 6.8.3.8 Financial Forecast

The following chart summarises this year and the next ten year forecast. The renewal programme is subject to regular review following the inspection programme.



#### Step change for this LTP

Bridge and Structure components has an \$75k allowance annually for guardrail replacement – several bridge has fish tail terminals which are not fit for purpose.

#### Step change for this LTP

The inclusion of Kapiti Culvert project (2x major culverts >3.4m2) adds \$4.88m over 2024-2026.

This makes up a 12% of the MOR forecast for the 2024-27 period.

Access & Transport AMP 2024-33 | 194



#### 6.8.4 New Improvement items

Improvement item 2024.6.5

Add bridge limits to Council's website

Improvement item 2024.6.6

Continue to improve data set for retaining walls with focus on rural walls.

Access & Transport AMP 2024-33 | 195



# 6.9 Resilience Projects

#### 6.9.1 Introduction

This work category provides for non-routine work to increase the resilience of the existing road network (including roads, road structures and eligible walking and cycling facilities). This work category also provides for non-routine work to minimise the threat of road closure from natural phenomena.

Our goal is to reduce our risks from the harmful effects of climate change (like sea-level rise, more intense extreme weather events.

#### 6.9.2 Resilience Investigation and Pipeline

In the 2024-27 period, we have requested additional network management funding (WC 151) to commission the development of a geohazard register for our KCDC transport network.

The objective is to develop a framework around recording 'Geological Threat' sites to understand more systematically the number of sites of concern, have them risk rated to determine if they require treatment, and have them monitored at a regular interval like what is done for other assets.

The inspection is to include:

- Natural hazards e.g. significant landslides, or areas of instability such as overslips (soil failures, rockfalls), underslips (dropouts), river scour, erosion, ground settlement, etc.
- Geotechnical assets e.g. bespoke retaining walls, rockfall netting, areas of ground improvement. The above excludes existing structures, such as walls, bridges, culverts as these are managed through our structures inspection and works programme.

The outcome of geohazard register is ongoing hazard monitoring regime and consideration of high-risk sites for resilience projects.

In the interim, we have two areas of high concern relating to qualifying activities, which are describe in the resilience projects below.

#### 6.9.3 Resilience Projects

#### 6.9.3.1 Access to Te Horo Beach

Te Horo Beach Road from Pukenamu Road to the Te Horo Beach community is a critical link as there is no alternative route. This link runs parallel with the Mangaone Stream and is prone to flooding, which regularly closes the community off.

Access & Transport AMP 2024-33 | 196



The diagram below shows the site layout:



The links below gives more background information on the site:

- Te Horo Beach Rd flood mitigation needed to safeguard homes access NZ Herald
- <u>Te Horo coastal hazards Kāpiti Coast District Council (kapiticoast.govt.nz)</u>

Image of flooding from Dec 2021



Part A – Te Horo Beach Rd, Culv #3084 - Renewal

The culvert at the end of Jewel Creek (alternative name to Pukenamu Drain is inadequate during high flow condition and contributes to significant flooding of land upstream. We have a report that supports increasing the size from dia 1050m to dia 1600m.

Access & Transport AMP 2024-33 | 197



Flooding does not close the road or cause damage to the culvert, therefore this part of the project is included under WC 213 Drainage renewal (not resilience) it is noted here to make connection between the projects so impact of works can considered together.

Due to the complexity of the site the intent in the 2024-27 period is limited to investigate, work with GWRC to model effects, design and gain consent for works. Pending successful project development, construction will be in the 2027-30 period.

Part B – Te Horo Beach Road lift (to mitigate flooding events)

Te Horo Beach Rd, west of Pukenamu Road – Resilience/Pavement Upgrade

The Mangaone Stream overtops Te Horo Road at a number of locations on Te Horo Beach Road during high flow. There is one location, to the west of Pukenamu Road, that floods to a depth that causes the road to be closed. In Dec 2021 the road was closed for 4 days as the water did not recede.

Road closures affects the To Horo Beach community as there is no alternative access.

The flooding depth peaked at around 500mm (rough order estimate). Unconfirmed observations suggested that at peak height the water flows overland to the north toward the Otaki river.

Raising the road by approximate 500mm with a heavy metal build-up would by a solution.

Raising the road is likely to have an impact on the Mangaone Stream during high flow, with associated impacts to the paddock to the south. This paddock area appears to act as a natural attenuation area, but also needs to be able to release afterward. Working with Regional Council and modelling is requirement to move this project forward. Similarly, the adjacent landowner would also be directly affected. A resource consent may also be required.

There is a dia 225mm culvert under the road in this area which may need to be increased in size as part of the mitigation for the paddock attenuation/flooding.

The intent is to develop the project, which includes working with GWRC to understand effects, design and procure the project. We are aiming for construction in 2025/26.

#### 6.9.3.2 Ringawhati Road Bridge Extension

The Ringawhati Road is a rural road that connects Rahui Road to Waitohu Valley Road. Waitohu Valley Road is the primary emergency detour route should SH1 be closed. Ringawhati Road is the secondary emergency detour route via Rahui Road.

The Ringawhati bridge traverses the Waitohu Stream and in recent years flood events have scoured the southern abutment and threatened to undermine and wash out the southern bridge approach.

Emergency works has resulted in rip rap rock being placed to backfill scour and protect the structure, road, utility services and road users as a temporary measure.

Council has submitted a consent to Greater Wellington Regional Council to extend the bridge approx. 5m to the south to provide additional capacity for the stream in flood events. Council has acquired the adjoining land from private ownership in anticipation of the project.

Access & Transport AMP 2024-33 | 198



#### **6.9.4 Draft Programme**

WC 357 - Resilience improvements

WC	Action/ Work	Driver for Action	Estimated Cost	Scheduled For	How this will be funded
Within WC151	Geohazard register	Framework to manage geological hazards and identify resilience projects.	Included in WC 151 network management	2024/25	Rates and FAR
WC357	Te Horo Beach Road lift	Flooding regularly closes road, cutting off Te Horo Beach community	\$534k in Year 2	2025/26	Rates and FAR
WC357	Rangiwhati Bridge Extension	To increase the bridges flood capacity to protect the structure and road from wash out.	\$1,788k in Year 3	2026/27	Rates and FAR

Access & Transport AMP 2024-33 | 199



### 6.10 Emergency Management

#### 6.10.1 Introduction

This activity includes:

- WC 140 Minor Events category such responding to rocks on the road, slips, flooding.
- WC141 Emergency Works for immediate response for public safety, providing vital access, or reinstatement of traffic services - with a total cost of \$100,000 or more per event.

#### **6.10.2** WC 140 Minor Events

A nominal annual amount is forecast in our budget based on past costs. This tends to be underspent in years with better weather and can be over spent in years with more bad weather.

The costs are monitored throughout the year with an updated forecast providing guidance as we close out each year. If there is a significant variance from budget, then this is raised and managed with our finance team.

#### 6.10.3 WC 141 Emergency Works

In good years, we will have no major events that trigger an Emergency Works event (> \$100k), however in tough years we may have multiple events.

We request funding from Waka Kotahi after the initial phase of significant events and when more information is available, therefore we do not request any funding within our 3 yearly Maintenance, Operations and Renewal base line.

We do request a seed amount of \$100k from Council each year as a starting point for events. This is often enough to manage smaller emergency requests without future funding, however an additional request may be required for larger events.

#### **6.10.4** Known Emergency Works

At the time of submitting our LTP funding request, we know of one major event.





Access & Transport AMP 2024-33 | 200



#### Option 1 – Open Road

Reinstate road and associated structures across the two slips at the Blue Bluff slip zone. Mitigating immediate risk but not eliminating long term failure.

Costing \$5-10million

#### Option 2 – Close the Road

Close the road permanently. Discussion with Department of Conservation may provide opportunities for a walking track in the area, and would be considered in a engagement process. Effort to mitigate impacts to local residents and affected parties would be required.

Costing \$3-8million

#### Option 3- Swing Bridges

Swing bridges have been considered, however this option is not viable due to challenging engineering constraints and impacts to landowners.

#### 6.10.5 Emergency Works preferred programme

WC	Action/ Work	Driver for Action	Estimated Cost	Scheduled For	How this will be funded
140	Minor Events	Response	\$302k to \$311k	Per annum	Rates and FAR
141	Emergency Works	Response	Base funding prior to an event: \$100k (KCDC) \$Nil (Waka Kotahi)	Per annum, additional requests as required	Rates/ Depreciation and FAR
141	Blue Bluff Slip reinstatement	Restore access	Indication of \$5m for Waka Kotahi Request of \$5.3m to KCDC	One of costs (across 24/25 and 25/26)	Depreciation and FAR

The formal funding request to Waka Kotahi will be presented as options and costs become available.

Access & Transport AMP 2024-33 | 201



## 6.11 Off-street parking areas

#### The assets

106 Council carpark sites 18 carparks administered by Access and Transport



Typical Spend \$80-90K

Non-sub OPEX (GL1793C) - \$25k annually

Non-sub CAPEX (GL17942) - \$106k annually for 2024-27

#### Key Users

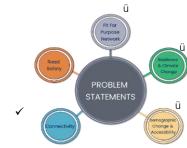
#### Motorists

#### Customer View

Resident satisfaction measured as part of overall satisfaction with roads.

Resident satisfaction has been declining for three years.

#### Relevant Problem Statements



#### Council objectives

The Council provides, maintains and manages sealed parking spaces at various locations, especially within urban areas, in order to:

- Ensure adequate parking for people with disabilities
- Provide adequate shopper parking
- Provide commuter and worker parking

#### Change needed

- Continue to improve inventory.
- Increase renewals plan from 3 years to 10 years

#### Issues and Options

The data improvement is progressing, however is not the highest priority. The surface type and condition needs more work, along with confirmation of owner.

#### Wider Objectives

Assist with connections to passenger transport

#### Preferred approach

Improve data help and undertake analysis on provision, capacity and renewal planning

Access & Transport AMP 2024-33 | 202



#### 6.11.1 Introduction

This activity covers parking sites within the district that are located outside the carriageway.

Parking within the carriageway is part of the road itself.

The Council provides, maintains and manages sealed parking spaces at various locations, especially within urban areas, in order to provide adequate shopper parking, commuter and worker parking and ensure adequate parking for people with disabilities.

This activity is managed by Access and Transport, however the owners (and funding) of Council carparks is dependent of the purpose. In broad terms:

- Park and Open Space Carparks supporting recreational areas (incl beach access)
- Property and Facilities Carparks supporting Council buildings
- Access and Transport Carparks supporting other outcomes (example town centres)

#### **6.11.2** Context

Council has established objectives and levels of service for roading infrastructure that will include parking. There are none specific to parking.

#### 6.11.2.1 Key Users

Off-street carparks are used by many members of the community. Particular consideration is given to:

- The elderly and mobility challenged
- Commuters
- Shoppers and other commerce
- The transport disadvantaged

#### 6.11.2.2 Levels of service

There is no direct measure for carparking.

#### 6.11.2.3 Budgets and Waka Kotahi (NZTA) funding

On street parking is generally an 'extra-area' associated with the carriageways.

Off road parking asset costs are not eligible for Waka Kotahi (NZTA) funding – accordingly they are fully funded through rates and recoveries from parking fees.

#### Off-street parking areas

As a rule, construction, maintenance or renewal of off-street parking areas is not eligible for funding assistance.

#### Exceptions

This policy does not apply to designated areas, on or off street, which are eligible for funding assistance provided under appropriate work-categories if they are an integral part of a park-and-ride service network.

(https://www.nzta.govt.nz/planning-and-investment/planning-and-investment-knowledge-base/activity-classes-and-work-categories/road-improvements-other-road-related-funding-policies-guidance/off-street-parking-areas/)

Currently the park and ride carparks in Kapiti are all owned/operated by Greater Wellington Regional Council.

Access & Transport AMP 2024-33 | 203



#### 6.11.2.4 Historical Expenditures



#### 6.11.2.5 Physical Parameters

#### Quantity

Council has 106 off road carparks across Kapiti.

Carpark Owner	Asphaltic (m2)	Chipseal (m2)	Total Area (m2)
Local Authority - Access and Transport	14,532	11,524	26,056
Local Authority - Other Department	5,201	12,601	17,801
Local Authority - Parks & Rec	340	61,319	61,659
Total (m2)	20,073	85,444	105,516

There are no parking meters within the district and there is no routine enforcement of any parking restrictions, with the exception of specific parking areas around the main Paraparaumu Council building and Aquatic Centre and the Waikanae Towncentre/Train station area.

#### **Asset Valuation**

Parking areas have not been separately valued as there is insufficient data to do so.

#### Growth

There is usually no additional parking asset vested in association with subdivision.

The state highway revocations are likely to handover some carparking facilities.

#### 6.11.2.6 Asset Capacity and Demand Management

In combination with enforcement, the existing car parking spaces available are considered sufficient to enable shopping, worker, & commuter parking to park safely in the Paraparaumu central business area.

Greater Wellington Regional Council commuter car park in Waikanae, Paraparaumu and Paekakariki help to relieve the parking pressures around the train stations. This has however not completely resolved parking issues so enforcement of the time restrictions is essential.

Access & Transport AMP 2024-33 | 204



In other urban areas sufficient parking spaces are available on and off road.

#### 6.11.2.7 Asset Age and Condition

The overall condition of parking facilities is good order. Resurfacing is required to retain waterproofing and limit deterioration – these are programmed on a visual condition assessment basis.

#### 6.11.2.8 Risk and Critical Assets

No parking spaces are considered critical.

#### 6.11.2.9 Data Confidence Level

Data confidence is comparatively average.

The carpark inventory has had recent improvements, now all carparks have with RAMM centreline, carriageway and treatment length detail. A condition assessment and confirmation of surfacing has been undertaken. Actions to complete this inventory upgrade are:

- Update the surfacing inventory with the inspections findings
- Joint workshop with Parks and Property to confirm ownership
- Review and update drainage, signage, marking and similar RAMM detail
- Capture capacity of carparking

Previously we regarding our data confidence a "C" where 50% of the data is estimated. Once the above improvements are completed, this confidence will be a "B" - Reliable - Data based on sound records, procedures, investigation and analysis which is properly documented but has minor shortcomings.

#### 6.11.3 Management and Options

#### 6.11.3.1 Maintenance Plan and Options

Works are undertaken alongside other general roading tasks include:

- Routine inspections are undertaken within the roading inspection regime
- Potholes, pavement repairs
- Roadmarking
- Signage maintenance
- Sweeping and sump cleaning

#### 6.11.3.2 Renewal/ Replacement Plan

Resurfacing of permanently paved surfaces is the main renewal activity. The work volumes for the 2024-27 period are:

Carpark Treatment 2024-27 areas (m2)	Asphalt	Chipseal	Total
Local Authority - Access and Transport	6,897	1,190	8,087
Local Authority - Other Department	480	1,964	2,444
Local Authority - Parks & Rec	0	4,533	4,533
Total (m2)	7,377	7,687	15,064

Carpark renewals 2024-27	TL Name	Area	Existing Surface Date	Condition	Treatment
WAIKANAE	Aputu Carpark (North Half)	2576	25/12/2001	Poor	Asphalt

Access & Transport AMP 2024-33 | 205



WAIKANAE	Aputu Carpark (South Half)	2416	25/12/2001	Poor	Asphalt
	Marae Ln CP3, Inlet to Conc				
WAIKANAE	ramp	825	25/12/2001	Poor	Asphalt
	Marae Ln CP3, Conc ramp to				
WAIKANAE	Outlet	1080	25/12/2001	Poor	Asphalt
RAUMATI	Raumati Village Car Park	1190	25/12/2010	Poor	Chipseal

#### 6.11.3.3 Asset Creation Plan

No new carparks are planned in the 2024-27 period.

#### 6.11.3.4 Disposal Plan

There are currently no plans to dispose of car park assets.

#### 6.11.3.5 Assessment of Options

Developing options for management is not considered appropriate at this stage. The focus in on establishing a sound inventory and basis for asset depreciation is underway along with a better understanding of demand and capacity.

#### 6.11.3.6 Preferred Programme

WC	Action/ Work	Driver for Action	Estimated Cost	Scheduled For	How this will be funded
N/A	1793C Car Park Maintenance (non- sub)	Inspection, programme, complaints	\$24k to \$26k	Per annum	Rates
N/A	17942 Car Park Reseals (non-sub)	Results of condition survey and expected useful life of materials	\$110k to \$123k	Per annum, however phasing for efficient delivery will be considered	Depreciation

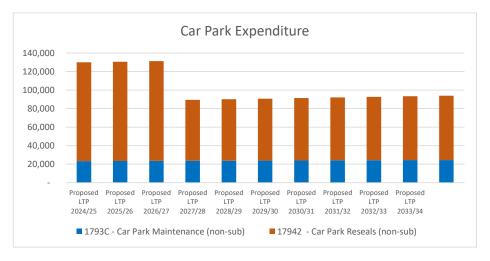
#### 6.11.3.7 Financial Forecast

The following chart summarises this year and the next ten year forecast. The 2024-27 renewals are higher that typical periods as the Aputu Carpark area is by far our largest carpark.

