Transport Asset Management Plan 2024-34

PART A: STRATEGIC & PROGRAMME BUSINESS CASE/ACTIVITY MANAGEMENT PLAN

Effective Date: 12 November 2024

Prepared by: Roading Unit
Waitaki District Council

Quality Assurance Statement	
Waitaki District Council Thames Street Private Bag 50058 Oamaru New Zealand Phone: +64 3 433 0300	Project Director: Kushla Tapper (Roading Manager)
	Project Manager: Gary Woock (Roading Asset Engineer)
	Approved for issue by: Josh Rendall (Assets Operation Manager)

Document Control					
Rev.	**Date**	**Status**	**Prepared by**	**Reviewed by**	**Approved by**
0.14	20-Jun-2023	Draft	M Ross	M Rodwell	
0.18	30-Jun-2023	Draft	M Ross		
1.0	30-Aug-2023	Draft	M Ross	M Rodwell	G Woock
2.0	05-Dec-2023	Final Draft	M Ross	G Woock	
2.1	12-Nov-2024	Final	G Woock		

Rev.	Details
0.18	Provided as a draft current status
1.0	Draft for end of August submission to Waka Kotahi
2.0	Final Draft for December submission to Waka Kotahi
2.1	Final updated with NZTA and Council investment approvals

Table of Contents

List of Figures

List of Tables

Acronyms & Abbreviations

Acronym	Meaning	Additional Notes
AM	Asset Management	
CCO	Council Controlled Organisation	
DIA	Department of Internal Affairs	*Sets mandatory performance measures for local government*
dTIMS	Deighton Total Infrastructure Management System	*Modelling software used to forecast pavement performance*
GPS	Government Policy Statement	
HPMV	High Productivity Motor Vehicle	
IIMM	International Infrastructure Management Manual	*Internationally accepted good practice guide for asset management*
LGA	Local Government Act	
LoS	Level(s) of Service	
LTP	Long Term Plan	
MCA	Multi Criteria Analysis	
NOIC	North Otago Irrigation Company	
OAG	Office of the Auditor General	
ONF	One Network Framework	*Replaces the ONRC for planning from 2024/27 LTP*
ONRC	One Network Road Classification	*National system for highway classification & setting of levels of service*
OSRLTP	Otago Southland Regional Land Transport Plan	
RAMM	Road Assessment and Maintenance Management	*Asset inventory database with functionality to manage work, perform inspections, assessment, asset valuation, forward works programming*
REG	Road Efficiency Group	*Industry advisory group established by Waka Kotahi Waka Kotahi and Local Government New Zealand*
TAM	Transportation Asset Management	
TAMP	Transportation Asset Management Plan	
WDC	Waitaki District Council	
WoLC	Whole of Life Cost	

Executive Summary

Our community and economy greatly depend on an efficient land transport system that ensures safety, connectivity, and accessibility to essential services, education, employment, and markets. The transport system's influence on health and the environment underscores the importance of responsible planning for minimising its impact.

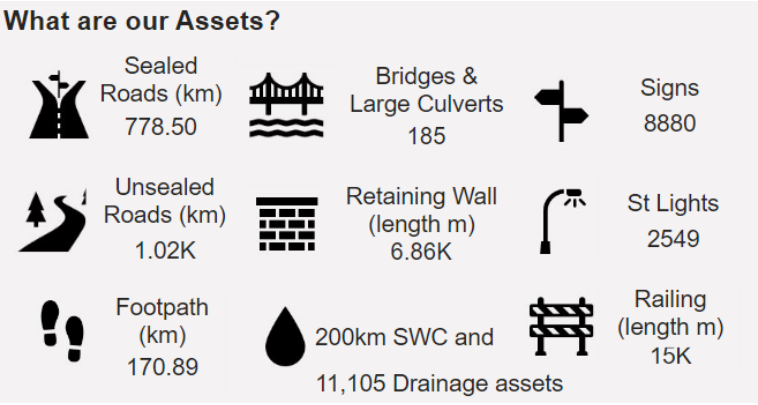


Figure 1: Key Statistics

In recognising the significance of Sustainable Inclusive Growth, Road Safety, and Resilience, this Transport Activity Management Plan (TAMP) necessitates a shift in our approach. Climate change adaptation, road safety enhancement, and infrastructure resilience are at the forefront of our priorities. Ensuring this happens in a Sustainable Inclusive way is paramount.

Although challenging in the current economic climate, we remain committed to providing an affordable and effective service for our community. In 2022 WDC had to re-tender the Maintenance Contract after the initial prices received from the market were unaffordable, resulting in downward adjustments to several levels of service. WDC have therefore developed differential levels of service (dLos) to clearly communicate where levels of service have been adjusted to balance cost and service, and also show where additional investment is needed to either hold or increase key service levels over the next 10 years. This TAMP considers the dLoS, presenting the case for investment and provides a clear connection between the investment and desired service outcomes.

To achieve this, the TAMP has been broken down into 2 Parts (outlined below) and WDC have also developed an Online Summary Version of the TAMP to aid in communication of the key content in Parts A and B.