All funding is Council funded – there is no Waka Kotahi subsidy on this activity.

Access & Transport AMP 2024-33 | 206





#### Step change for this LTP

FWP for resurfacing includes the Aputu Carpark (Nth and Sth). This is our largest carpark in the district, therefore puts a hump in the expenditure forecast in the 2024-27 period.

Access & Transport AMP 2024-33 | 207



# 6.12 Safety Improvements (Low Cost / Low Risk Improvements)

#### 6.12.1 Introduction

This work category provides for the construction / implementation of low cost, low risk improvements to the transport system up to a maximum cost of \$2 million per project sent for approval. The funding assistance rate is 51%.

Under the description of Work category 341, examples of qualifying activities include, but may not be limited to:

- small, isolated geometric road and intersection improvements
- traffic calming measures
- traffic management systems
- surface treatment (safety), including sealing for bridge approaches
- lighting improvements for safety
- installation of new traffic signs and markings (including rumble strips), or upgrading these to the current standard
- provision of guard-railing
- sight benching to improve visibility
- walking facilities
- cycling facilities
- structures, culverts or stock access (including stock underpasses)
- resilience improvements
- replacement of bridges and other structures
- stock effluent facilities
- minor engineering works associated with community programmes, such as raised platforms at roundabouts, traffic signals and other pedestrian facilities, and
- property and professional services costs associated with the improvement.

The Kāpiti programme is being finalised considering

- GPS/Road to Zero Priorities
- Regional Safety Priorities
- ONRC reports
- SMP pipeline
- CAS
- Deficiency database (Excel analysis, Power BI) Schedule
- Community concern and requests
- Prioritise against problem statements

Access & Transport AMP 2024-33 | 208



#### 6.12.2 Minor Safety Improvement Projects

The Low Cost Low Risk category is expanding in application to what was formerly Minor Safety Improvements. A greater range of works can be undertaken within this category and projects expenditure can be up to \$2 million. Larger projects are described in section 17 - Capital Projects.

The following minor safety works have been identified for 2024-27 period include:

- Line marking reviews
- Improving signage and chevron boards
- Adding advance warning signage
- Parking control related to a daycare centre
- New pedestrian refuge
- Speed management measures
- Vegetation clearance projects
- Intersection control reviews and upgrades

The items identified are listed under draft programme below.

#### Road to Zero Works category

The Road to Zero works category is specially focussed on projects aligned with national objectives. Many of these will be identified through the safe network programme ("the pipeline tool") or referenced in the Road to Zero Action plan.

The items identified are listed under draft programme following.

#### School Safety

School safety is a national priority and identified in the Road to Zero Action Plan as a key area for action. Law changes for speed limits near schools are pending, once the rule changes are in place relevant speed reviews will proceed.

School safety is a local focus and Council has a multi-criteria analysis tool for assessing options and priorities.

#### Status of 2021-24 Projects

Council acknowledges that progress is achieved from an on ongoing process of incremental change not individual packages or three-year programmes.

Reflecting on the LCLR projects programmed for the 20223-24 period, the following is noted.

Status	Complete	In Progress	Delayed	Not started
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#### 6.12.3 Minor Works

Other projects identified for funding from this category include:

- Additions to the Cycle Walking network
- Improvements to retaining walls to improve safety and resilience

Access & Transport AMP 2024-33 | 209



#### Improvements to streetlighting

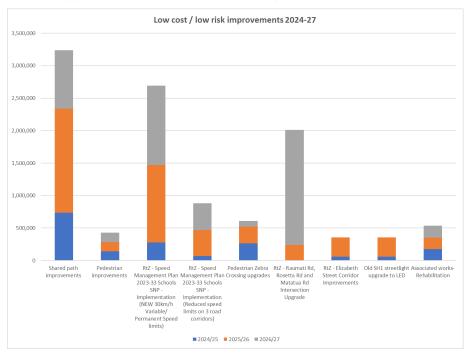
Improvements to the Cycle, Walking and Bridleway network are focused on connectivity. The network is extensive and well used, but compromised where key links are missing. Ensuring the are appropriate linkages associated with PP2O established will be a priority as construction progresses.

#### 6.12.4 Other Projects

The key programme to coordinate with the is the comprehensive stormwater upgrade. This is being finalised and will draw on funding from the work category once the programme is approved and the portion that should be apportioned to access and transport is determined.

#### 6.12.5 Draft Programme

The following graphs and table summarise the draft programme.



Access & Transport AMP 2024-33 | 210



Low cost /	low risk impro	ovements 2024-27							
Activity name	Council Funding	AO extra field #1	Location description	Activity description	ivity description Intervention type		Requested budget this NLTP period by year		Current total costs requested (across 3 years)
						2024/25	2025/26	2026/27	
Shared path improve ments	179W5 NZTA CYCLE WALKING IMPROVE MENTS	6 projects identified in the 2014 Kapiti Strategic Cycle Network (10 year plan). Endorsed by Council and part funded through the Urban Cycle Programme Fund. Currently year 8 of the programme, approx 90% completed. Seeking funding to complete identified key routes. 2023-24 a review of the 2014 Strategic Network Plan is underway which will produce a Walking and Cycling Network Plan (Further 10 year programme to inform LTP and AMP)	1) Park Avenue (Te Moana Road to Ngarara Road, Expressway to Township) 2) Riverbank Road (Old SH1 to Miro St, connector with Old SH1 shared path) 3) Peka Peka (Peka Peka Rd to Rutherford Road, Expressway connector) 4) Dual crossing Ratanui Road (Expressway connector) 5) Sutton Road (Expressway connector) 6) Safety and design Improvements to existing shared path network including exit entry terminals, surfacing treatments to gravel shared paths (Ratanui Road 2.5km), bike stands/facilities, wayfinding/signage.	Realocation of road reserve for new shared path connections and/or new on road cycle lanes. Improvements to existing shared paths and cyclelanes including additional cycle facilities.	Cycle ways: incl. new or improved cycleways and shared paths, lanes, signage and markings, bicycle parking/rack, shared bridges and structures, targeted education & promotion; excl. all off-road and mountain biking trails	735,800	1,601,600	902,300	3,239,700
Pedestria n improve ments	179W5 NZTA CYCLE WALKING IMPROVE MENTS	One street per year for foreseable future. Future funding estimated for 10 years.	High use or Secondary walking routes that connect to primary routes or shared paths.  - Park Avenue southern side to connect with shared path on the northern side of road.  - Ngarara Road, connects to Park Ave Shared Path  - Te Moana Road, southern side  - Additional site includes;  - Dale Road, Raumati South. Design completed.  - Ruru Road, Otaihanga  - Dell Road, Raumati South	NEW residential footpaths and pedestrian crossings inc refuges, streetlighting and walking facilities	Walking improvements: incl. new or improved footpaths, pedestrian crossings, pedestrian refuges, crossing controls, all signage and markings, pedestrian overbridges and underpasses, targeted education & promotion; excl. footpath maintenance	142,377	142,377	142,377	427,131



RtZ - Speed Manage ment Plan 2023-33 Schools SNP - Impleme ntation	1793A NZTA MINOR SAFETY IMPROVE MENTS	Implementation phase - 20 Projects (ranging in cost between \$39,000 and \$528,840) in response to Land Transport Rule: Setting of Speed Limits 2022 that sets out legislative requirements that Road Controlling Authorities must do their best to meet. The SMP beyond 2027 will focus on school zones and road corridors and the associated costs will be confirmed when the SMP is updated in 2026. GPS alignment rating = Very high as implementation of the signage/ infrastructure will reduce the operating speed in the corridors/ target areas by > 10km/h	Various locations throughout the Kapiti Coast - Refer to attached 'Speed Management Plan 2023-33' that was approved by Council at its meeting of 31 August 2023.	NEW 30km/h Variable/ Permanent Speed limits at 20 x schools	Traffic calming	279,724	1,189,593	1,224,231	2,693,549
RtZ - Speed Manage ment Plan 2023-33 SNP - Impleme ntation	1793A NZTA MINOR SAFETY IMPROVE MENTS	Implementation phase - 9 Projects (ranging in cost between \$8,424 and \$351,000) in response to Land Transport Rule: Setting of Speed Limits 2022 that sets out legislative requirements that Road Controlling Authorities must do their best to meet.  The SMP beyond 2027 will focus on school zones and road corridors and the associated costs will be confirmed when the SMP is updated in 2026. GPS alignment rating = Very high as implementation of the signage/ infrastructure will reduce the operating speed in the corridors/ target areas by > 10km/h	Various locations throughout the Kapiti Coast - Refer to attached 'Speed Management Plan 2023-33' that was approved by Council at its meeting of 31 August 2023	Reduced speed limits on 3 road corridors (PekaPeka Road, Riverbank Road and Valley Road) AND reduced speed limits at 6 x locations with high concentrations of Active Road Users	Traffic calming	67,041	401,547	413,239	881,828
Pedestria n Zebra Crossing upgrades	1793A NZTA MINOR SAFETY IMPROVE MENTS	Implementation phase - 44 pedestrian crossings in response to 'Pedestrian Crossing Audit 2023, TTAP) GPS alignment rating = Very high as there is a legal requirement to comply with the Traffic Control Devices Rule and RTS 14: Guidelines for facilities for blind an vision impaired pedestrians (RTS14, 2015)	Various locations throughout the Kapiti Coast	Pedestrian Zebra Crossing UPGRADES (1) Delineation improvements to meet the minimum legal requirements (2) Physical improvements to improve accessibility for mobility and visually impaired pedestrians in accordance with RTS 14 (2015).	Delineation Improvements	261,808	261,711	85,696	609,215



RtZ - Raumati Rd, Rosetta Rd and Matatua Rd Intersecti on Upgrade	GL 17929 ROAD RECONST RUCTION	IRR band = medium Complements the Speed Management Plan and is in a High Benefit Speed Management Area (Source: Waka Kotahi MegaMaps RTZ Edition 2)	Raumati Rd, Rosetta Rd and Matatua Rd Intersection (Raumati)	Intersection UPGRADE that will reduce speeds to below the Safe and Appropriate speed of 30km/h (Posted speed limit is 30km/h, free flow speed is approximately 35km/h) and provide safe crossing facilities for the high pedestrian flows to/from the beach, park and village. Also supports safe pedestrian movement to from school with College and primary schools located in the village.	Geometric improvements	0	237,919	1,775,135	2,013,053
RtZ - Elizabeth Street Corridor Improve ments	1793A NZTA MINOR SAFETY IMPROVE MENTS	IRR band = medium Implementation phase - 3 projects in response to 'KCDC Elizabeth Street Corridor Safety Study (WSP, 2021) GPS alignment rating = Very high as implementation of the signage/ infrastructure will reduce the operating speed on the corridors by > 10km/h Complements the Speed Management Plan and is in a High Benefit Speed Management Area (Source: Waka Kotahi MegaMaps RTZ Edition 2)	Elizabeth Street (Main Road to Matuhi Street), Waikanae	Free flow speed = 42km/h Construction of pedestrian facilities, i.e: (1) Raised Pedestrian Crossing (2) Footpath extension and safe crossing point (3) Threshold treatment (4) Pedestrian refuge	Traffic calming	57,794	297,398	0	355,193
Old SH1 streetligh t upgrade to LED	1793A NZTA MINOR SAFETY IMPROVE MENTS	Included in 2024-27 LTP programme	OLD SH1	Upgrade street lighting to LED	Lighting improvements	57,794	297,398	0	355,193



Associate d works- Rehabilit ation	1791U NZTA REHAB ASSOCIAT ED WORKS	Widening to enable standard width lanes and shoulder support.	AWT sites	Shoulder support to enable stable AWT pavement	Seal widening	173,383	178,439	183,635	535,457
RtZ - Kapiti Road/ Ocean Road intersecti on Improve ments	1793A NZTA MINOR SAFETY IMPROVE MENTS	Kapiti Coast District Council: Road Safety Review 2023 (WSP): Collective risk = medium-high: Personal risk = medium - high: High Risk intersection (Source: High Risk Intersection Guide) Complements the Speed Management Plan and is in a High Benefit Speed Management Area (Source: Waka Kotahi MegaMaps RTZ Edition 2)	Kapiti Road/ Ocean Road intersection	Constructing Raised Safety Platforms on each approach will slow vehicles on their approach at the locations where pedestrians cross each side road near the roundabout.	Traffic calming	0	0	0	0
Rtz - Rimu Rd/ Ihakara Intersecti on Upgrade	1793A NZTA MINOR SAFETY IMPROVE MENTS	Kapiti Coast District Council: Road Safety Review 2023 (WSP): Collective risk = medium-high: Personal risk = high: High Risk intersection (Source: High Risk Intersection Guide)Complements the Speed Management Plan and is in a High Benefit Speed Management Area (Source: Waka Kotahi MegaMaps RTZ Edition 2)	Rimu Rd/ Ihakara Intersection	Constructing Raised Safety Platforms on each approach will slow vehicles on their approach at the locations where pedestrians cross each side road near the roundabout.	Traffic calming	0	0	0	0
RtZ - Rimu Road/ Coastlan ds Pak n Save access improve ments	1793A NZTA MINOR SAFETY IMPROVE MENTS	Kapiti Coast District Council: Road Safety Review 2023 (WSP): Collective risk = low - medium: Personal risk = high Complements the Speed Management Plan and is in a High Benefit Speed Management Area (Source: Waka Kotahi MegaMaps RTZ Edition 2)	Rimu Road/ Coastlands Pak n Sav access	Remove the left turn slip lane	Geometric improvements	0	0	0	0



# 6.12.5.1 Preferred Programme

Action/ Work	Driver for Action	Estimated Cost	Scheduled For	How this will be funded

Access & Transport AMP 2024-33 | 215



# **6.13 Road Safety Coordination**

# 6.13.1 Introduction

Road safety coordination and promotion is carried in line with the road safety action plan (See AMP section XX)

Actions are identified from analysis of CAS and the **Kāpiti** Community at Risk assessment (see section 1.9). there is a range if initiatives that are focused on issues that are prevalent in **Kāpiti**.

The Road safety Coordinator is actively involved with Council staff and provides an additional opinion on opportunities to integrate road safety into all of Council's works.



Motorcycle safety education stop at Paekakariki Hill summit undertaken in motorcycle awareness month has high interest (Fathers day 2023).



Mobility scooter safety course at Met Life Care Kapiti Village. Negotiating uneven surface training in action.

# **6.13.2** Preferred Programme

The preferred programme is detailed below in the summary of the Road Safety Action Plan.

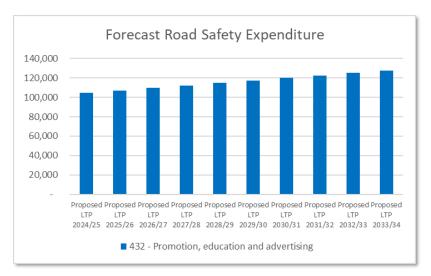
WC	Action/ Work	Driver for Action	Estimated Cost	Scheduled For	How this will be funded
432	Promotion, education and advertising	Safety	\$105k to \$109k	Annual	Rates and FAR

# **6.13.3** Financial Forecast

The following chart summarises this year and the next ten year forecast.

Access & Transport AMP 2024-33 | 216







### District Road Safety Activity Overview

Safer Journey 2020	Safe Roads and Roadsides	Safe Speeds	Safe Vehicles	Safe Road use	Indicative Budget (\$92,960)
Areas of high concern					70К
Pedestrians				✓	15K
Cyclists					10K
Increasing the safety of motorcycling					10K
Reducing alcohol/drug impaired driving					15K
Safe roads and roadsides					10K
Safe speeds					10K
Areas of medium concern					23K
Improving the safety of the light fleet	✓	✓	✓	✓	10k
Improving the safety of heavy vehicles	✓				3k
Reducing the impact of fatigue	✓			✓	5k
Addressing distraction	✓			✓	5k
Reducing the impact of high risk drivers					
Emerging Strategic					
Increasing the level of restraint use	✓	✓	✓	✓	
Increasing the safety of older Road Users	✓	✓	<b>✓</b>	<b>✓</b>	
Driver Licencing for new drivers	✓	✓	<b>✓</b>	✓	



# 6.14 Transport model development

Council is pursuing an opportunity to collaborate with others through the Wellington Transport Analytics Unit. This is currently being finalised, with a funding mechanism in place which will involve Waka Kotahi being directly charged for the financially assisted share.





Vijay Soms, Ruchir Guar	
Wellington Transport Analytise Unit	
1* June 2023	
Kapiti Const District Council – Local Models Business Case	
	1* June 2023

#### Background

The Wellington Transport Analytics Unit, working with regional stakeholders, has developed a 10 year asset management plan for the Wellington region's local transport models [mesoscopic level sub-regional models in software such as SATURN and AMSUN].