Table 1: TAMP Plan Framework

TAMP Part	Key Focus	Audience
Part A: Strategic & Programme Business Case/Activity Management Plan 	This section of the plan addresses the question of why investing is necessary. It presents the strategic background and identifies the crucial challenges and obstacles faced by WDC. Moreover, it highlights the advantages that customers would gain from addressing these issues. It also presents evidence that bolsters the proposed investment. We accomplish this by unequivocally establishing the connection between the investment and the resulting service outcomes. Furthermore, we identify and prioritize the significant challenges that must be addressed, such as customer service levels, and explicate the actions we will take to	Investors (e.g. Waka Kotahi, Council, Community etc); WDC Reporting (Annual Plan/LTP etc).

	confront these challenges and carry out the investment.	
Part B: Detailed Business Case/Asset Management Plan 	This section of the plan provides a comprehensive description of the management approaches and options for both asset portfolios and activity programs. It is structured into subsections according to asset groupings and offers detailed evidence that supports the proposed investment. Additionally, it demonstrates how we will ensure value for money by elaborating on the asset management processes used to manage our transportation assets and how we plan to comply with regulatory requirements.	Waka Kotahi, WDC Staff; Contractors; Professional service providers.

The TAMP serves as our roadmap for the future, offering a comprehensive overview of our strategies for maintaining, operating, renewing, and enhancing Waitaki's land transport network. Our aim is to showcase the substantial value of investments in core operations and the measures taken to address strategic transport challenges. Regulatory compliance and environmental preservation are equally paramount aspects we aim to fulfil.

Our Biggest Challenges and how we Plan to Respond

The challenges we see on our network and our responses need to be considered within the current economic climate. Local rates and cost pressures are significant. The re-tender of the Maintenance Contract demonstrates this and therefore we have considered cost pressures and escalations throughout the TAMP and the effect that they have on solving our biggest challenges.

Table 2: WDC Biggest Challenges

WDC Problem Statements		
 Historical planning, lack of flexibility, & misaligned LoS has reduced opportunities for access across the network & increased emissions	 Deficient transport systems & user behaviors results in reduced resilience, poor health, harm, serious injury, and deaths.	 A degrading & inadequate transport network is not fit for current and emerging requirements, leading to reduced confidence to respond to events and community needs.

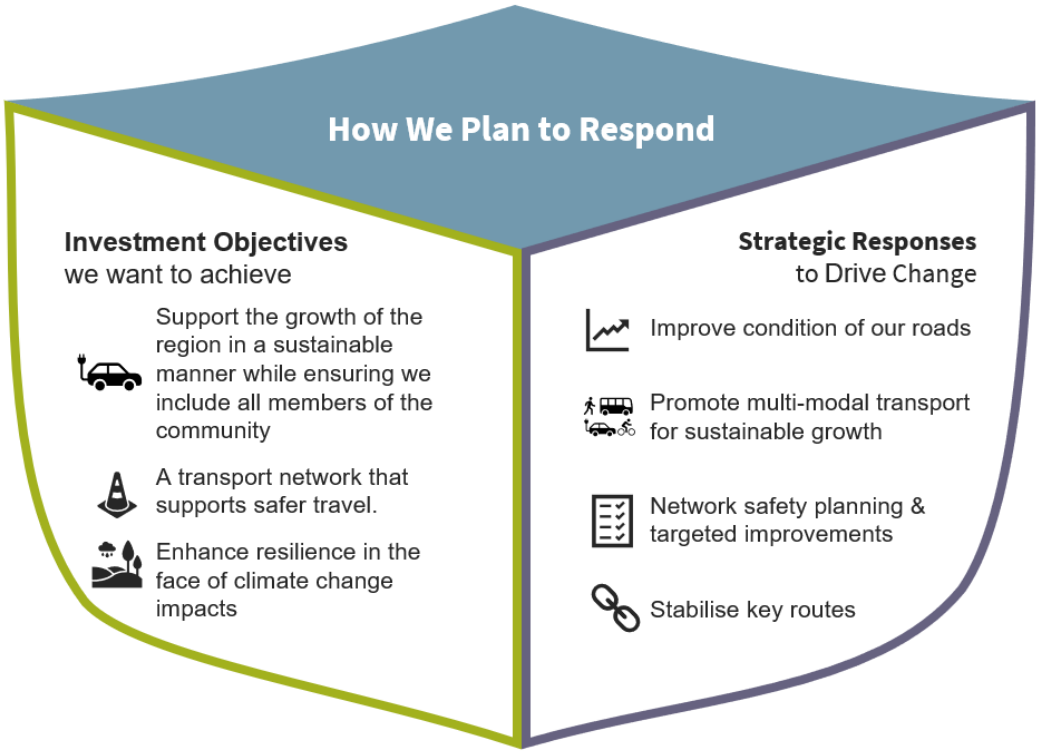


Figure 2: How we plan to respond

Our investment plan will tackle the issues identified in Waitaki by aligning with the strategic directions for transportation outlined *Nationally (please note that the time of writing the 2024* Government Policy Statement (GPS) on Land Transport Funding *has not been released)*, the Regional Land Transport Plan (RLTP), and the *One Network Framework* (*ONF)*. In Table 3 we present our key strategic response initiatives, along with the assigned investment priorities: High, Medium, or Low.