Currently, the local models within the region:

- use different software packages.
- have different base years, forecast years and land use assumptions
- have limited functionality in terms of modelling cycling
- have a lack of flexibility to test alternative future scenarios:

The current state results in inconsistencies between outputs from different models and a lack of flacibility to test alternative scenarios and active mode interventions, leading to inefficient energies and a lack of confidence in model outputs to inform decision making.

The easet management plan includes changes to

- update existing model base years
- align forecast model years with the strategic model
- enhance the representation of active modes
- Improve the consistency of modelling softwere packages

The asset management plan was approved for funding through Wake Kotshi in February 2021, with funding released for an initial phase that is included in the 2021 to 2024 NLTP, with subsequent phases late as "probable" for the 2024 to 2027 NLTP.

The plan identified a prioritized package of investment to meet future eneighted reeds, with the flaxibility to adjust priorities dependent on on-going discussions with partners.

During May 2023, the Wellington Transport knelly too Unit engaged with partners to discuss the current asset management plan – timing, scope and cost of updates – with each TA with the purpose being to:

Access & Transport AMP 2024-33 | 219







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Vear	FY 26/27	10 year costs
Model Scoping and tendering	529,000	\$46,000
Data cullection	\$87,000	\$188,000
Base model build	5231,000	\$357,000
Forecast model build	\$36,000	\$78,000
Peer review	\$36,000	\$78,000
Total	\$419,000	\$747,000
Indicative MCDC share for LTP	\$205,000	\$366,000

Access & Transport AMP 2024-33 | 220

Page 223 Item 8.2 - Appendix 1



# 6.15 Network and Asset Management

### 6.15.1 Introduction

Network and Asset Management provides for the general management and control of the road network and management of road assets including public footpaths and cycleways and associated facilities. Network and asset management supports the decision making that enables the transportation activity to serve its users.

# 6.15.2 Management of the road, cycle and footpath network

The Council teams costs for OPEX management is included in this activity. The core Access and Transport team includes 11 staff (2023/24), however additional demand with more roads (revocation) and self-delivery of activities will require growth in the next LTP period. The Access and Transport team are supported by wider council input deliver core duties.

This activity also includes:

#### 6.15.2.1 Road asset Management Systems

The RAMM system is the road asset management database used by KCDC. This system is provided by ThinkProject and is also used by Waka Kotahi and most other Road Controlling Authorities in New Zealand.

The RAMM system provides our repository for network inventory, condition and traffic data. The RAMM system also provides an integrated contract management platform for our maintenance contractors budget and job management needs.

JunoViewer is used to hold and model our Long Term Forward Works Programme (FWP). This system uses the RAMM pavement, surfacing, condition and traffic data to support our asset management team to develop a robust long-term view for resurfacing and rehabilitation needs.

### 6.15.2.2 Updating the Activity Management Plan

Iterative improvement and updating of our Activity Management Plan is included in this activity group.

#### 6.15.2.3 Roughness and Condition Rating Surveys

Roughness and condition rating surveys have traditionally been funded through this activity. However, in September 2023 Waka Kotahi Board approved the delivery of the Te Ringa Maimoa Consistent Condition Data Collection (CCDC) project. The Board has agreed to 100% funding for the CCDC project through the National Land Transport Fund as well as endorsing the proposal for a nationally delivered programme. This is a major benefit for KCDC as we will be provided high quality data for core asset groups at no direct cost with the work centrally managed by Waka Kotahi (a big thank-you to Waka Kotahi).

The CCDC project will capture the minimum requirements for automated pavement condition inspection for roughness, rutting, texture, cracking, and geometry on sealed roads.

Condition data capture for other surveys and asset groups remain cost under this activity group. For KCDC these are to include:

- Footpath Condition Survey biennial
- Channel Condition Survey biennial
- Pavement Falling Weight Deflection Survey site specific clustered into a biennial survey
- Skid Resistance of High use routes (Main Streets, Activity Streets, Urban and Rural Collectors) triennial

Access & Transport AMP 2024-33 | 221



#### 6.15.2.4 Traffic Count Surveys

KCDC engage a traffic count contractor to undertake a regular programme of traffic counts for road vehicle classification, speed, and volumes. The counts are entered into the RAMM database informs our asset management programmes.

We undertake an annual pathways count at selected sites for cycle use. We intend to review and improve this process for multimodal data capture in the 2024-27 period.

#### 6.15.2.5 Routine refreshing of the asset deterioration model

KCDC adopted JunoViewer as our FWP system in 2022 after trialling in 2020. The development of our FWP asset deterioration models is an important element of work in the 2024-27 period as we validate outputs and improve model reliability.

### 6.15.2.6 Maintenance and routine updating of transport models

KCDC intend becoming a member of the Wellington Transport Analytics Unit in July 2024. The Wellington Transport Analytics Unit was formally established in September 2021, with the purpose of delivering a more consistent regional approach to transport and land use planning.

KCDC would have access to insights and modelling delivered through the Unit's core work programme for the benefit of all partners, and an allocation of Unit resources (FTE) to undertake work for KCDC to support the delivery of the KCDC work programme.

The membership fees will be included within this activity.

The one-off costs to build a new AIMSUN model is not included in this activity – see Transport Model Development.

#### 6.15.2.7 Professional services for road maintenance

KCDC are supported by professional service providers for expert tasks including;

- RAMM support
- Inventory capture and updating
- Planning support
- Procurement support
- Note: The current maintenance and renewal contracts (road maintenance, chipseal, streetlights) end by 30 June 2025. Procurement support to tender these significant contracts will be required.

Professional services for operational traffic management and emergency works are not included in this activity.

## 6.15.2.8 Special road maintenance, renewal or improvement studies

KCDC seek input through reports and studies to improved understanding for better decision making and risk management. In the 2024-27 period this includes (but not limited to):

- Freight and Forestry demand management report improve understanding of freight on our network, particularly forestry on our low use roads. This assists the planning and management of these routes.
- Geohazard Register development The identification, data collection and risk allocation of
  geohazard sites for input into geohazard register. Geohazards include soil overslip/underslip
  (landslides), rockfalls, scour/erosion, soft ground, rockfall netting, retaining wall (bespoke) and
  ground improvement areas. This provides an objective understanding of our risks and inputs into
  our resilience management.
- **Cycleway Walkway network plan** update the 2016 CW plan including review of network routes and consultation. This gives a robust forward view of demand and required works.

Access & Transport AMP 2024-33 | 222



- Speed Management Plan update update the SMP and consult. The 2023 plan provided the first step into speed management with a focus on schools. The next update will have a more holistic view and better understanding from our community.
- Delineation Plan development review of out of context curves and rural routes to provide consistent warning for motorists.

This excludes transport planning work categories' description, eg KiwiRAP studies.

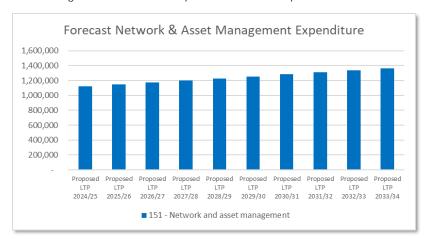
# **6.15.3** Preferred Programme

Continue approach with additions to resources where required.

WC	Action/Work	Driver for Action	Estimated Cost	Scheduled For	How this will be funded
151	Network and asset	Cost effective	\$1.09m to	Each year	Rates and FAR
	management	service delivery	\$1.12m		

### 6.15.4 Financial Forecast

The following chart summarises this year and the next ten year forecast.



Access & Transport AMP 2024-33 | 223



# 6.16 Old SH1 and New Expressway Linkages

## 6.16.1 Introduction

The construction and commissioning of the Kāpiti Expressway have resulted in significant changes in Transportation across the district.

The changes affect around 50km of State Highway 1, and many of the traffic flows through and within the district continue to change. Traffic counting and modelling programmes are being used to understand these changes and enable Council to formulate robust planning and work programmes for the future.

Managing this transition is essential and will involve a considerable amount of staff resource.



#### Terminology:

TG Transmission Gully

M2PP Mackays Crossing to Peka Peak

PP20 Peka Peka to OtakiO2NL Otaki to North Levin

# 6.16.2 Agreement and Revocation

Council has two Memoranda of Understanding in place with the New Zealand Transport Agency to provide an agreed platform for the transition process associated with the Wellington Northern Corridor Project.

Item	Transfer year	Approx length
M2PP - New Local roads	18/19	5 km
M2PP - Revocation (former SH1)	22/23	17.0 km
PP2O - New Local Roads	22/23	9.5 km
PP2O - Revocation Project (former SH1)	Approx 2027	8.6 km
TG – New Local Roads	TBA	0.15 km
TG – No Revocation (Old SH1 became SH59)	-	-
O2NL Forecast (KCDC section)	2033 approx	3.5 km

Key to the agreements is ensuring the asset transferred is fit for purpose and any liabilities are understood.

### 6.16.3 Assets

#### 6.16.3.1 Physical Parameters

Under the revocation agreement for M2PP, Council will assume responsible for former sections of state highway 1 in 2020/21. Further sections of SH1 will be transferred upon the completion of PP2O and TG.

Revocated and New Road Handover

Access & Transport AMP 2024-33 | 224



PP20

These roads are being handed over to be included in Council's network and maintenance management. Roads include:

M2PP (Former SH1)



(Former SH1)

Access & Transport AMP 2024-33 | 225



Road	Start	End	Length	Start Name	End Name	ONF	Handover Stage
M2PP Revocation							
Peka Peka Link	0	1180	1180	Peka Peka RAB	Peka Peka Link	Rural Connectors	Feb 2024
Hadfield Link	0	830	830	Hadfield Rd	Hadfield deverge	Rural Connectors	Feb 2024
01K-1013-R1	0	180	180	Hadfield deverge	Peka Peka Link	Rural Connectors	Feb 2024
01K-1013	0	2763	2763	Peka Peka Link	Nth Waikanae	Rural Connectors	Feb 2024
01K-1013	2763	3335	572	Nth Waikanae	Nth Waikanae CBD	Urban Connector	Feb 2024
01K-1013	3335	3812	477	Nth Waikanae CBD	Te Moana Rd Int	Urban Connector	Feb 2024
01K-1013	3812	4611	799	Te Moana Rd Int	Sth Waikanae	Urban Connector	Feb 2024
01K-1013	4611	7143	2532	Sth Waikanae	Otaihanga RAB	Rural Connectors	Feb 2024
01K-1020-W	0	162	162	Otaihanga RAB	Otaihanga RAB	Peri Urban	Feb 2024
01K-1013/08.15	8154	9853	1699	Otaihanga RAB	Nikau Divid	Peri Urban	Feb 2024
01K-1013/09.85-I	9853	10295	442	Nikau Divide	50km/hr (Urban)	Peri Urban	Feb 2024
01K-1013/09.85-D	9853	10295	442	Nikau Divide	50km/hr (Urban)	Peri Urban	Feb 2024
01K-1013/09.85-I	10295	10408	113	50km/hr (Urban)	Nikau Merge	Urban Connector	Feb 2024
01K-1013/09.85-D	10295	10408	113	50km/hr (Urban)	Nikau Merge	Urban Connector	Feb 2024
Nikau Offramp	0	171	171	Old SH1	Conc plant	Peri Urban	Feb 2024
01K-1022-I	0	201	201	Conc plant	Nikau Palm Rd	Peri Urban	Feb 2024
Nikau On-Ramp	0	116	116	Nikau Palm Rd	Old SH1	Peri Urban	Feb 2024
01K-1013/10.41	10409	11013	604	Nikau Merge	Rail Overbridge	Urban Connector	Feb 2024
01K-1023	0	643	643	Rail Overbridge	Kapiti Road	Urban Connector	Feb 2024
01K-1023	643	1063	420	Kapiti Road	Wharemaku	Activity Streets	Feb 2024
01K-1023	1063	3601	2538	Wharemaku	Poplar RAB	Urban Connector	Feb 2024
M2PP			16997				



PP2O Local Roads										
Road	Start	End	Length	Start Name	End Name	ONF	Handover Stage			
TAYLORS RD	0	753	744	SH 1	NEW TIE-IN	Rural Roads	Nov 2023			
RAHUI RD	0	351	351	SH 1	COUNTY RD	Urban Connector	Nov 2023			
RAHUI RD	351	526	175	COUNTY RD	TE ROTO RD	Urban Connector	Nov 2023			
SCHOOL RD	0	237	237	TE HORO BEACH RD	EXPRESSWAY BR	Rural Roads	Nov 2023			
SCHOOL RD	237	324	87	EXPRESSWAY BR	EXPRESSWAY BR	Rural Roads	Nov 2023			
SCHOOL RD	324	450	126	EXPRESSWAY BR	WINIATA LINK	Rural Roads	Nov 2023			
SCHOOL RD	450	1057	607	WINIATA LINK	GEAR RD	Rural Roads	Nov 2023			
SCHOOL RD	1057	1153	96	GEAR RD	NEW TIE-IN	Rural Roads	Nov 2023			
JIM WINIATA WAY	0	1240	1240	SCHOOL ROAD	CUL-DE-SAC START	Rural Roads	Nov 2023			
JIM WINIATA WAY	1240	1270	30	CUL-DE-SAC START	CUL-DE-SAC END	Rural Roads	Nov 2023			
OTAKI GORGE LINK	0	373	373	SH1	OTAKI GORGE RAB	Urban Connector	Nov 2023			
OTAKI GORGE RAB	0	100	100	OTAKI GORGE	OTAKI GORGE	Urban Connector	Nov 2023			
OTAKI GORGE RD	0	66	65	OTAKI GORGE RAB	OLD HAUTERE RD	Rural Roads	Nov 2023			
OTAKI GORGE RD	66	208	141	OLD HAUTERE RD	NEW TIE IN	Rural Roads	Nov 2023			
OLD HAUTERE RD	0	1074	1074	SH 1	NEW TIE-IN	Rural Roads	Nov 2023			
GEAR RD	0	853	853	SCHOOL RD	NEW TIE-IN	Rural Roads	Nov 2023			
MAKAHURI ACCESS	0	209	209	SH1	END	Rural Roads	Nov 2023			
Local Arterial Route	0	2650	2650	MARYCREST	TE KOWHAI RD	Rural Connector	Nov 2023			
Otaki Gorge Rd Hump	6930	7295	365	Otaki River Br	South of OGR	Rural Connector	Nov 2023			
Sub-total (m)			9523							



PP2O Revocation											
Road	Start	End	Length	Start Name	End Name	ONF	Handover Stage				
Taylors to Otaki Nth	3695	4280	585	Taylors Road	North Otaki 50km	Rural Road	2027 approx				
Nth to Expressway	4280	4650	370	North Otaki 50km	Expressway ramp	Urban Connector	2027 approx				
Br 2/3 (nthern Otaki)	4650	5100	450	Expressway ramp	North Mill Rd	Urban Connector	2027 approx				
Nth of Mill Rd	5100	5190	90	North of Mill Rd	Mill Rd	Urban Connector	2027 approx				
Otaki Township	5190	5766	576	Mill Rd	Wairanga Rd	Activity Street	2027 approx				
Wairanga to OTG	5766	6930	1164	Wairanga Rd	Otaki River Br	Urban Connector	2027 approx				
OGR to Marycrest	7295	12672	5377	South of OGR	MARYCREST	Rural Connector	2027 approx				
Sub-total (m)			8612								

O2NL Forecast (KCDC section)												
Road	Start	End	Length	Start Name	End Name	ONF	Handover Stage					
Atkins to Pukehau	10907	11140	233	Atkins Rd	Pukehau O/Br	Rural Connectors	2030 approx					
Pukehau to Taylors	0	3300	3300	Pukehau O/Br	Expressway ramp	Rural Connectors	2030 approx					
Sub-total (m)			3533									

TG Forecast									
Road	Start	End	Length	Start Name	End Name	ONF	Handover Stage		
New Spur at RAB	0	150	150	Roundabout	Cul-de-sac	Rural Road	Unclear		
Sub-total (m)			150						



#### 6.16.3.2 Asset Condition

RAMM data has been collected to as part of the Wellington Northern Corridor Project and transferred to Council. Review of the condition data will be required as part of our familiarisation and confidence phase of handover. Condition information is required inform future maintenance and renewal programmes.

#### 6.16.3.3 Data Confidence Level

Data confidence levels are expected to be high as data is collected to Waka Kotahi (NZTA) highway operations standards. Through the revocation process, some issues have been discovered and data quality is variable. Review and correction of data will be taken from our Network Management Budget.

#### 6.16.3.4 Risk and Critical Assets

All of former SH1 is regarded as a critical asset as it provides access for many **Kāpiti** residents and resilience for the expressway.

#### 6.16.3.5 Lifelines

The new expressway will become the most important route in terms of lifelines and regional criticality. The former state highway includes key connections for local roads and a re-evaluation of lifelines may be appropriate, particularly in terms of underground infrastructure access and location.



Transmission Gully has been constructed to improve resilience and address demand. Accordingly it is expected that the Centennial Highway (Paekakariki to Pukerua Bay) will remain as critical assets in the region's lifelines programme.