Table 3: Key Strategic Response Initiatives

Problem Statement	Benefits	Trend & Key Findings in The Strategic Assessment	Strategic Responses: Improve condition of our roads; Promote multi-modal transport for sustainable growth	Priority
 Historical planning, lack of flexibility, & misaligned LoS has reduced opportunities for access across the network & increased emissions	• Reduced health impact of air emissions from land transport. • Reduced environmental impact of greenhouse gas emissions from land transport. • Enhanced user experience of the transport system for all, including diverse groups. • Increased network productivity and utilization for broader economic and social gains.	SLIGHT DECLINE • Deteriorating Footpaths and Road Network. • Customer Dissatisfaction. • High Risk Intersections.	• **PROGRAMME ADJUSTMENT**: Improve the condition of our footpaths. Direct savings from streetlight LED conversion to support additional investment in transport planning & urban mobility. Pursue the commencement of public transport option in Waitaki. Improve the condition of our roads targeting higher ONF category routes. Integrated network planning is necessary to respond to growth in Waitaki and changing economic base.	H
			• **RISK ADJUSTMENT**: Implement ONF by developing a network operating framework and embed dLoS and prioritisation framework within the road maintenance operations.	H
			• **DEMAND MANAGEMENT:** Commencement of public transport that leverages rideshare/user demand modal (such as Myway my Metro). Consider how WDC can support EV use. Continue to work with hauliers to use suitable roads & routes to confine investment need. Working with relocating traffic generators to optimise use of existing network. Linking Roading Strategy with District Plan review and consenting processes. Enhance Customer Service Focus. Improving customer outcomes is not simply an end-result from executing the roading programme.	H L L

Problem Statement	Benefits	Trend & Key Findings in The Strategic Assessment	Strategic Responses: Network safety planning & targeted improvements	Priority
 Deficient transport systems & user behaviors results in reduced resilience, poor health, harm, serious injury, and deaths.	Reduced crash harm in the areas of; • Intersections • Poor driver behaviour • Young and old drivers • Vulnerable users	GETTING WORSE IN SOME AREAS. • Increasing DSI's on Urban and Rural Connector roads. • Higher Crash rates per 100M VKT than regional and national averages. • WDC ranked as 11th highest in NZ for personal risk at Urban Intersections.	• **PROGRAMME ADJUSTMENT**: **NETWORK SAFETY PLANNING & TARGETED IMPROVEMENTS**. Implement the response strategy in the current WDC Road Safety Action Plan. Prioritise infrastructure investment on Urban Connectors and Activity Streets; Specifically, intersection standards, shoulder maintenance/widening, guardrail, signage (route strategies to support isolated improvements), & road marking frequency.	H
			• **RISK ADJUSTMENT**: Increase of Safety Auditing on Connector Roads, and Activity Streets. Ensure that roads are in contest both in day and night conditions. Ensure all works are carried out considering ONF category prioritisation.	L
			• **POLICY APPROACH**: Review speed with respect to the Setting of Speed Limit Rule 2022 and ONF. Integration of the Speed Management Plans into the network which is currently underway.	M

Problem Statement	Benefits	Trend & Key Findings in The Strategic Assessment	Strategic Responses: Stabilise key routes	Priority
 A degrading & inadequate transport network is not fit for current and emerging requirements, leading to reduced confidence to respond to events and community needs.	• Reduced impact on system vulnerabilities and redundancies. • Reducing the risk of communities not being able to access social and economic opportunities due to unexpected outages.	GETTING WORSE • Increasing climate related damages. • Vulnerable roads: coastal erosion, and many roads suffer from flooding due to inadequate stormwater runoff.	• **PROGRAMME ADJUSTMENT: STABILISE KEY ROUTES.** Invest to improve resilience of critical assets. Proactive drainage maintenance & renewals; Retaining wall condition assessments & renewals in vulnerable areas; Bridge strengthening; Riverbank stabilisation on key routes; Coastal erosion protection.	H
			• **PROGRAMME ADJUSTMENT: IMPROVE UNSEALED ROADS.** Invest to improve resilience of unsealed roads. Increased drainage, remetalling and strengthening; Performance grading.	M
			• **POLICY APPROACH**: Embed proactive management practices by initiating periodic condition rating of culverts and Inspections of active hazard sites (coastal erosion, slips, vulnerable flooding areas). Assessing drainage risk, especially regarding secondary flow. Review of resilience hazards (pre-planning) & early warning criteria as result of changing climate to align inspection and maintenance programmes.	H

- **RISK ADJUSTMENT**: Further develop an incident and emergency preparedness & response plan & incorporate within contracts. L

Investment Options & Preferred Programme

In developing the investment options, WDC considered the Strategic, Tactical, and Operational dLoS. Examples of this are shown below in Figure 3 and Figure 4 and then further expanded upon in the Levels of Service section of this TAMP.

LoS ref	Customer Outcome	Level of Service	Performance Metric	LoS Outcome Description					
				Grade E	Grade D	Grade C	Grade B	Grade A	Grade A+
S01	Safe Travel	Safe Travel	No of DSI reductions	Rapidly deteriorating assets and few safety improvements implemented. Will not meet the DIA Mandatory target of 1 DSI saved per year	Deteriorating assets and few safety improvements implemented. Unlikely to meet the DIA Mandatory target of 1 DSI saved per year	Slowly deteriorating assets but some safety improvements implemented. May not meet the DIA Mandatory target of 1 DSI saved per year	Asset condition maintained and balanced programme of safety improvements implemented. Should meet the DIA Mandatory target of 1 DSI saved per year	Improving asset condition and enhanced programme of safety improvements implemented. Should exceed the DIA Mandatory target of 1 DSI saved per year	Significant programme of safety improvements implemented. Likely to exceed the DIA Mandatory target of 1 DSI saved per year

Figure 3: Example of dLoS considerations

Activity Class	Work Category		CUSTOMER OUTCOME					
			Safe Travel	Mode Shift & Active Travel	Connected & Accessible Network	Rural Productivity	Resilient & Available Network	Reliable Journey Times
Maintenance	111	Sealed pavement maintenance	Significantly contributes	Does not contribute	Moderately contributes	Significantly contributes	Significantly contributes	Significantly contributes
Maintenance	112	Unsealed pavement maintenance	Moderately contributes	Does not contribute	Moderately contributes	Significantly contributes	Moderately contributes	Significantly contributes
Maintenance	113	Routine drainage maintenance	Slightly contributes	Does not contribute	Slightly contributes	Slightly contributes	Significantly contributes	Significantly contributes

Figure 4: Example of Programme Linkage to Customer Outcomes

The dLoS framework creates linkages between Investment Options and levels of service. This plan considers four investment options. As mentioned earlier, in 2022 WDC had to re-tender the Maintenance Contract after the initial prices received from the market were unaffordable, resulting in downward adjustments to several levels of service. Option 3 is the preferred programme which addresses the historical funding gap and provides for a rebalance of investment in accordance with ONF.

The intention was to adopt existing management strategies to maintain the integrity of the existing asset base, adjusted and expanded to include some high priority LoS improvements. The programmes of work proposed largely represent a business-as-usual approach without any significant projects, or programme changes or funding increases from the previous plan.

Figure 5: Investment Options

Waitaki DISTRICT COUNCIL

DIFFERENTIAL LEVELS of SERVICE DASHBOARD

PREFERRED OPTION
OPTION 3

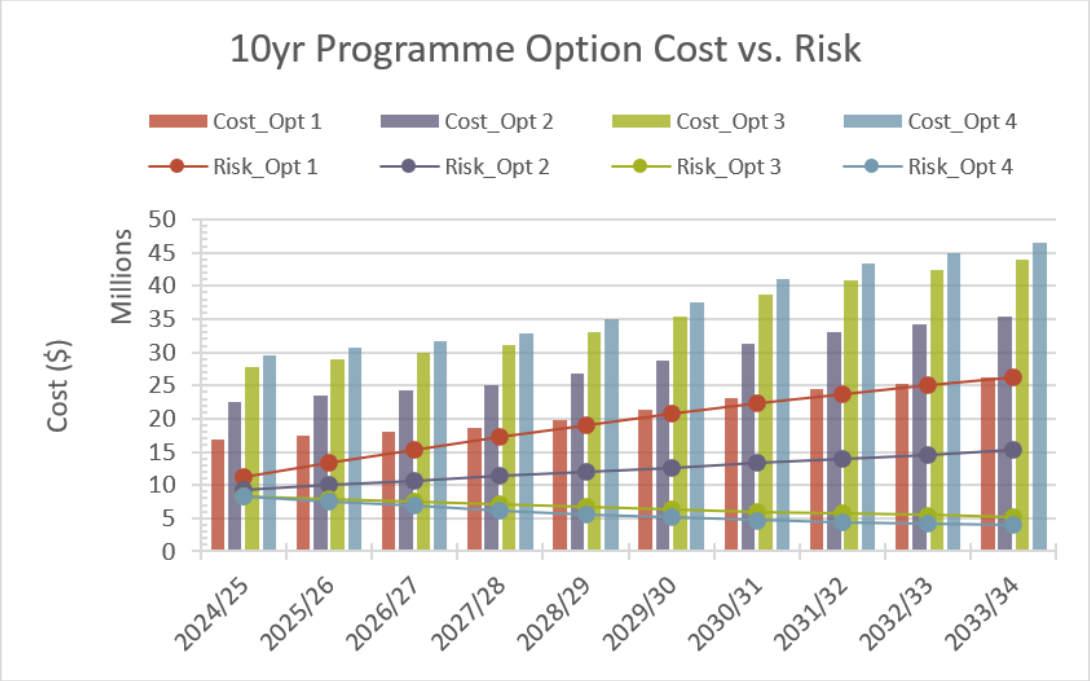
Option Comparisons

Budget Scenarios

Note: "Refresh All" after changing selections to update charts [Data/Refresh All]