Access & Transport AMP 2024-33 | 229



# 6.16.4 Management and Options

#### 6.16.4.1 Maintenance Plan

The M2PP local roads are already integrated into our Kāpiti Coast network.

The M2PP relocated route and PP2O local roads route are to be handed over to Council this year (2023-24). These routes will be added to our routine inspection regime and routine maintenance programmes.

Most of the additional 24.8km (6.2%) length is activity street/urban connector or rural connector with above average demand. However, the urban footpaths maintenance, kerb and sump cleaning was already undertaken by Council within the Highway MoU.

#### 6.16.4.2 Renewal/ Replacement Plan

The majority of assets will be transferred in good condition, with much of the length resealed prior.

Resurfacing, rehabilitation and renewal of associated assets will be included in future plans once the performance of the assets is better understood.

Streetlights on the M2PP Old State highway are old style sodium bulbs. Our intension is to upgrade these to LED luminaires in 2025/26 as a Low Cost Low Risk activity. This will provide a long-term electricity savings with associated emission reduction.

#### 6.16.4.3 Asset Creation Plan

#### M2PP Revocation

The repurposing of the Old SH1 route from Poplar Rd, through Paraparaumu and Waikanae to Peka Peka is being completed in the 2023/24 year. The Waikanae cycleway clip-in remains the only significant physical action required. This has "detuned" the route from a nationally strategic route with high freight capacity to a regionally strategic Urban connection.

No future work is expected in the 2024-27 period.

#### **PP2O Revocation**

The repurposing of the Old SH1 from Peka Peka, along the Te Horo Straights, through Otaki to the Otaki North is currently being designed. This includes changing the layout along the Te Horo Straights, a Cycle clip-on on the Otaki River Bridge, a cycleway from Otaki Gorge road to the Otaki township, Riverbank Road intersection upgrade, and Otaki township upgrade.

This will "detuned" the route from a nationally strategic route with high freight capacity to a regionally strategic Urban connection.

Funding is undertaken within three groups:

- Category 1 directly funded by Waka Kotahi
- Category 2 shared funding by Council and Waka Kotahi (typically
- Category 3 Council funded

Physical work will be undertaken in the 2024-27 period.

#### 6.16.4.4 Disposal Plan

No further disposals are anticipated.

Access & Transport AMP 2024-33 | 230



#### 6.16.4.5 The Case for Change

The change occurring is not Council initiated, the network is being transferred from Waka Kotahi (NZTA).

Council is aware of the benefits of improved mobility and safety from the expressway. It is also aware of the need that the former state highway is fit for purpose in terms of local needs. Safety and access become priority over the linking function.

The addition of 40km to the Council network represents 10% increase will occur through the expressway revocation processes. The costs associated with this are significant and need to be assessed and appropriately funded.

#### 6.16.4.6 Assessment of Options

Under the terms of the MoU Council is required to assume responsibility as detailed. This relates to future works and funding.

We have assumed that costs to maintain each section will be similar to One Network Framework (ONF) equivalent routes on of our network. We have applied costs on a pro-rata basis to our 2024-27 MOR budgets.

The ONF comparison as sensibility check against several actual roads – which confirmed the analysis was reasonable. This analysis is available to Waka Kotahi for review.

The lengths of additional road network for the 2024-27 period are:

M2PP/PP2O Local Roads	
ONF Breakdown	Length
Rural Roads	5509m
Rural Connectors	8783m
Peri Urban	3233m
Urban Connectors	6358m
Activity Streets	897m
	24780m

### Specific issues:

- 1. This does not include structures which will be subject to a separate assessment and work programme
- 2. While the street lights on the local roading network have been converted to LED, this has not yet happened on the (former) State Highway. An allocation is required for this transfer in case this is not completed prior to revocation. This is programmed as a LCLR action for 2025/26)
- The condition of the drainage assets on the former state highway are being surveyed, but this is currently inconclusive. Funding to raise to a satisfactory standard is not included in our AMP request.
- 4. A high proportion of the roadmarking on Old SH1 is long life paint, we expect this to last more than three years and is budgeted for in the 2024-27 period. A step change to repaint these high cost road marking will be required in the 2027-30 period.

### 6.16.4.7 Preferred Programme

Separate negotiations over structures will determine the future approach while renewal costs to be added once ascertained.

Access & Transport AMP 2024-33 | 231



Maintenance and Renewals will be undertaken within the existing maintenance contacts as variation/additional volumes.

PP2O revocation (Cat 2 and 3) will be undertaken within the Waka Kotahi revocation contract (yet to tender)

Action/Work	Driver for Action	Estimated Cost	Scheduled For	How this will be funded
Maintenance and	Condition assessment	265k	Annual -	Included in
operations excluding bridges	and compliance with standards	annually	ongoing	budgets as a step from 2023/24.
Resurfacing and	Condition assessment	157k	Annual -	Included in
rehabilitation	and compliance with standards	annually	ongoing	budgets as a step from 2023/24.
Bridge	Condition assessment	To be agreed		
maintenance and renewals	and compliance with standards			
Culvert maintenance and renewals	Condition assessment and compliance with standards	To be agreed		
PP2O Revocation	Repurposing of the Old	\$4m total	2024-26	Depreciation and
– Cat 2	SH1	(KCDC)		indirect FAR
PP2O Revocation	Repurposing of the Old	\$2m total	2024-26	Depreciation
– Cat 3	SH1	Non-sub		

#### 6.16.4.8 Financial Forecast

Financial forecasts are included on a proportional basis across the relevant activities.

# **6.16.5** New Improvement Items

# Improvement item 2024.6.7

Collect data to ascertain streetlight renewal (including LED) requirements for former SH1

Access & Transport AMP 2024-33 | 232



# **6.17 Capital Projects**

# 6.17.1 Introduction

This section provides a summary of non-routine projects.

Many of our non-routine projects are included our Maintenance Operations and Renewals (MOR) or Low Cost Low Risk (LCLR) sections within the earlier section of this Programme Business Case (PBC) document.

The Projects and Initiatives outside our MOR or LCLR programmes are captured within this section.

All non-routine project are listed below, with reference to where they are identified in the PBC.

# 6.17.2 Project List

Project	Reference
East West Connector	See below
Waikanae Main Street Ped Upgrade	See below
Tieko St upgrade	See below
IAF Roading upgrade - Anzac Rd	See below
Te Horo Beach culvert replacement	MOR section 3 - Drainage
Mazengarb culvert replacement	MOR section 3 - Drainage
Kapiti culverts replacement	MOR, section 8 - Bridge, Walls and Other Structures
Matatua culvert replacement	MOR, section 8 - Bridge, Walls and Other Structures
Te Horo Beach Rd Lift	LCLR, section 9 - Resilience
Rangiwhati Bridge Abutment Protection	LCLR, section 9 - Resilience
Blue Bluff Slip	MOR, section 10 - Emergency Management
Raumati Matatua intersection upgrade	LCLR, section 12 -Safety Improvements
Transport model development	Investment, section 14 - Transport model
PP2O Revocation – Cat 2 & Cat3	Revocation, section 16 - Former SH1
Riverbank Road shared path	LCLR, section 6.3.3.3 - walking and cycling
PekaPeka Road cycle facility	LCLR, section 6.3.3.3 - walking and cycling
Park Avenue shared path	LCLR, section 6.3.3.3 - walking and cycling

Access & Transport AMP 2024-33 | 233



# **6.17.3** East West Connector

### 6.17.3.1 Project summary

Currently there are limited transport connections between SH1, Ihakara Street west, Kāpiti Road and Rimu Road which impedes transport accessibility to the town centre, limiting travel choice and economic development.

This project will provide better travel options to support people walking, cycling and using public transport, increase access to economic opportunities, provide the ability to improve safety and reduce congestion for more efficient movement of people and goods.



# 6.17.3.2 Project funding

Funding would be shared between the developer and Council.

Action/Work	Driver for Action	Estimated Cost	Scheduled For	How this will be funded
Safety, Mode	Resilient and	\$19,000,000	2024- 2027	Developer and
Shift and	efficient network	Council/FAR		Council/FAR
Connectivity		contribution		

Access & Transport AMP 2024-33 | 234



# 6.17.4 Waikanae Main Street Pedestrian Upgrade

#### 6.17.4.1 Project summary

Completing section of the Waikanae Main Street that were not undertaken within the State Highway revocation project. This includes the reforming of the large island on Old SH1 south of Te Moana Road

#### 6.17.4.2 Project funding

Action/Work	Driver for Action	Estimated Cost	Scheduled For	How this will be funded
Town centres upgrade - Non-sub		ТВА		Non-sub

# 6.17.5 Tieko Street Upgrade

#### 6.17.5.1 Project summary

Tieko Street is a 230m long local street in a peri-urban setting off Otaihanga Road. Currently Tieko Street has no footpath or kerb and channel and is narrow.

A proposed subdivision adjacent to Tieko Street is the catalyst for the upgrade improvements. As a part of the subdivision the developer and Council have agreed on a package of upgrades to Tieko Street which would provide a footpath along the northern side, resurfacing of the road, street lighting and road markings and signage.

These upgrades will accommodate and encourage walking and cycling within the area as well as improving



the safety of all road users and providing better access for the proposed subdivision and residents of Tieko Street.

### 6.17.5.2 Project funding

Funding would be shared between the developer and Council.

Action/Work	Driver for Action	Estimated Cost	Scheduled For	How this will be funded
Growth and	Resilient and	150K	One-off	rates/ Depreciation/
Connectivity	efficient network			developer contribution

# 6.17.6 IAF Roading upgrade - ANZAC Rd

# 6.17.6.1 Project summary

Council has been successful in obtaining funding from the Infrastructure Acceleration Fund (IAF) which is administered by Kainga Ora. The purpose of this funding is to support and enable new homes in Otaki. The objective is to ensure the transport network is resilient, fit for purpose and supports anticipated future growth.

The ANZAC Road works include upgrading the Mill Road/ ANZAC Road intersection, road widening and installing/upgrading footpath facilities along ANZAC Road to provide improved connectivity and access to a proposed land development project.

Access & Transport AMP 2024-33 | 235



# 6.17.6.2 Project funding

Funding would be shared between the developer and the IAF funding (through KCDC).

Action/Work	Driver for Action	Estimated Cost	Scheduled For	How this will be funded
Growth and	Resilient and	500k	2026/27 (one	IAF /developer
Connectivity	efficient network		off)	contribution

Access & Transport AMP 2024-33 | 236



# 7 RISK MANAGEMENT

Risk management as part of overall asset management is a core business driver that influences decision making and is not an activity that is undertaken in isolation. Risks that Council may encounter have to be identified as well as the impact that these risks have on the organisation. This includes consideration of which assets are more critical to delivery of the services.

# 7.1 Risk Management Overview

Our Access and Transport Risk Management has been developed with guidance from:

- NZTA Waka Kotahi Z/44 Risk management practice guide. Recognising this standard gives
  opportunity to build more alignment and consistency with the roading sector.
- NZTA Research report 415 Case studies and best practice guidelines for risk management on road networks – Sept 2010

## The risks for the Access & Transport Activity arise from:



### Diagram from NZTA Research report 415

Risk management often focuses on managing the negative. Opportunities are also managed within this process to encourage better outcomes.

## Risk planning

Both the AMP and Emergency Management Plans are in place in order to prepare for, respond and recover from risks. Our physical works are delivered through contracts with approved Contract Management Plans (CMP). This CMP's are key tools to document the Contractors processes to identify and manage risk.

Access & Transport AMP 2024-33 | 237



# 7.2 Risk Management Process

Our team have adopted a circular risk management process. Once risks are identified, they are documented and managed with an assessed treatment, and finally review and continue to manage until the risk is closed.



# 7.2.1 Risk workshops

A team approach is taken to collectively identify risks within a regular 6-monthly risk workshop.

Each risk is assigned an owner and a treatment plan agreed. The regular risk workshops ensure that the risks remain live until the treatment is embedded and the risk is able to be closed.

## 7.2.2 Risk register

A risk register is held in our sharepoint database to hold the risk details including the risk rating, treatments and status. A summary of the register is held on the following page with for significant risks.

# 7.2.3 Threat & Opportunity Matrix

KCDC Access and Transport have adopting the NZTA Z/44 Risk Management Standard risk matrix and associated rating scales. This matrix (below) shows both threat and opportunity,

				NZ T	ranspo	rt Age	ncy Th	reat &	Opport	unity R	Risk Ma	trix		
					Threat					Opportur	nity			
			Insignificant	Minor	Moderate	Severe	Extreme	Extreme	Severe	Moderate	Minor	Insignificant		
		Almost Certain	LOW	MEDIUM	нібн	CRITICAL	CRITICAL	CRITICAL	CRITICAL	HIGH	MEDIUM	LOW	Almost Certain	
	Likelihood	Likely	LOW	MEDIUM	нібн	CRITICAL	CRITICAL	CRITICAL	CRITICAL	HIGH	MEDIUM	LOW	Likely Possible	7
		Possible	LOW	MEDIUM	MEDIUM	нісн	CRITICAL	CRITICAL	нібн	MEDIUM	MEDIUM	LOW		Likelihood
	_	Unlikely	LOW	LOW	MEDIUM	MEDIUM	нідн	HIGH	MEDIUM	MEDIUM	LOW	LOW	Unlikely	
		Rare	LOW	LOW	LOW	LOW	HIGH	HIGH	LOW	LOW	LOW	LOW	Rare	
			Insignificant	Minor	Moderate	Severe	Extreme	Extreme	Severe	Moderate	Minor	Insignificant		
							Conse	quence						

Access & Transport AMP 2024-33 | 238



Table 7.1: Risk register summary with the significant risks

(summarised from full risk register)

Risk Type (threat/ opportunity)	Description	Cause	Consequence	Current risk level	Consequence Category	Planned Risk treatment	Residual Risk level	Risk status	Comment
Planning risl	ks								
Threat	Ability to deliver the agreed LOS within available funding	Inflation reducing the amount of work for the restrained budget	less work done, lower level of service	High	LOS in funding	Regular funding meetings with Council and Waka Kotahi - seek additional funding	Medium	Live- Treat	OPEX funded, most of CAPEX funded
Threat	Ability for Council and Waka Kotahi to fund the continuous programme	Increased operating costs due to industry inflation within a constrained funding environment	Restrained delivery, consumption of asset with less and optimal renewal cycles	High	Funding available	Regular updates to Waka Kotahi and Council funding representatives	Medium	Live- Treat	Funding gap remains possible, however gap is likely to be less than if not managed
Managemer	nt risks								
Threat	Access and Transport team capacity not meeting delivery need	More work being undertaken inhouse, increase in network size with revocated roads	Slower and lower quality delivery, low staff moral, erosion of skill within team	High	Council ability	Considered request made for additional staff with next LTP cycle	Medium	Live- Treat	Partial solution with one staff member, remainder of request to continue to be requested.
Delivery risk	s								
Threat	Road maintenance below standard due to contractors ability to deliver	Contractor resources capacity and skill restricted due to restrained labour market effecting quality of work	LOS not met	High		Regular honest meetings, flexibility to deliver work when resources become available	Medium	Live- Treat	Work generally meets standard

Access & Transport AMP 2024-33 | 239



						Me Huri Whakamuri, Ka Titiro Whakamua			
Risk Type (threat/ opportunity)	Description	Cause	Consequence	Current risk level	Consequence Category	Planned Risk treatment	Residual Risk level	Risk status	Comment
Physical Ass	set risks								
Threat	Increasing number of potholes and pavement failures	Not enough repairs being undertaken (funding), not enough resurfacing completed (funding)	Damage to vehicles, organisation reputational impact, road user safety	High	Pavement failures	Request additional funding in next LTP to align with network needs	Medium	Live- Treat	Treat linked to T-001 and T-002
Threat	Blue Bluff closed to public due to safety in slip area	Overslip has inspection walkway, however deemed unsuitable for public access	Fall hazard or rock fall hazard causing injury or loss of life	Critical	Safety of public	Gates and signage in place. Long term reopen route or formally close.	High	Live- Treat	Ongoing until slip resolved
Threat	Crash caused by failure to maintain road or road assets	Ineffective Inspection regime, faults not found in reasonable time	Pavement fault such as potholes, or asset fault, such as sign missing	High	Safety of public	Improve inspection (RAMM Patrol) regime	Medium	Live- Treat	Patrols due for update
Threat	Major Natural event readiness (i.e. major storm, earthquake, tsunami - i.e. 1 in 100+ year event)	Natural event	Closed roads, major cleanup and rebuild, major costs	Critical	Natural events	Update Emergency Procedures	High	Live- Treat	Plan to link to EOC/RTRT systems
Threat	Significant Natural event readiness (i.e. 1 in 10 year event)	Natural event	Closed roads, major cleanup and rebuild, major costs	High	Natural events	Update Emergency Procedures	Medium	Live- Treat	Plan in place, however update needed
Threat	Low quality assets that don't meet Council requirements being vested in Council from developers and contractors	Failure of controls to specify and/or identify below standard assets prior to acceptance	Low asset performance requiring Council funding correct	Medium	Vested assets	Support Develelopment Control to manage asset quality	Medium	Closed	Measures established and effective.
Threat	Assets less than "fit for purpose" being handed to Council from Waka Kotahi in the M2PP revocation process	Some culverts and pavement issues not identified within Revocation project	Poor asset integrity until high cost investment by Council to improve to standard	High	Vested assets	Active involvement in Revocation process, raising items to senior management for agreements	Medium	Live- Treat	Some residual costs likely



# 7.3 Critical Assets and Resilience

# 7.3.1 Council wide approach

Critical assets are defined as assets that have a high consequence of failure.

At a network level, critical roading assets for Council within the Access and Transport Activity have been identified using the following assumptions:

- Failure of an asset would cause significant performance impact on core traffic routes
- Arterial and Primary collector
- Where no short detour is available, or congestion would be caused by the detour
- Failure of an asset cause closure a route with not alternative route available.

# 7.3.2 Criticality Assessment

A Criticality Assessment has been undertaken using the method described in

#### References:

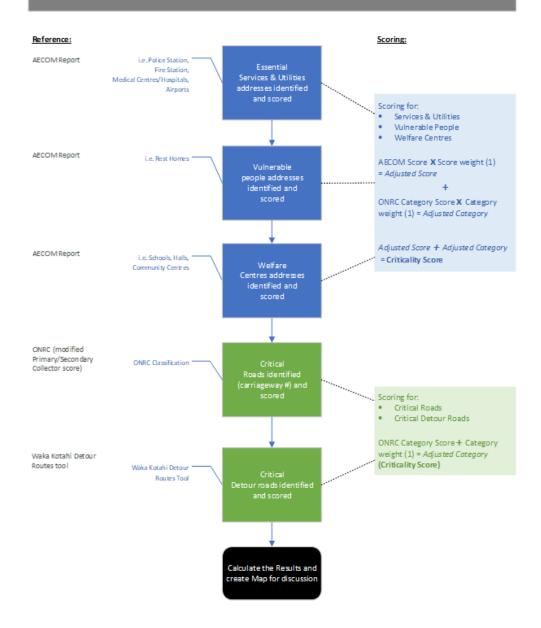
AECOM Report "Review of methods to determine criticality of roading networks" September 2016
Waka Kotahi Detour Routes Tool https://detours.myworksites.co.nz/

Access & Transport AMP 2024-33 | 241



Figure 62: Criticality Analysis Criteria

# NETWORK CRITICALITY ANALYSIS



#### References:

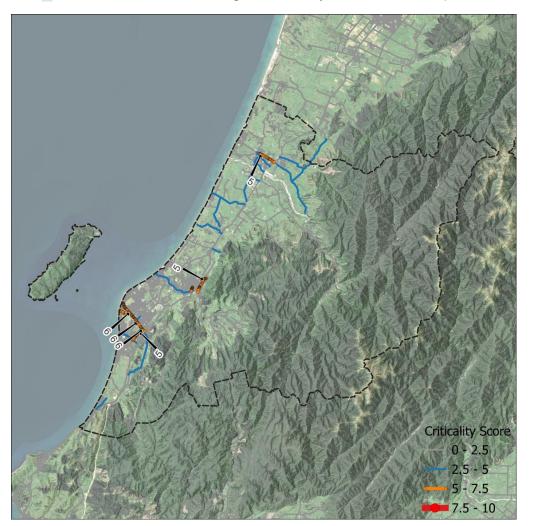
AECOM Report "Review of methods to determine criticality of roading networks" September 2016
Waka Kotahi Detour Routes Tool https://detours.myworksites.co.nz/

Access & Transport AMP 2024-33 | 242



The workshop session with the Roading Team identified the need to review care facility locations and increase the importance of State Highway Detours.

Figure 61: Critical Roads in the District (following Staff Workshop, excludes revoked SH)



Access & Transport AMP 2024-33 | 243



Table 6.1: List of Critical Roads (following Staff Workshop, partially considers revoked SH)

				Score	Adj		Category	Adj	Criticality
Criteria	Road2	Area in District	Score	Weight	Score	Category	Weight	Category	Score
SH Detour	Addington Rd					1.5	1	2.5	2.5
Hall - Reikorangi Hall	Akatarawa Rd	Waikanae	0.25	1	0.25	1.5	1	1.5	1.75
SH Detour	Amohia Street (SH1)	Paraparaumu				3	1	3	3
Aged Care - Parkwood Retirement Village	Belvedere Ave	Waikanae	3	1	3	1.5	1	1.5	4.5
School - St Peter Chanel Catholic School	Convent Rd	Otaki	0.25	1	0.25	1.5	1	1.5	1.75
School - Kenakena School	Donovan Rd	Paraparaumu	0.25	1	0.25	2	1	2	2.25
SH Detour	Emerald Glen Road	Raumati to Paekakariki				3	1	3	3
School - Paraparaumu Beach School	Gray Ave	Paraparaumu	0.25	1	0.25	1.5	1	1.5	1.75
SH Detour	Hadfield Link Road					2	1	3	3
Police - Otaki	ITI ST (OTAKI)	Otaki	2	1	2	1.5	1	1.5	3.5
School - Kapiti Christian School	Jeep Rd	Raumati South	0.25	1	0.25	1.5	1	1.5	1.75
Medical - Wakefield Specialist Medical Centre	Kapiti Rd	Paraparaumu	3	1	3	3	1	3	6
SH Detour	Kapiti Rd	Paraparaumu				3	1	4	4
Aged Care - Sevenoaks Lodge	Lodge Dr	Paraparaumu Beach	3	1	3	1	1	1	4
SH Detour	Main Rd (SH1)	Waikanae				3	1	4	4
Hall - Ōtaki Memorial Hall	Main St	Otaki	0.25	1	0.25	3	1	3	3.25
Medical - Waikanae Health	Marae Lane	Waikanae	3	1	3	2	1	2	5
Aged Care - Kapiti Rest Home	Marine Parade (Paraparaumu)	Paraparaumu Beach	3	1	3	2	1	2	5
School - Raumati South School	Matai Rd (Raumati)	Raumati South	0.25	1	0.25	1.5	1	1.5	1.75
School_Hall - Paraparaumu College & Sports Hall	Mazengarb Rd	Paraparaumu	0.25	1	0.25	1.5	1	1.5	1.75
Fire Station - Otaki	Mill Rd	Otaki	2	1	2	3	1	3	5
School - Otaki School	Mill Rd	Otaki	0.25	1	0.25	3	1	3	3.25
Aged Care - Millvale House Waikanae	Millvale St	Waikanae	3	1	3	1	1	1	4
Hall - Paekakariki Tennis Club Hall	Miriona Gr	Paekakariki	0.25	1	0.25	1	1	1	1.25
SH Detour	Morrison Rd					1.5	1	2.5	2.5
SH Detour	Old State Highway 1	Otaki				3	1	4	4
SH Detour	Old State Highway 1	Paraparaumu				3	1	4	4
SH Detour	Old State Highway 1	Waikanae				3	1	4	4
Aged Care - Charles Fleming Retirement Village	Parata St	Waikanae	3	1	3	2	1	2	5
Aged Care - Summerset Waikanae	Park Ave (Waikanae)	Waikanae	3	1	3	2	1	2	5
Hall - Waikanae War Memorial Hall	Pehi Kupa St	Waikanae	0.25	1	0.25	1.5	1	1.5	1.75
Aged Care - Kena Kena Rest Home	Percival Rd	Paraparaumu Beach	3	1	3	1.5	1	1.5	4.5
School - Te Rā Waldorf School & Te Rāwhiti									
Kindergarten	Poplar Ave	Raumati South	0.25	1	0.25	2	1	2	2.25
	•								



							Me Huri Whakamuri, Ka Titiro Whakamua		
				Score	Adj		Category	Adj	Criticality
Criteria	Road2	Area in District	Score	Weight	Score	Category	Weight	Category	Score
School - Our Lady of Kāpiti School	Presentation Way	Paraparaumu	0.25	1	0.25	1	1	1	1.25
SH Detour	Pukenamu Rd					1.5	1	2.5	2.5
SH Detour	Rahui Rd					1.5	11	2.5	2.5
School - Raumati Beach School & Kindergarten	Raumati Rd	Paraparaumu	0.25	1	0.25	3	1	3	3.25
School - Raumati Primery School	Raumati Rd	Paraparaumu	0.25	11	0.25	3	11	3	3.25
School - Kapiti College	RAUMATI RD	Paraparaumu	0.25	1	0.25	3	1	3	3.25
Hall - Waikanae Beach Community Hall	Rauparaha St	Waikanae	0.25	1	0.25	1.5	1	1.5	1.75
Aged Care - Summerset on the Coast	Realm Dr	Paraparaumu	3	1	3	2	1	2	5
Police - Paraparaumu	Rimu Rd (Raumati)	Paraparaumu	2	1	2	3	1	3	5
Aged Care - Metlifecare Coastal Villas	Rimu Rd (Raumati)	Raumati Beach	3	1	3	3	1	3	6
School - Kapanui School	Rimu St (Waikanae)	Waikanae	0.25	1	0.25	1.5	1	1.5	1.75
SH Detour	Rimutaka Street (SH1)	Paraparaumu				3	1	3	3
SH Detour	Ringawhati Rd					1.5	1	2.5	2.5
SH Detour	Riverbank Rd	Otaki				3	1	4	4
SH Detour	Ruapehu St	Paraparaumu				3	1	4	4
SH Detour	Ruapehu St					2	1	3	3
School - Paraparaumu School	Ruapehu St	Paraparaumu	0.25	1	0.25	2	1	2	2.25
Hall - Mazengarb Reserve Sports Complex Hall	Scaife Dr	Paraparaumu	0.25	1	0.25	0	1	0	0.25
SH Detour	School Rd	Otaki				3	1	4	4
School - Te Horo School	School Rd	Te Horo	0.25	1	0.25	2	1	2	2.25
School - Waitohu School	Tararua Cres (Otaki)	Otaki	0.25	1	0.25	1	1	1	1.25
SH Detour	Te Hapua Rd					1.5	1	2.5	2.5
SH Detour	Te Horo Beach Rd (Rural)					2	1	3	3
Aged Care - Arvida Waikanae Lodge	Te Moana Rd	Waikanae	3	1	3	1.5	1	1.5	4.5
Fire Station - Waikanae	Te Moana Rd	Waikanae	2	1	2	1.5	1	1.5	3.5
Aged Care - Waikanae Country Lodge	Te Moana Rd	Waikanae	3	1	3	1.5	1	1.5	4.5
SH Detour	Te Moana Rd	Waikanae				3	1	4	4
Fire Station - Paraparaumu	Te Roto Dr	Paraparaumu	2	1	2	2	1	2	4
SH Detour	Te Waka Rd	<u>'</u>				1.5	1	2.5	2.5
Hall - Raumati South Memorial Hall	Tennis Court Rd	Raumati South	0.25	1	0.25	1.5	1	1.5	1.75
Hall - Paekākāriki Memorial Hall	The Parade	Paekakariki	0.25	1	0.25	1.5	1	1.5	1.75
Fire Station - Paekakariki	Tilley Rd	Paekakariki	2	1	2	1	1	1	3
Flight - Paraparaumu Airport & Aero Club	Toru Rd (Paraparaumu)	Paraparaumu	5	1	5	1.5	1	1.5	6.5
Hall - Paraparaumu Memorial Hall	Tutanekai St	Paraparaumu	0.25	1	0.25	2	1	2	2.25
Hall - Waikanae Community Centre	Utauta St	Waikanae	0.25	1	0.25	1	1	1	1.25
Aged Care - Eldon Rest Home	Valley Rd	Paraparaumu	3	1	3	1	1	1	4
SH Detour	Valley Rd	Paraparaumu		•		1.5	1	2.5	2.5
	- way i tu	. araparaama				1.0		2.0	2.0



							Me Huri Whakamuri, Ka Titiro Whakamua			
				Score	Adj		Category	Adj	Criticality	
Criteria	Road2	Area in District	Score	Weight	Score	Category	Weight	Category	Score	
SH Detour	Waitohu Valley Rd	Otaki				1.5	1	2.5	2.5	
		Paraparaumu Raumati								
SH Detour	Waterfall Rd **	South				1.5	1	2.5	2.5	
School_Hall - Paekakariki School & Hall	Wellington Rd	Paekakariki	0.25	1	0.25	1.5	1	1.5	1.75	
Aged Care - Bupa Winara Care Home and Retirement										
Village	Winara Ave	Waikanae	3	1	3	2	1	2	5	



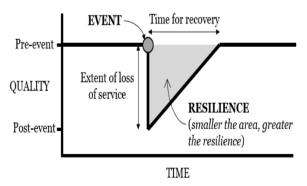
# 7.4 Resilience

Resilience engineering aims at building its capacity to get over disturbances or stress while keeping the functionalities needed to survive, and possibly thrive. (Jean-Paul Louisot, Université de Paris 1 Panthéon-Sorbonne).

Assessing resilience can be undertaken in a similar manner to Emergency Management Planning; the following has been adapted from <a href="https://doi.org/10.1007/jhear-10

1	Reduction	Identifying and analysing long-term risks from hazards; taking steps to eliminate these risks if practicable, and, if not, reducing the magnitude of their impact and the likelihood of their occurring.
2	Readiness	Developing operational systems and capabilities before a emergency happens; including self-help and response programmes for the general public, and specific programmes for emergency services, lifeline utilities and other agencies.
3	Response	Actions taken immediately before, during or directly after a emergency to save lives and protect property, and to help communities recover.
4	Recovery	The coordinated efforts and processes to bring about the immediate, medium-term and long-term holistic regeneration of a community following a emergency.

Resilience can be addressed through limiting the extent of loss of service, typically through infrastructure redundancy or 'over-engineering'; or through being able to limit the impact of an incident through effective recovery.



(Diagram courtesy of Stuart Woods NZTA Lead Adviser - Resilience)

The changes to the configuration of the state highway and local road network has a significant impact on resilience. The establishment of an expressway through the district creates ahigh standard 'spine' which is supplemented by local roads. This creates a high level of redundancy. There are some location where there are few options beyond SH1/Kāpiti expressway.

Access & Transport AMP 2024-33 | 247



## 7.4.1 Lifelines

In addition to the

- Arterial Roads & Lifelines
- Arterial Bridges, Culverts in these road corridors

When considering the criticality ranking of the arterial/Primary Collector roads and lifelines the following criteria have been used to rank the critical assets:

- potential of temporary road widening/bypass in case of failure
- road provides access to critical sites (Airport, Fire Station, Water and Waste Water Treatment Plant, Police Station, EM Centre) and/or
- weight restricted bridges/culverts within the road corridor

As well as the following statement starting point from the "WeLG / WREMO 'Transport Access' initial project report" – March 2013 report):

If an earthquake happened today, and while access into the region is being restored, the response for restoring the local transport network would be to:

Restore access from State Highway 1 into the local road network, concentrating in priority order on:

- 1. Restoring access to Paraparaumu airport
- 2. Restoring the arterial and primary collector roads, and then
- 3. Restoring the local community connectors/minor roads

Critical Routes and Bridges to be updated with Revocation details once handed over

Table 7.2: Arterial/Primary Critical Bridges (Arterial Primary Collectors)

Name	KCDC Bridge Number	Owner	Arterial/Primary Collector	SH/Road Name	Start	End	Structure Type
AKATARAWA ROAD	22	KCDC	Arterial/Primary Collector	AKATARAWA RD	618	625	Bridge
IHAKARA CULVERT	40	KCDC	Arterial/Primary Collector	IHAKARA ST	550	553	Culvert
KAPITI CULVERT	29	KCDC	Arterial/Primary Collector	KAPITI RD	3583	3586	Culvert
MARINE PARADE CULVERT	30	KCDC	Arterial/Primary Collector	MARINE PARADE (PARAPARAUMU)	46	48	Culvert
MATATUA	26	KCDC	Arterial/Primary Collector	MATATUA RD	220	235	Bridge
MATATUA SIDE CULVERT	31	KCDC	Arterial/Primary Collector	MATATUA RD	220	330	Culvert
MAZENGARB ROAD	27	KCDC	Arterial/Primary Collector	MAZENGARB RD	1003	1012	Culvert
Peka Peka Overpass		Crown	Arterial/Primary Collector	PEKA PEKA LINK ROAD	720	754	Bridge
REIKORANGI ROAD	23	KCDC	Arterial/Primary Collector	REIKORANGI RD	3053	3087	Bridge
RIMU ROAD	32	KCDC	Arterial/Primary Collector	RIMU RD (RAUMATI)	1184	1214	Bridge
RIMU ROAD BOX	39	KCDC	Arterial/Primary Collector	RIMU RD (RAUMATI)	684	697	Culvert
TASMAN CULVERT	47	KCDC	Arterial/Primary Collector	TASMAN RD	1580	1582	Culvert

Table 7.3: Arterial/Primary Collectors and Lifeline Bridges

Bridge Ref	Name	Location	Length (m)	Criticality rank	Condition
29	Kāpiti Road	Paraparaumu	3	Medium	Average
26	Matatua	Matatua Road, Raumati Beach	15	Low	Excellent
31	Matatua Side Culvert	Matatua Road, Raumati Beach	110	Medium	Good
27	Mazengarb Road	Paraparaumu	9	Medium	Good
39	Rimu Road Box	Paraparaumu	13	Low	Excellent
32	Rimu Road	Paraparaumu	30	Medium	Good

Access & Transport AMP 2024-33 | 248



# 7.5 Emergency Plans

The Access and Transport teams Emergency Response Plan covers procedures and responsibilities for road responses.