Include Asset Growth – ☑ Check Box 9 YES
Emissions in $ – ☐ Check Box 1 tCO2e

		0%	Current Level	+100%		Year 1 Variance	
OPTION 1	Overall Programme Cost:				+0%	-	Austere
OPTION 2	Overall Programme Cost:				+20%	+$3,500,000	Constrained
OPTION 3	Overall Programme Cost:				+50%	+$8,700,000	Balanced
OPTION 4	Overall Programme Cost:				+60%	+$10,400,000	Enhanced



10yr Programme Summaries ($m)

OPTION 1

TOTAL Cost ($m)	Base Cost ($m)	Asset Growth ($m)	Escalations ($m)	Risk ($m)	Emissions (tCO2e)
211.35	168.76	0.68	41.91	194.07	36,018

OPTION 2

TOTAL Cost ($m)	Base Cost ($m)	Asset Growth ($m)	Escalations ($m)	Risk ($m)	Emissions (tCO2e)
284.87	226.01	2.40	56.46	123.08	29,014

OPTION 3

TOTAL Cost ($m)	Base Cost ($m)	Asset Growth ($m)	Escalations ($m)	Risk ($m)	Emissions (tCO2e)
352.06	278.48	3.82	69.76	66.20	25,775

OPTION 4

TOTAL Cost ($m)	Base Cost ($m)	Asset Growth ($m)	Escalations ($m)	Risk ($m)	Emissions (tCO2e)
373.40	295.18	4.24	73.98	56.59	25,274