The plan sits under the KCDC Emergency Operations Centre (EOC) processes, and our team report to the EOC for significant events.

Our Emergency Plan covers small incidents to large emergency events, and ties into the Road Maintenance Contractors response requirements. The plan covers the readiness and response phases, and "hands back" the event site to the road operations team for rebuild (or tidy-up for smaller incidents)

Access & Transport AMP 2024-33 | 249



# 8 FINANCIAL SUMMARY

## 8.1 Financial Summaries

This Section outlines the long term financial requirements for the operation, maintenance, renewal and development of the access and transport assets based on long term strategies and tactics outlined earlier in the Plan. Funding issues are discussed and key assumptions made in preparing financial forecasts are noted.

The 2024-27 funding request has a step change across most funding categories which is beyond the Long term plan expectation. The factors driving this change is described below in "the Impact of rising costs".

## 8.1.1 The impact of rising costs

Kapiti Coast District Council has experienced a period of high and persistent inflation across a broad range of areas. Our Access and Transport team have seen cost increases in all activities, and this is confirmed through the Waka Kotahi exculpation indices.

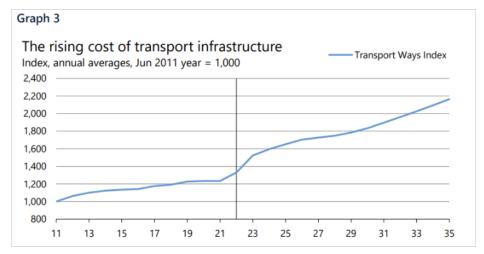
#### 8.1.1.1 Infometrics Cost Escalation Forecast 2023 Report

Infometrics (NZ based economic consultancy) has recently provided a report to Kapiti Coast District Council for the Cost Escalation Forecast 2023. The Transport sections note:

#### **Transport Ways Index**

- Transport infrastructure costs have risen nearly 24% over the last three years to June 2023, considerably faster than the 4.8% increase observed over the three years to June 2020.
- Transport infrastructure costs are forecast to rise 2.7%pa on average over the 10 years to 2035.
   This average growth is above the 2.1%pa observed on average over the 10 years to June 2021.
- Over the medium-term we expect cost inflation for transport infrastructure to trend at between 3.0% and 3.5%pa.

The graph 3 and 4 from the report provide context to the prior and forecast associated with this period of high-cost escalation:

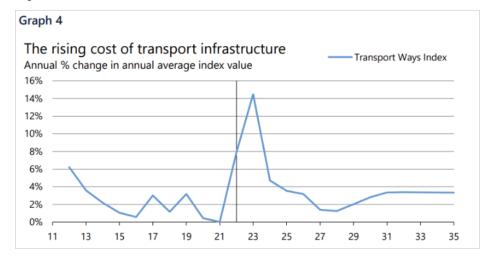


Demand pressures in the civil construction sector remain relatively strong due to a range of factors, including investment shortfalls in previous years that now require a catch-up in spending, major central

Access & Transport AMP 2024-33 | 250



government infrastructure initiatives, and repair and rebuilding work associated with extreme weather events in early 2023. As a result, transport infrastructure cost inflation is forecast to rebound to 4.8%pa in early 2024 and remain close to 3.5%pa throughout the rest of next year. Graph 4 shows the annual rates of growth for the Index.



Slower cost growth for transport infrastructure is forecast between 2026 and 2029. This reflects a stabilisation of key input costs after the elevated growth rates recorded in the wake of COVID-19, as well as investment in an expansion of capacity that will provide some relief from the constraints currently being faced by the civil construction industry. However, there are upside risks to our forecast of cost growth averaging 1.8%pa over the four years to December 2029 if capacity is not expanded, or growth in demand for work continues to expand faster than the industry's ability to meet that demand. Over the medium-term, we expect cost inflation for transport infrastructure to trend at between 3.0% and 3.5%pa

## 8.1.1.2 Draft Government Policy Statement on Land Transport (Aug 2023)

We note within the Ministerial foreword by Hon David Parker (Minister of Transport) bring focus on responding to increased costs.

"We recognise cost pressures on the National Land Transport Fund and the need to increase revenue for essential maintenance for our roads. That is why this draft GPS 2024 proposes to increase revenue by 34 percent over 2024 – 2026 compared to the previous cycle of 2021 – 2023. This means expenditure will increase from \$15.5 billion to \$20.8 billion, enabling us to better maintain our roads and services" Hon David Parker

## 8.1.1.3 KCDC Access and Transports approach to costs increase

Our long term programme has been developed within a fiscally constrained environment where we understand affordability is a key factor. All activity requests have been based on the need to provide service, safety and to protect asset integrity. Where our funding request is outside the trend, we have provided a "Step Change in this LTP" context dialogue within this Programme Business Case for transparency.

The level of services has been held to the current standard in each activity (unless otherwise discussed), with intent to hold our assets in stable condition.

Our Council and Waka Kotahi will provide review and challenge to our request.

Access & Transport AMP 2024-33 | 251



# 8.2 2024-27 Financial Request (TIO)

Waka Kotahi TIO	funding	2024/25	2025/26	2026/27	2024-27
Local road maintena	ance				
Maintain	WC 111: Sealed pavement maintenance	1,478,413	1,514,158	1,521,308	4,513,879
Maintain	WC 112: Unsealed pavement maintenance	60,013	61,464	61,755	183,232
Maintain	WC 113: Routine drainage maintenance	736,351	754,154	757,715	2,248,220
Maintain	WC 114: Structures maintenance	81,686	83,661	84,056	249,403
Maintain	WC 124: Cycle path maintenance	169,059	173,147	173,964	516,170
Maintain	WC 125: Footpath maintenance	412,308	422,276	424,270	1,258,854
Maintain	WC 140: Minor events	301,928	309,228	310,688	921,844
Operate	WC 121: Environmental maintenance	887,248	908,699	912,989	2,708,936
Operate	WC 122: Traffic services maintenance	1,313,521	1,345,279	1,351,631	4,010,431
Operate	WC 123: Network operations	62,247	63,752	64,053	190,052
Operate	WC 131: Level crossing warning devices	35,156	36,006	36,176	107,338
Operate	WC 151: Network and asset management	1,084,563	1,110,785	1,116,030	3,311,378
Maintain and opera	te subtotal	6,622,492	6,782,610	6,814,634	20,219,736
Renew	WC 211: Unsealed road metalling	58,318	59,728	60,010	178,056
Renew	WC 212: Sealed road resurfacing	2,667,869	2,732,373	2,745,273	8,145,515
Renew	WC 213: Drainage renewals	810,656	770,952	703,092	2,284,700
Renew	WC 214: Sealed pavement rehabilitation	935,729	958,353	962,877	2,856,959
Renew	WC 215: Structures comp replacements	121,598	124,538	125,126	371,262
Renew	WC 216: Bridge and structures renewals	431,072	3,987,152	303,878	4,722,102
Renew	WC 221: Environmental renewals	10,340	10,590	10,640	31,570
Renew	WC 222: Traffic services renewals	905,352	927,242	931,620	2,764,214
Renew	WC 224: Cycle path renewal	160,394	164,272	165,048	489,714
Renew	WC 225: Footpath renewal	483,788	495,485	497,824	1,477,097
Renewal subtotal		6,585,115	10,230,684	6,505,388	23,540,923
Local road maintena	ance total	13,207,607	17,013,294	13,320,022	43,540,923
Local road improve	ments				
New and Upgrade	WC 341 - LCLR (Local Road improvements)	897,546	2,864,006	3,681,935	7,443,487
New and Upgrade	WC 341 - LCLR (Walking and Cycling)	878,177	1,743,977		3,666,831
, 0	WC 357 - Resilience improvements	,	533,736		
Local road improve		1,775,723	5,141,719		13,431,574
Road to zero					
New and upgrade	WC 432 - Promotion, education and ads	105,468	108,018	108,528	108,528
Road to zero total		105,468	108,018	108,528	108,528

Access & Transport AMP 2024-33 | 252



# 8.3 30 Year Financial Forecast

Access and Transport's 30 year forecast is shown below. This is the total Council forecast and includes unsubsidised works (no Waka Kotahi contribution)

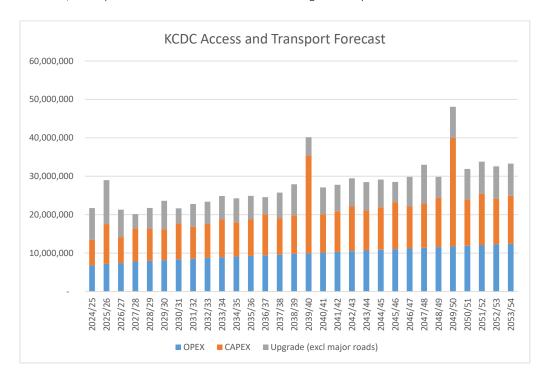
This extends our 10 year forecast with future network growth and cost escalation estimates. Projects and major renewals that are probable are included in most likely year.

Clearly, as the future lens is extended the assumptions compound and accuracy decreases. However, looking towards the horizon provides the best estimate of the financial commitments required to achieve our long term strategies. As we update the long term forecast at every three year, the accuracy improves as the projects come closer to the present.

The forecast includes all Access and Transport works (including non-subsidies works) with the exception of the proposed East West Connector project. At the time of writing, the East West Connector was in a major review phase.

#### Steps in the programme:

- 2024/25 upgrades is higher with Blue Bluff remediation, PP20 Revocation (Council Share), town centre upgrade (unsubsidised)
- 2025/26 in CAPEX renewal allows for major culvert replacements on Kapiti Road at Paraparaumu Beach and the upgrades is higher with the remainder of upgrades high with Blue Bluff remediation PP20 Revocation (Council Share), town centre upgrade (unsubsidised)
- 2039/40 allows for the Matatua Culvert replacement.
- 2049/50 is a placeholder for another medium sized bridge to be replace.



Access & Transport AMP 2024-33 | 253



# 8.4 Key Assumptions

The following assumptions have specific relevance to the Access and Transport Activity.

Inflation growth Council has assumed BERL's "high growth" scenario for the first three years

(2.9%, 2.0%, 2.3%, 2.3%, 2.2%) before increasing to reflect the higher historic average development rate of 2.1% from year six to to 30 of the LTP.

Growth in households Based on an average household size of 2.5 occupants 12,072 additional

dwellings are anticipated by 2050.

Wellington Regional Growth Framework It is assumed that the Wellington Regional Growth Framework (RGF) will be adopted and, in future years, effectively implemented by all partners

Development contributions

It is assumed that additional infrastructure necessary to accommodate

growth will be funded by development contributions

Levels of service This long term plan does not include any significant changes to its activity

service levels.

Waka Kotahi New Zealand Transport Agency (NZTA) The Council has projected a subsidy rate of: 51% in 2023/24 and the

following years

Asset Condition and Performance

The Council maintains its assets until they reach the end of their useful economic lives, after which they will then be renewed, upgraded or

replaced in order to maintain the required levels of service

Useful lives and depreciation of significant assets

The useful lives of significant assets, together with the appropriate depreciation rates, are shown in the Significant Accounting Policies. It is assumed that the useful lives will remain the same throughout the long term plan, and that assets will be replaced at the end of their useful lives

Resource consent standards.

Consent management standards are expected to continue to rise and additional investment will be required in the future to meet new

requirements

Government policy

It is assumed that the central government policy framework will continue to provide a stable working and statutory framework for local government

Regulatory and legislative impacts

The Government has announced significant legislative changes, including an overhaul of the Resource Management Act and a raft of on-going changes to the Building Act and associated codes, borne out of the current housing crisis and impacts of development and industry on our environment

Climate Change and Natural Hazards In May 2019, the Council declared a climate change emergency on the Kāpiti Coast. This is political recognition that our communities are facing significant costs now, and increasingly over the coming decades, from coastal erosion and floods. It is assumed that although the Kāpiti district may be affected by climate change in the long term (in parallel with predicted national change), that there will be no significant impact from climate change, no significant natural event and that the Council's funding of civil defence will continue during the life of this long -term plan.

Access & Transport AMP 2024-33 | 254



## 8.5 Asset Valuations

Asset valuation is undertaken every two years by specialist advisors. The Road Asset Valuation at 30 June 2023 was undertaken by WSP.

We have experienced significant increase in our asset valuation in the last two years. Industry inflation with higher construction costs and an uplift in market/contract unit rates are major contributing factors.

The M2PP revocation and PP2O local roads are not included in this valuation as handover occurred after the valuation process was completed, therefore we expect this to contribute to more asset valuation growth at the next review.

Table 8.1: Kāpiti Coast District Council Asset Valuation Comparison - 31 March 2021 to 30 June 2023.

	ORC	ODRC	AD
30-Jun-23	\$677,388,242	\$484,615,059	\$9,384,774
31-Mar-21	\$515,131,956	\$373,920,165	\$7,252,294
Difference	\$162,256,286	\$110,694,894	\$2,132,480
% Change	31.5%	29.6%	29.4%

Overall, there has been an increase in the ORC (+31.5%), an increase in the ORDC (+29.6%) and an increase in the AD (+29.4%) when compared to the 2021 valuation.

#### Asset Register and Existing Data

KCDC uses RAMM as its formal asset register for the adding, updating and deleting of assets relating to road infrastructure, except for Bridges, Bridge Culverts, Manholes and Sump Leads which are held in external databases. These databases are continually updated to reflect the physical asset changes and this process is managed internally by KCDC.

#### Valuation Methodology

- Defining condition standards and the effect of condition on the Remaining Useful Life (RUL). For the KCDC asset valuation, condition was only considered for Bridge and Bridge Culverts. For all the other components, the condition standard has been set to unknown and the effect of condition on the Remaining Useful Life (RUL) set to zero.
- 2. Defining Total Useful Life (TUL) and investigation of suitable default parameters where this information was not available in the RAMM database.
- 3. Development of units, unit rates, overhead costs, and residual values at the component level.
- 4. Unit rates were indexed using relevant Waka Kotahi cost adjustment factors. The adjustment factor used for each asset component is outlined in Section 7.
- 5. Unit rates were reviewed using current contract rates available from recently tendered physical works in KCDC and adjusted where appropriate.
- 6. The RAMM Valuation Module then uses the input information to calculate and assign the remaining lives, based on use as explained above.
- Calculation of Optimum Replacement Cost (ORC) by multiplying asset quantities by appropriate
  construction cost unit rates, including an allowance for other direct costs (professional fees,
  administration costs and financial charges).
- 8. Calculation of Optimised Depreciated Replacement Cost (ODRC) where appropriate, by deducting from the ORC an allowance for depreciation in consideration of the age and remaining life of each asset.

Access & Transport AMP 2024-33 | 255



- 9. Calculation of the Annual Depreciation (AD) by dividing the depreciable value by economic life for each asset.
- 10. External inventories were valued as above outside of the RAMM Valuation Module and added to the final valuation figures

## 8.5.1 Data Confidence

Overall, our data for the asset valuation process is reliable. The following table is extracted from the August 2023 asset valuation (WSP report).

Table 8.2: Data Confidence Extracted from the 2023 Asset Valuation

	Confiden	ce Grading			
	OI	RC	OD	RC	Overall
Asset	Quantity	Unit Cost	Life	Remaining Life	Value
Formation	B-C	С	-	1	В
Sealed Pavement Layers	В	В	В	В	В
Unsealed Pavement Layers	В	В	В	В	В
Sealed Surface Structure	А	А	А	Α	А
Bridges and Bridge Culverts	А	В	А	А	А
Drainage	A-B	А	В	В	В
Sump Leads	А	А	В	В	A-B
Surface Water Channels	А	А	В	В	A-B
Footpaths	В	А	В	В	В
Markings	A-B	А	В	В	В
Traffic Signals	В	В	В	В	В
Minor Structures	А	В	В	В	В
Signs	Α	В	В	В	В
Railings	А	А	В	В	A-B
Streetlights	В	А	В	В	В
Islands	А	В	В	В	В
Retaining Walls	А	В	В	В	В
Overall					В

Grade	Label	Description	Accuracy
А	Highly Reliable	Data based on sound records, procedures, investigation, and analysis which is properly documented and recognised as the best method of assessment.	± 5-10%
В	Reliable	Data based on sound records, procedures, investigation and analysis which is properly documented but has minor shortcomings, for example, the data is old, some documentation is missing, and reliance is placed on unconfirmed reports or some extrapolation.	±10-15%
С	Uncertain	Data based on sound records, procedures, investigation, and analysis which is incomplete or unsupported, or extrapolation from a limited sample for which grade A or B data is available.	± 15-25%
D	Very Uncertain	Data based on unconfirmed verbal reports and/or cursory inspection and analysis.	± 25-40%
E	Unknown	Based on a best guess from an experienced person.	± 50-60%

Access & Transport AMP 2024-33 | 256



## 8.5.2 Depreciation

The table below summarises the valuation with change in each group from the previous valuation.

#### Table 8.3: WSP Valuation – 2023 to 2021 comparison (WSP report extract)

The valuation figures between 30 June 2023 and 31 March 2021 are summarised in Table 5.1 below:

Table 5-1: Comparison with 31 March 2021 Valuation. Note: Green shading shows increases and red decreases. The darker contrast represents the magnitude of the change.

		2023			2021			Difference (\$)		Difference (%)		
Asset Type	ORC	ODRC	AD	ORC	ODRC	AD	ORC	ODRC	AD	ORC	ODRC	AD
Formation	\$143,301,925	\$143,301,925	\$0	\$118,220,861	\$118,220,861	\$0	\$25,081,064	\$25,081,064	\$0	21%	21%	n/a
Sealed Pavement Layers	\$98,534,251	\$95,762,285	\$250,761	\$79,224,906	\$76,822,721	\$197,949	\$19,309,345	\$18,939,564	\$52,812	24%	25%	27%
Unsealed Pavement Layers	\$840,885	\$733,526	\$53,679	\$561,738	\$487,631	\$33,682	\$279,147	\$245,895	\$19,997	50%	50%	59%
Sealed Surface Structure	\$45,283,919	\$10,195,073	\$3,577,610	\$38,222,373	\$9,478,898	\$3,041,680	\$7,061,546	\$716,175	\$535,930	18%	8%	18%
Bridges and Bridge Culverts	\$52,086,976	\$21,417,083	\$683,098	\$34,326,183	\$14,791,825	\$450,378	\$17,760,793	\$6,625,258	\$232,720	52%	45%	52%
Drainage	\$74,700,818	\$48,344,557	\$1,011,547	\$50,865,499	\$30,598,697	\$668,135	\$23,835,319	\$17,745,860	\$343,412	47%	58%	51%
Sump Leads	\$12,242,531	\$7,683,456	\$153,032	\$8,899,826	\$5,477,265	\$111,248	\$3,342,705	\$2,206,191	\$41,784	38%	40%	38%
Surface Water Channels	\$109,108,754	\$59,991,413	\$1,366,759	\$80,408,086	\$44,617,957	\$1,019,373	\$28,700,668	\$15,373,456	\$347,386	36%	34%	34%
Footpaths	\$95,805,425	\$68,025,511	\$1,361,325	\$67,931,629	\$49,431,103	\$955,215	\$27,873,796	\$18,594,408	\$406,110	41%	38%	43%
Markings	\$1,201,252	\$1,189,788	\$2,245	\$631,963	\$625,419	\$2,181	\$569,289	\$564,369	\$64	90%	90%	3%
Traffic Signals	\$853,825	\$603,370	\$28,461	\$507,869	\$389,366	\$16,929	\$345,956	\$214,004	\$11,532	68%	55%	68%
Minor Structures	\$428,192	\$186,358	\$24,064	\$300,467	\$162,878	\$17,166	\$127,725	\$23,480	\$6,898	43%	14%	40%
Signs	\$1,564,391	\$755,487	\$99,444	\$1,100,572	\$531,582	\$69,565	\$463,819	\$223,905	\$29,879	42%	42%	43%
Railings	\$1,792,144	\$1,140,843	\$80,607	\$1,293,819	\$884,925	\$56,553	\$498,325	\$255,918	\$24,054	39%	29%	43%
Streetlights	\$19,490,477	\$13,863,149	\$452,755	\$16,206,822	\$12,773,914	\$421,769	\$3,283,655	\$1,089,235	\$30,986	20%	9%	7%
Islands	\$2,815,227	\$1,634,499	\$35,191	\$1,981,959	\$1,105,679	\$24,774	\$833,268	\$528,820	\$10,417	42%	48%	42%
Retaining Walls	\$17,337,250	\$9,786,736	\$204,196	\$14,447,384	\$7,519,444	\$165,697	\$2,889,866	\$2,267,292	\$38,499	20%	30%	23%
Grand Total	\$677,388,242	\$484,615,059	\$9,384,774	\$515,131,956	\$373,920,165	\$7,252,294	\$162,256,286	\$110,694,894	\$2,132,480	31%	30%	29%

Access & Transport AMP 2024-33 | 257



## 8.5.3 Valuation change summary

A majority of the asset components experienced major changes in ORC, ODRC, and AD when compared with the 31 March 2021 valuation. These were mainly because of market price movements and the unit rate updates; however, some asset types underwent major quantity changes, which also had an impact. Large increased in the quantity of assets like drainage were offset by a general decrease in the quantity of pavement and surfacing assets.

The M2PP revocation and PP2O local roads are not included in this valuation as handover occurred after the valuation process was completed, therefore we expect this to contribute to more asset valuation growth at the next review.

Table 8.4: Change summary (WSP report extract)

Item	ODRC	Explanation
March 2021 Final Value	\$373.9M	The March 2021 Valuation Numbers
Additions & Deletions	\$1.04M	Change from the addition of assets (e.g. vested, CAPEX, data improvements) and deletion of assets (disposals, data improvements), excluding the bridge and bridge culvert assets.
Depreciation	\$11.5M	Change from the depreciation of assets.
Indexing	\$83.2M	Change from movement in the general construction cost indices.
Unit Rate Updates	\$37.9M	Change due to uplift in market/contract unit rates where these were available.
June 2023 Final Value	\$484.6M	The June 2023 Valuation Numbers

## 8.5.4 Improvement recommendations:

The 2023 WSP report recommended the following improvement opportunities:

As a result of this and historical valuations we recommend the following:

- 1) Continue to maintain, develop, and improve the asset register including:
  - a) Ensuring that construction dates are added for all records, as the construction date input is one of the most sensitive inputs in the valuation process Where default dates are being used, these need to be of a realistic nature.
  - b) Where assets are replaced or upgraded, these changes must also be accurately recorded in the relevant asset tables in a timely manner to ensure everything is captured within the valuation.
- 2) Field data validation should be undertaken on a regular basis to confirm the accuracy and completeness of the data. A prioritised programme should be developed to ensure data currency.
- 3) Remove existing Edge Marker Posts, referred to as Hazard Markings, from the Signs table to the Markings table to ensure the assets are consistently valued correctly for future valuations.
- 4) Check and confirm if the 26 inspected small bridge culverts in OBIS are to be valued as bridge culverts or kept as drainage assets for future valuations and improve the bridge culvert rates.
- 5) Rationalise the streetlight valuation given the LED retrofit exercise has resulted in a large number of LEDs being added to the database. It makes sense to adjust the set of unit rates and assignment rules used to value streetlight assets.
- 6) Undertake a seal life analysis of pavement surfaces to determine appropriate lifespans, given 65% of assets are being held at the minimum remaining useful life.

Access & Transport AMP 2024-33 | 258

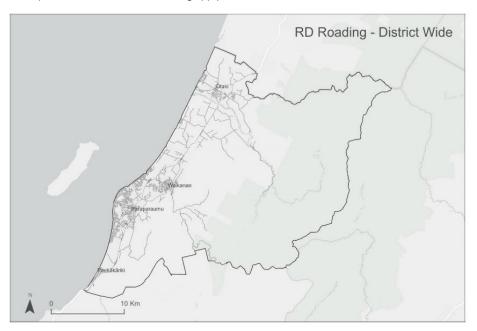


# 8.6 Development Contributions

The Development Contributions Policy is explained in Kāpiti Coast's Long Term Plan 2021-41

The purpose of development contributions is to recover from those persons undertaking development a fair, equitable, and proportionate portion of the total cost of capital expenditure necessary to service growth over the long term.

Development contributions for roading apply across the entire district.



Past and future assets and programmes of work that have a development contribution funding component are shown in the extract following

	Pre 2020 actu	al spend and 20	120/21 Annual P	lan	2021-41 LTP a		oital expenditure	included in
Projects	Capital expenditure (\$  already incurred	Capital expenditure (\$) already incurred funded by other sources	Capital expenditure (\$  already incurred [net]	Capital Expenditure (\$) incurred to meet growth	Planned Capital expenditure (\$) expected to be incurred	Planned Capital expenditure (\$) expected to be incurred funded by other sources	Planned capital expenditure [S] expected [net]	Planned capital Expenditure (\$) incurred to meet growth Net
Roading and Transport - Districtwide	25,843,295	(9,269,726)	16,573,569	4,142,863	116,407,427	[46.693.012]	69.714.415	11,011,270
1790A CWB	1.894.860	[733.397]	1.161.463	53.736	600,000	(10,070,012)	600,000	11,011,270
17911 STRATEGIC PROPERTY PURCHASES	200.011	(176,329)	23.682	4.852				
1791T CWB NEW PATH DEVELOPMENT	339,277	(183,953)	155,324	36,168				_
17929 ROAD RECONSTRUCTION	1,669,549	(735,413)	934,136	56,395	16,867,000	-	16,867,000	3,373,400
1792D NZTA PAVEMENT REHABILITATION	895,617	(515,705)	379,912	14,287	23,962,997	[12,221,128]	11,741,869	
1792R NZTA TRAFFIC MODELLING	312,791	(98,956)	213,836	21,146	1,276,062	[650,792]	625,270	-
1792V CWB USER SURVEYS		(3,918)	(3,918)	[980]	-	-		-
1792X CWB NEW CAP TAL	93,010	-	93,010	9,301	-	-	-	-
1793A INZTAIMINOR SAFETY IMPROVEMENTS	5,539,386	(2,945,347)	2,594,039	406,304	39,365,000	[20,076,150]	19,288,850	3,857,770
1794L NZTA FOOTPATHS	3,952,974	(1,890,886)	2,062,088	382,936	3,450,867	[1,759,942]	1,690,925	-
1794N LOCAL AREA CONNECTOR RAUMATI CORRIDOR	1,023,801	-	1,023,801	153,570	-	-	-	-
1794P LOCAL AREA CONNECTOR ARAWHATA TRAFFIC SIG	329,820		329,820	49,473				
17950 MAJOR COMMUNITY CONNECTOR UPGRADES	1,404,166	(852,547)	551,619	137,905	7,385,501	-	7,385,501	1,477,100
1795A MAJOR CONNECTORS NGA MANU ROAD	1,748,372		1,748,372	1,748,372	-	-		-
1795C NZTA EAST WEST CONNECTORS RESIDENTIAL AND COMMERCIAL ROADING UPGRADES/CWB	2,236,660	[1,133,274]	1,103,386	371,700	23,500,000	[11,985,000]	11,515,000	2,303,000
NETWORK	4,203,000		4,203,000	697,698				

Access & Transport AMP 2024-33 | 259



# 8.7 Revenue and Financing Policy

The Local Government Act 2002 requires the adoption of policies that outline how operating and capital expenditure for each Activity will be funded. This is detailed in the Revenue and Financing Policy, which is included in the Kāpiti Coast's Long Term Plan 2018 'Future Kāpiti'.

This Policy primarily considers and identifies:

- the community outcomes to which the activity primarily contributes
- the distribution of benefits between the community as a complete unit, any identifiable part of the community and individuals
- the period in, or over which, those benefits are expected to occur
- the extent to which the actions, or inactions, of particular individuals, or a group, contribute to the need to undertake the activity
- the cost and benefits, including consequences for transparency and accountability, of funding the Activity distinctly form other activities

The Policy then considers and identifies the overall impact of any allocation of liability for revenue needs on the current and future social, economic, environmental and cultural wellbeing of the community.

# 8.8 Funding Source Allocation

#### Operating costs:

- 50% to 51% of total cost from central government (New Zealand Transport Agency), subject to agreement of programme
- Greater Wellington Regional Council 100% reimbursement for public transport facilities
- 50 to 49% of total coast funded by Council

## Capital costs:

- 51% to 51% of total cost from New Zealand Transport Agency, subject to NZTA approving the renewals programme and for new projects subject to the Business Case approach and approval of each project
- 50% to 49% of total cost funded by Council

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Access & Transport AMP 2024-33 | 260



# 9 PLAN IMPROVEMENTS AND MONITORING

# 9.1 AMP Key Improvements

The following table summarises the key improvement to this edition of the Activity Management Plan.

Table 9.1: Key Improvements in this AMP

Improvement	Reason
Merge of Strategic Business Case, Programme Business Case, AMP and improvement plan into one document	To assist users, all information in one place
Underlying data updated	To provider a sound evidence base for development of options and preferred programmes
Executive Summary rewritten with simplified format	Community focus, high level summary, key high level impacts to address
Background and Introduction updated	Edited to simplify and reduce duplication
Update to Strategic Case	Clearly detail evidence and summary of issues
Upgrade Business Case Structure – follow NZTA Work Category order, simplify structure, reduce duplication	To demonstrate the case for change and consideration of option more clearly and better align with NZTA requirements.
	'Optioneering' – describing a number of different strategies and costs to manage a group of assets - expanded and restructured
Differential Levels of Service being added to the Programme Business Case	Draft version of DLoS has been included in Sealed Roads subsection – other sections to be added.
Risk section rewritten and critical assets reviewed	Adopt     NTZA Z/44 - Risk management practice guide     NZTA Research report 415 .     Aecom Criticality Analysis Criteria method
Financial background information recompiled and closer to NZTA Work Category layout	Increase confidence in supporting information for LTP cost buildup
Improvement Plan updated and include in the AMP document	Completed actions from last AMP noted, new actions added.
Valuation Report updated	To demonstrate the robustness of the valuation process and to show issues raised during the valuation process are being addressed

Access & Transport AMP 2024-33 | 261



# 9.2 Improvement Plan

The Activity Management Plan is a living document that needs to stay relevant to support the daily activity management practice. Throughout the plan action have been noted that need to be carried out to improve the plan further and make sure it stays relevant.

These actions have been captured in the below improvement plan. Most of the actions will be carried out in-house. Where specialists are needed a very rough cost estimate has been put in which is estimated to be able to be covered within management budgets. Actions have been grouped into management improvements and asset improvements. For completeness strategic/legal actions that need to be carried out by this activity also have been included.

The items identified in the 2018 AMP assessment were combined with the Improvement Plan of the 2018 AMP. Many of these items have been addressed in the development of the 2021 and 2024 Business Cases and AMP.

The AMP Improvement Plan follows, along with the status of the items, followed by the actions carried over or added in 2024.