Revenue & Expenditure Forecast

Subsidised	Unsubsidised	Total Cost
$327.98M	$24.08M	$352.06M

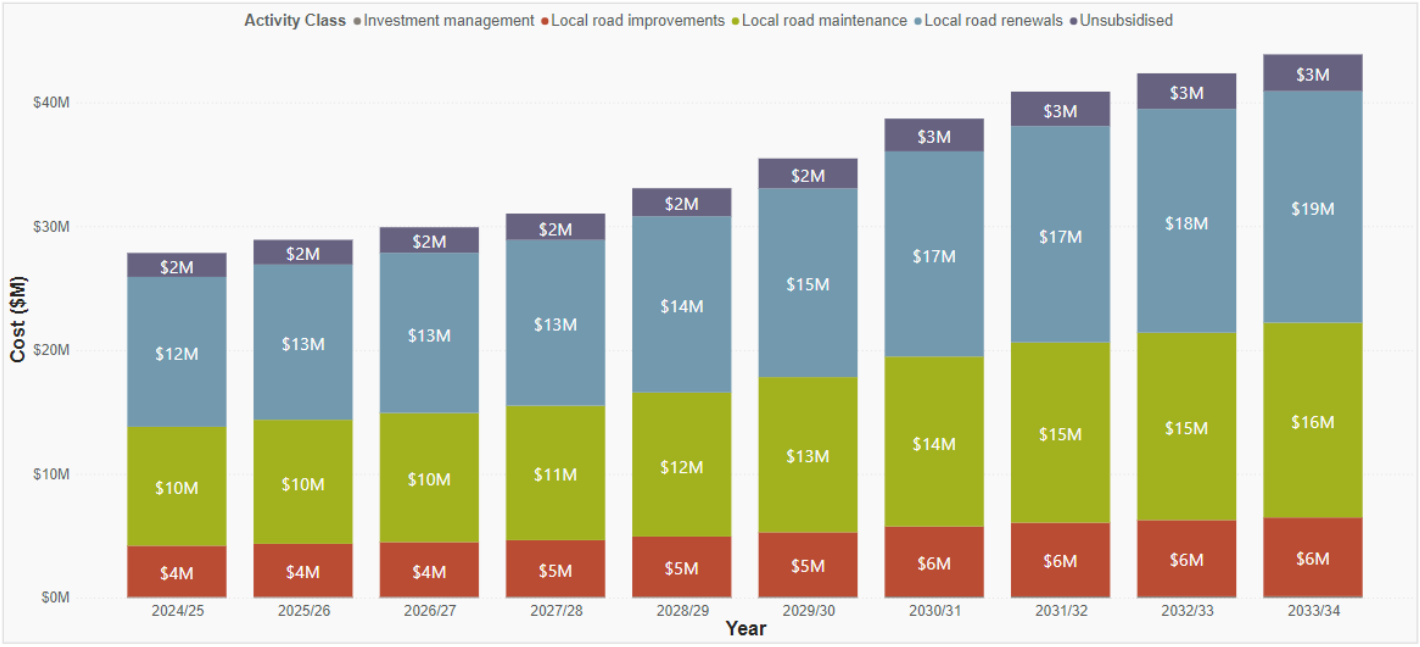


Figure 6: 10 Year Expenditure Forecast

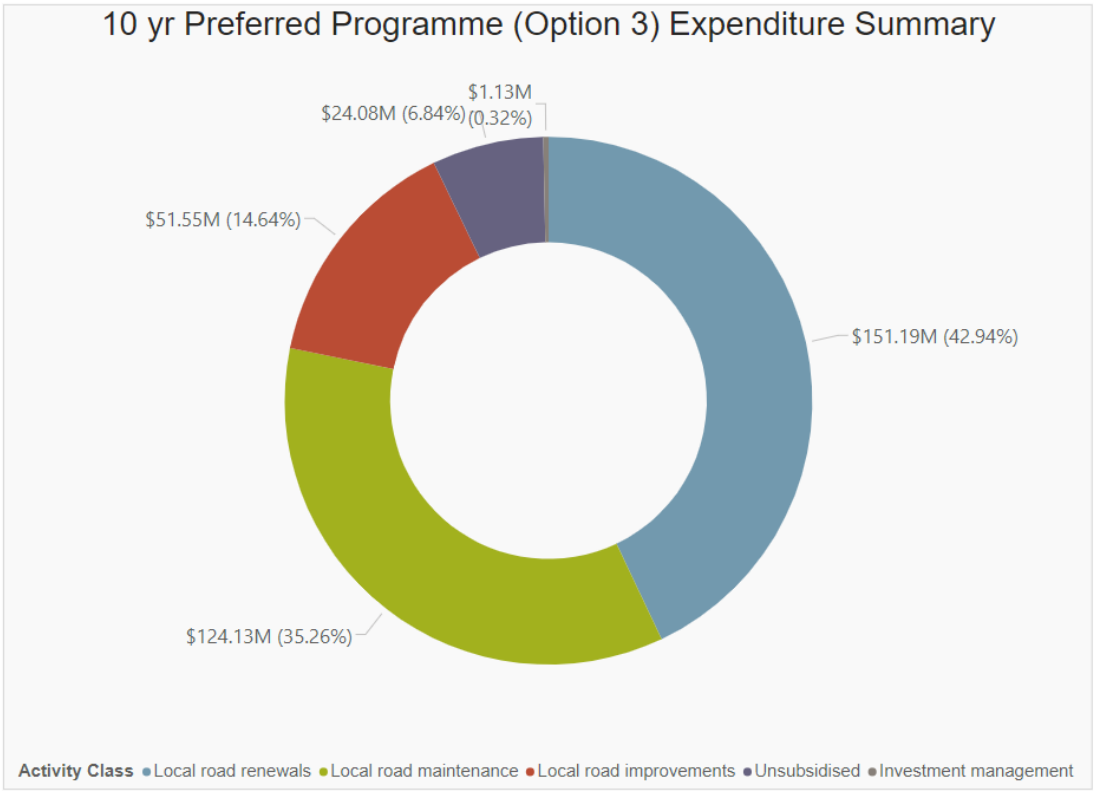


Figure 7: Expenditure Forecast/Summary

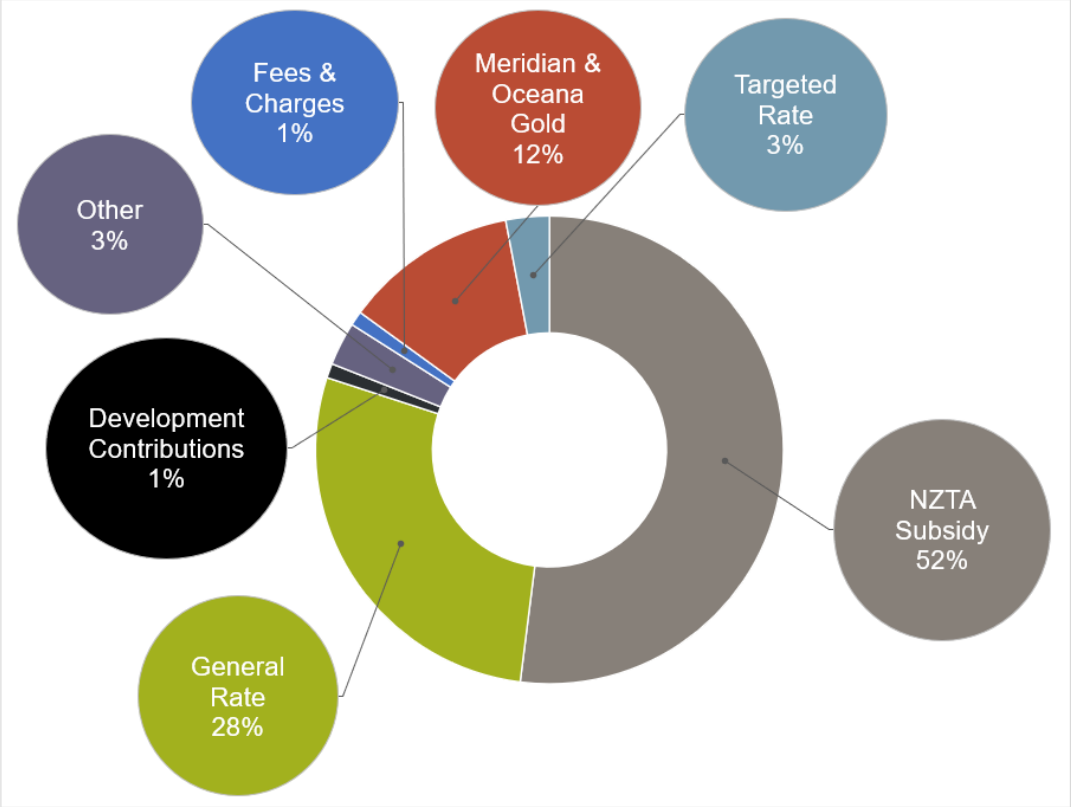


Figure 8: Our Revenue Plan

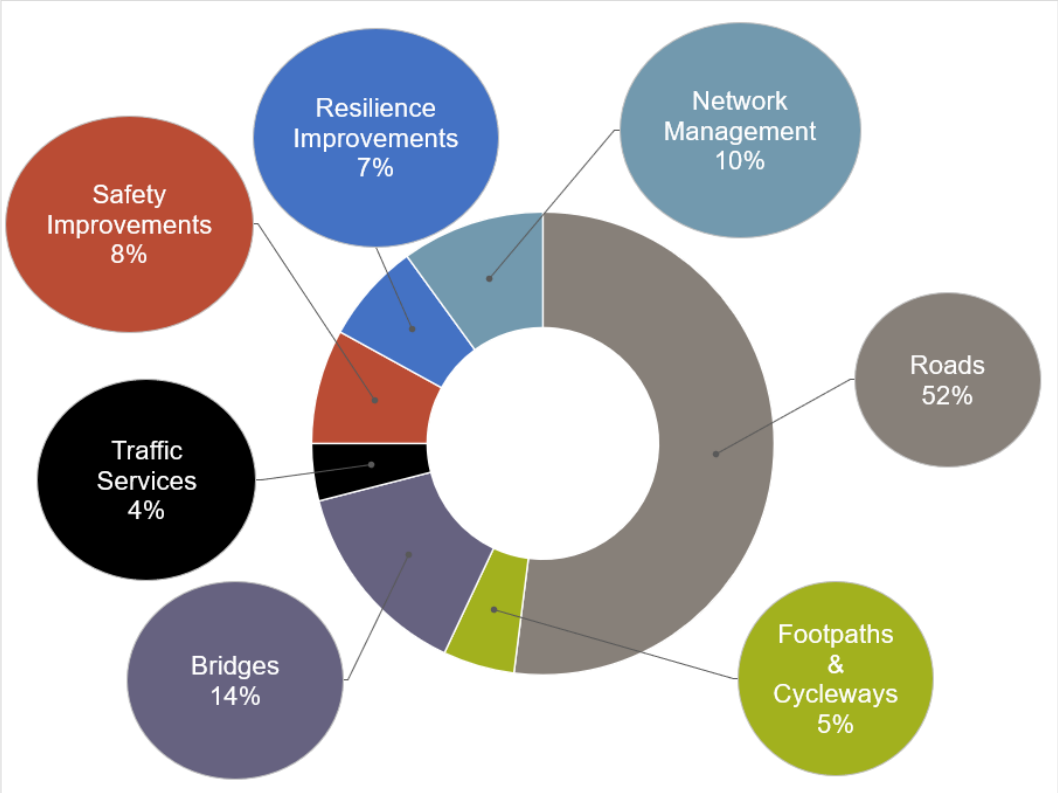


Figure 9: How we Spend the General Rate on Transportation Services

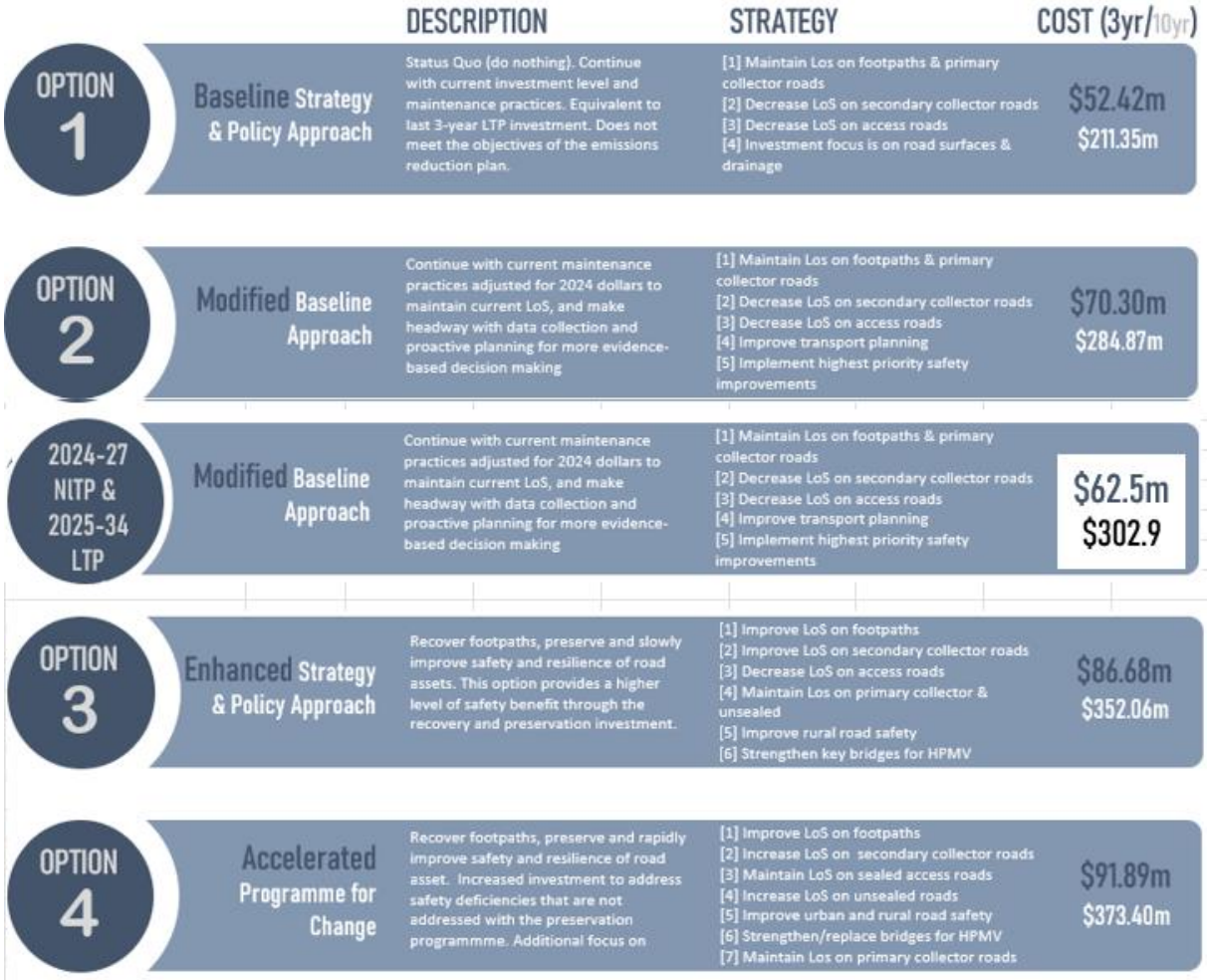
Approved 2024-27 NLTP & 2024-25 AP

Option 3, enhanced strategy & policy approach was the preferred investment for the 2024-34 Long Term Plan which includes the 2024-27 National Land Transport Programme funding, the 2024-25 Enhanced Annual Plan and the remainder of the 2025-34 Long Term Plan funding.

Below is a figure showing the 4 investment options with an option included of a modified baseline approach which is closer to what has been approved than a modified option 3.

The additional funding that has been approved in the 2024-27 NLTP over and above option 2 is an enhanced programme funding for pothole prevention ie. additional sealed and unsealed maintenance, routine drainage maintenance