Access & Transport AMP 2024-33 | 262



# 2021 IP with Status (requires editing)

Section	Project	Title	Activity	Current Status	Future Status and Identified Improvements	Improvement approach	Priority	Timeframe	Responsibility	Resources	Status Update / Notes
A. Systems	AMP2018_20	Strategic Context	Review existing Traffic Bylaw (legal review required before June 2022) Beach bylaw to be completed first	Transport Bylaw 2022 adopted 24 Feb 2022 "This Bylaw replaces the Kapiti Coast District Council Traffic Bylaw 2010 and Kapiti Coast District Council General Bylaw 2010."	Remove from 2024 IP	Policy/Regulatory Project (Suzanne)	Medium		Access & Transportation Manager and Transportation Planner	in house/external	optimisation process development, including development of network operating plans
A. Systems	AMP2018_22	Strategic Context	Review existing speed bylaw (before June 2022) <renumbered></renumbered>	Completed (Ron)	Remove from 2024 IP	Policy/Regulatory Project (Suzanne)	Medium		Access & Transportation Manager and Transportation Planner	In house/legal advice	optimisation process development, including development of network operating plans
A. Systems	AMP2018_25	Strategic Context	Develop Policy around Strategic Property/Land purchase for transportation purposes <renumbered></renumbered>	existing/on-going Also consider paper Roads (ITEM AP 2008.24) Buddle Findlay commissioned to look at existing land assets and management options. Acquisitions addressed by Property dept (Nicky) PMO/Property issue to address	Remove from 2024 IP	Policy/Regulatory Project (Suzanne)	Medium		Access & Transportation Manager and Transportation Planner	in house/external	optimisation process development, including development of network operating plans
A. Systems	PR2018_62	Accuracy of asset inventory	7.2.a. Documented process exists for updating maintenance data and used on an on-going basis	Working in RAMM, documented by Mark, in contract, new tranche of AMDS	Remove from 2024 IP	SDPR (Suzanne)					
A. Systems	PR2018_63	High level of confidence in critical asset data	7.8.a. High level of confidence in critical asset data (for valuations)	Need to consider network as a whole, priority includes 1. Stormwater and 2. Bridges Neil to follow up	Include in 2024 IP and put into AMP	Data/AMP (Ting & Waugh)			Team Lead Road Asset Management (MM) & Waugh	in house/external	Check following criticality project completion
A. Systems	AMP2021_11	Review Treatment lengths table in context of ONF and works programme		Completed by Mark Jan 2023	Remove from 2024 IP						2021 AMP section 9.4.2



Section	Project	Title	Activity	Current Status	Future Status and	Improvement	Priority	Timeframe	Responsibility	Resources	Status Update / Notes
					Identified Improvements	approach					
B. Evidence	AMP2018_12	Asset	Continuous data quality	Partially Complete	Remove from	Data/AMP (Ting &	High		Roading	In house	
		Management –	improvement of all asset	remaining issues being	2024 IP	Waugh)			Engineer &		
		best practice and	data and survey missing	addressed on as					Roading		
		ONRC/PBC	asset data to complete	needed basis					Network		
		approach – Data	RAMM database						Performance		
		Quality project	Roading Engineer: Car parks, benches						Team leader		
			Asset Engineer: Others								
B. Evidence	_	Critical Assets and	Review critical assets	Complete	Remove from	AMP (Waugh)	Medium		Roading	in	Asset Performance and Service
		Business Risk	(workshop) and develop a		2024 IP				Network	house/external	Gap Analysis
			detailed register of Critical Assets						Engineer and Access &		
			Assets						Transportation		
									Manager		
B. Evidence	AMP2018_5	Asset	Develop a procedure for	SCRIM survey in early	Remove from	Data/AMP (Ting &	High		Roading	In house	Develop LOS targets and
		Management –	monitoring and addressing	2020 (Combine with	2024 IP	Waugh)			engineer &		implementation plans & Asset
		best practice and ONRC/PBC	sealed surface friction	NZTA).					Asset engineer		Performance and Service Gap
		approach – Data	deficiencies in high risk locations will be developed	2022 survey, T10 in design, crashes and							Analysis
		Quality project	in the 2018-2021 period	surveys to date indicate							
				KCDC networks do not							
				a scrim problem							
B. Evidence	PR2018_47	Service life of	2.5.a. Intended service	Note as indefinite,	Include in 2024 IP	AMP (Waugh)			Team Lead	in	see recommendation in Val too
		network stated	provision horizon is clearly	what about coastal and	and put into AMP				Road Asset	house/external	
			stated	others?. Not complete					Management		
									(MM) & Waugh		
B. Evidence	PR2018_53	Identify associated	4.4.c. Documented risk	Not complete	Include in 2024 IP	AMP (Waugh)			Team Lead	in	Check following criticality
	_	risks and Risk	management strategies and		and put into AMP				Road Asset	house/external	project completion
		Management	mitigation considered and						Management		
		strategies for	used where necessary for						(MM) &		
P. Fuidonco	AMP2021_2	critical assets	critical assets	Included in 2024 AMP	Remove from				Waugh		2021 AMP section 4.5
B. Evidence	AIVIPZUZI_Z	Update and provide a review of		included in 2024 AlviP	2024 IP						2021 AIMP Section 4.5
		trends from			202411						
		2020/21 data									
B. Evidence	AMP2021_3			Completed	Remove from						2021 AMP section 4.8
		Address gaps in			2024 IP						
		ONRC reporting									
B. Evidence	AMP2021_4	Review growth		Within scope of works	Include in 2024 IP				Roading	in	2021 AMP section 5.5.2
		corridors and		for Wellington					Network	house/external	
		development		Analytics Unit (Vijay)					Planner (VS)		
		against traffic model, capacities									
		and ONRC/ONF									
B. Evidence	AMP2021_6	Work with Building		EQP, lifelines issues,							2021 AMP section 6.3
	AIVIPZUZI_6	control to identify		but analysis worthwhile							
		building that affect		Low priority (resilience							
		transport corridor,		section)							
		identify strategic routes and									
		integrate with									
		critical assets									
		management					ĺ				

Access & Transport AMP 2024-33 | 264



Section	Project	Title	Activity	Current Status	Future Status and Identified Improvements	Improvement approach	Priority	Timeframe	Responsibility	Resources	Status Update / Notes
B. Evidence	AMP2021_9	Collect inventory, condition, capability and demand information for Car		complete	Remove from 2024 IP						2021 AMP section 9.4.1
B. Evidence	AMP2021_10	Review data collection options and refine programme to support work programmes and Business Cases		CCDC project to commence 2024, consider data capture for items excluded from CCDC	Remove from 2024 IP						2021 AMP section 9.4.1
C. Communicating	AMP2021_1	Undertake a review of SDPR and ensure Access and Transport issues are considered		Complete: New document - Land Development Minimum Requirements published (April 2022)	Remove from 2024 IP						2021 AMP section 3.4.2 & 9.6



Section	Project	Title	Activity	Current Status	Future Status and Identified Improvements	Improvement approach	Priority	Timeframe	Responsibility	Resources	Status Update / Notes
D. Decision Making	AMP2018_17	Critical Assets and Business Risk	Update design criteria framework for road hierarchy based on ONRC linked to review Council development design standards	Part of SDPR, will be different in new PDP. Now complete	Remove from 2024 IP	SDPR (Suzanne)	Medium		Roading Network Engineer and Transport Planner	in house/external	Develop LOS targets and implementation plans & Asset Performance and Service Gap Analysis
D. Decision Making	PR2018_23	Legislation requirements for risk met	4.3 Organisation wide a. Lifelines and emergency management awareness to Civil Defence Management Act (Risk reduction, readiness, response and recovery status) b. Health & Safety legislation identified, completed, implemented and compliance reporting demonstrated e. Corporate insurance policy/requirements and updating of asset insurance costs	Improve resistance write up Priority routes - earthquake problem buildings identified PI insurance held No asset insurance held. Not complete	Include in 2024-27 Resilience/lifelines update	AMP (Glen & Waugh)			Team Lead Road Asset Management (MM) & Waugh	in house/external	
D. Decision Making	AMP2021_5	Investigate travel demand management options (behaviour change)		hold - not expected to be a 2024-27 priority	Include in 2024 IP as low priority item				Team Lead Road Asset Management (MM) & Waugh	in house/external	2021 AMP section 5.6
D. Decision Making	AMP2021_7	Complete criticality assessment using NZTA methodology (documented by AECOM)	Include in next AMP	Included in 2024 AMP	Remove from 2024 IP						2021 AMP section 6.4

Access & Transport AMP 2024-33 | 266



Section	Project	Title	Activity	Current Status	Future Status and Identified Improvements	Improvement approach	Priority	Timeframe	Responsibility	Resources	Status Update / Notes
D. Decision Making	AMP2021_8	Coordinate modelling and renewal; planning across asset and activity groups, including major stormwater improvement project.		Address through Sharing Planned Works Programme meetings coordinated my corridor manager (NZUAG 2.7.1-3) national database of upcoming works	Include in 2024 IP				Clerk of works - Roading (WMcC) / Team Lead Network Delivery (MS)	in house	2021 AMP section 7.6.5
E. Service Delivery	AMP2018_19	Leadership and Capability	Review Safety management planning and safety management training.	Consider trading programme for staff (Ron)	Include in 2024 IP	Data (Ting)	Medium		Transport Safety Lead (RM)	in house/external	Improvement of RSAPs
E. Service Delivery	AMP2018_23	Strategic Context	Review contract framework for cross Council strategy implementation for example, environmental factors. <renumbered></renumbered>	See 2024 action (Mark)	Include in 2024 IP	AMP (Suzanne & Waugh)	Medium		Team Lead Road Asset Management (MM) & Waugh	in house/external	development of levels of service targets and implementation plans
E. Service Delivery	AMP2018_24	Strategic Context	Develop a policy around Paper Roads <renumbered></renumbered>		Include in 2024 IP	Policy/Regulatory Project (Suzanne)	Medium		Roading Network Planner (VS)	in house/external	optimisation process development, including development of network operating plans
E. Service Delivery	AMP2018_26	Strategic Planning actions	Co-develop an Encroachment Policy	Existing	Include in 2024 IP	Policy/Regulatory Project (Suzanne)	Low		Roading Network Planner (VS)	in house/external	Development and improvement of asset deterioration models

Access & Transport AMP 2024-33 | 267



Section	Project	Title	Activity	Current Status	Future Status and Identified Improvements	Improvement approach	Priority	Timeframe	Responsibility	Resources	Status Update / Notes
F. People / Culture	AMP2018_15	Leadership and Capability	Improve staff skills in Asset Management Planning.	Consider trading programme for staff (Mark)	Include in 2024 IP	AMP (Glen & Waugh)	Medium		Team Lead Road Asset Management (MM) & Waugh	in house/external	Asset Performance and Service Gap Analysis
F. People / Culture	AMP2018_18	Transport Planning	Update council standards for traffic service assets and review Council standard drawings	Included in SDPR/LDMS	Remove from 2024 IP	SDPR (Suzanne)	Medium		Transport Planner & Transport Planner Transportation Eng & Traffic Engineer	Staff time	Develop LOS targets and implementation plans
F. People / Culture	PR2018_37	AM Plan adopted by Council including improvement programme	9.1 Organisation wide c. Council has on-going training to grow AM culture and overall understanding	Consider standard form for GM approval in AMP	Include in 2024 IP and put into AMP	AMP (Suzanne & Waugh)			Team Lead Road Asset Management (MM) & Waugh	in house/external	
F. People / Culture	PR2018_38	Council has defined the Appropriate AM Practice it has/is adopting	9.2 Organisation wide a. AM Policy adopted by Council b. AM policy aligned with AM improvement plan	Covered in AMPs	Remove from 2024 IP	AMP (Suzanne & Waugh)					



## 2024 IP – Carried forward Items and new Items

Section	Project	Title	Activity	Current Status	Future Status and Identified Improvements	Improvement approach	Priority	Timeframe	Responsibility	Resources	Status Update / Notes
A. Systems	PR2018_63	High level of confidence in critical asset data	7.8.a. High level of confidence in critical asset data (for valuations)	Need to consider network as a whole, priority includes 1. Stormwater and 2. Bridges Neil to follow up		Data/AMP (Ting & Waugh)			Team Lead Road Asset Management (MM) & Waugh	in house/external	Check following criticality project completion
A. Systems	AMP 2024.5.2	Oversee new traffic model development and analyse results in line with community outcomes sought.		New item	Action to 2024-27						
A. Systems	AMP 2024.6.1	Consider Populating Edge Marker Data in RAMM		New item	Action to 2024-27						
A. Systems	AMP 2024.6.3	Ensure appropriate consents are transferred with revoked state highways.		New item	Action to 2024-27						
B. Evidence	PR2018_47	Service life of network stated	2.5.a. Intended service provision horizon is clearly stated	Note as indefinite, what about coastal and others?. Not complete		AMP (Waugh)			Team Lead Road Asset Management (MM) & Waugh	in house/external	see recommendation in Val too
B. Evidence	PR2018_53	Identify associated risks and Risk Management strategies for critical assets	4.4.c. Documented risk management strategies and mitigation considered and used where necessary for critical assets	Not complete		AMP (Waugh)			Team Lead Road Asset Management (MM) & Waugh	in house/external	Check following criticality project completion
B. Evidence	AMP2021_4	Review growth corridors and development against traffic model, capacities and ONRC/ONF		Within scope of works for Wellington Analytics Unit (Vijay)					Roading Network Planner (VS)	in house/external	2021 AMP section 5.5.2
B. Evidence	AMP 2024.2.1	Improve lowest assessment areas (Communicating and Quality Improvement)		New item	Action to 2024-27						
B. Evidence	AMP 2024.4.1	Improve level of service reporting on 'availability/outages'		New item	Action to 2024-27						
B. Evidence	AMP 2024.4.2	Revise alignment of Council Policies, Plans and Standards		New item	Action to 2024-27						
B. Evidence	AMP 2024.5.1	Collaborate with Forestry Companies within the District to better understand their harvesting timelines; develop a lifecycle management strategy for these sites.		New item	Action to 2024-27						

Access & Transport AMP 2024-33 | 269



Section	Project	Title	Activity	Current Status	Future Status and Identified Improvements	Improvement approach	Priority	Timeframe	Responsibility	Resources	Status Update / Notes
B. Evidence	AMP 2024.6.6	Continue to improve data set for retaining walls with focus on rural walls.		New item	Action to 2024-27						
B. Evidence	AMP 2024.6.7	Collect data to ascertain renewal streetlight renewal (including LED) requirements for former SH1		New item	Action to 2024-27						
D. Decision Making	PR2018_23	Legislation requirements for risk met	4.3 Organisation wide a. Lifelines and emergency management awareness to Civil Defence Management Act (Risk reduction, readiness, response and recovery status) b. Health & Safety legislation identified, completed, implemented and compliance reporting demonstrated e. Corporate insurance policy/requirements and updating of asset insurance costs	Improve resistance write up Priority routes - earthquake problem buildings identified PI insurance held No asset insurance held. Not complete	Include in 2024-27 Resilience/lifelines update	AMP (Glen & Waugh)			Team Lead Road Asset Management (MM) & Waugh	in house/external	
D. Decision Making	AMP2021_5	Investigate travel demand management options (behaviour change)		hold - not expected to be a 2024-27 priority	Include in 2024 IP as low priority item				Team Lead Road Asset Management (MM) & Waugh	in house/external	2021 AMP section 5.6
D. Decision Making	AMP2021_8	Coordinate modelling and renewal; planning across asset and activity groups, including major stormwater improvement project.		Address through Sharing Planned Works Programme meetings coordinated my corridor manager (NZUAG 2.7.1-3) national database of upcoming works	Include in 2024 IP				Clerk of works - Roading (WMcC) / Team Lead Network Delivery (MS)	in house	2021 AMP section 7.6.5
D. Decision Making	AMP 2024.6.2	Develop a long term renewal plan for footpaths. With improved data we can build a multi-year programme that gives better confidence of the required workload and be used to coordinate with other works in the area, such as resurfacing, 3-waters projects or minor safety works sites.		New item	Action to 2024-27						
D. Decision Making	AMP 2024.6.4	Assess long term management options for Otaki Gorge Road		New item	Action to 2024-27						
E. Service Delivery	AMP2018_19	Leadership and Capability	Review Safety management planning and safety management training.	Consider trading programme for staff (Ron)	Include in 2024 IP	Data (Ting)	Medium		Transport Safety Lead (RM)	in house/external	Improvement of RSAPs

Access & Transport AMP 2024-33 | 270



Section	Project	Title	Activity	Current Status	Future Status and Identified Improvements	Improvement approach	Priority	Timeframe	Responsibility	Resources	Status Update / Notes
E. Service Delivery	AMP2018_23	Strategic Context	Review contract framework for cross Council strategy implementation for example, environmental factors. <renumbered></renumbered>	See 2024 action (Mark)	Include in 2024 IP	AMP (Suzanne & Waugh)	Medium		Team Lead Road Asset Management (MM) & Waugh	in house/external	development of levels of service targets and implementation plans
E. Service Delivery	AMP2018_24	Strategic Context	Develop a policy around Paper Roads <renumbered></renumbered>		Include in 2024 IP	Policy/Regulatory Project (Suzanne)	Medium		Roading Network Planner (VS)	in house/external	optimisation process development, including development of network operating plans
E. Service Delivery	AMP2018_26	Strategic Planning actions	Co-develop an Encroachment Policy	Existing	Include in 2024 IP	Policy/Regulatory Project (Suzanne)	Low		Roading Network Planner (VS)	in house/external	Development and improvement of asset deterioration models
E. Service Delivery	AMP 2024.6.5	Add bridge limits to Council's website		New item	Action to 2024-27						
F. People / Culture	AMP2018_15	Leadership and Capability	Improve staff skills in Asset Management Planning.	Consider trading programme for staff (Mark)	Include in 2024 IP	AMP (Glen & Waugh)	Medium		Team Lead Road Asset Management (MM) & Waugh	in house/external	Asset Performance and Service Gap Analysis
F. People / Culture	PR2018_37	AM Plan adopted by Council including improvement programme	9.1 Organisation wide c. Council has on-going training to grow AM culture and overall understanding	Consider standard form for GM approval in AMP	Include in 2024 IP and put into AMP	AMP (Suzanne & Waugh)			Team Lead Road Asset Management (MM) & Waugh	in house/external	





- Programme mix of Council-led and community-led
- 30+ workshops and events!
- Also some internal events for staff
- Details being finalised; indicative design and wording only
- Final copy; advertising out this week



Spring into action with our Sustainable September programme. We've created a calendar of awesome sustainability and climate action focused events and workshops across Kāpiti. There's plenty of free or subsidised events so there's something for everyone – wherever you are on your sustainability journey.



- Sneak preview examples of workshops:
  - Various waste reduction workshops/ events
  - Sustainable art expo
  - Cycle training, e-bike have a go day
  - Repair cafes, clothing repair workshops
  - Gardening, composting, biochar workshops
  - Cooking workshops: WREMO, Kaibosh
  - Nga Manu: various workshops/ events
  - SBN: Acting on climate change
  - Linking to other events: Conservation week,
     World Car Free day, etc

SEPTEMBER N°8 WIRE

- Opportunity to get involved, help to champion this event
  - #SustainableKapiti