as well as resurfacing and pavement rehabilitation budgets. In addition, funding for the renewal of the Kakanui Point Bridge has been approved, $9.3M and a coastal protection project of $2.05M funded out of the Crown Resilience Programme.

Below the investment options is a summary table showing the financially and non-financially assisted budgets.



Activity Financially Assisted	2024/25	2025/26	2026/27	2027/28	2028/2029	2029/30	2030/31	2031/32	2032/33	2033/34	10 year Total
Maintenance & Operations	7,786,460	7,929,183	8,071,909	9,845,600	10,465,873	11,198,484	12,183,950	12,841,884	13,278,508	13,729,977	107,331,828
Renewals	10,034,877	10,218,816	10,402,754	9,002,030	9,569,158	10,238,999	11,140,031	11,741,593	12,140,807	12,553,594	107,042,660
Total Improvements & Education	2,136,333	86,333	86,334	7,246,305	7,702,823	8,242,020	8,967,318	9,451,553	9,772,906	10,105,185	63,797,110
Total	19,957,670	18,234,332	18,560,997	26,093,936	27,737,854	29,679,503	32,291,300	34,035,030	35,192,221	36,388,756	278,171,598
Activity Non - Financially Assisted	2024/25	2025/26	2026/27	2027/28	2028/2029	2029/30	2030/31	2031/32	2032/33	2033/34	10 year Total
Maintenance, Operations, new & renewal capital	1,925,140	1,876,430	1,936,475	2,002,316	2,128,462	2,277,454	2,477,870	2,611,675	2,700,472	2,792,288	22,728,580
Total	1,925,140	1,876,430	1,936,475	2,002,316	2,128,462	2,277,454	2,477,870	2,611,675	2,700,472	2,792,288	22,728,580

Appendix 1 of this document identifies detailed approved work category investment for NZTA activities as well as detailed non-financially assisted budgets by activity.

Key Risks

Recognising that Risk Management plays a vital role in effective Asset Management (AM), WDC acknowledges its ongoing commitment to learning and improving in this area. WDC is dedicated to fostering a cohesive organisational approach to risk management, aligning with ISO 31000's Risk Management Principles and Guidelines.

Guided by the WDC Risk Management Policy and framework, comprehensive Operational and Key Risk Registers have been developed for all Council functions, including a specialised register for Roading. WDC leverages asset information and performance data related to Levels of Service (LoS) to evaluate the risks associated with not achieving the necessary standards.

Table 4: Top Operational and Key Risk Register for Roads

Risk	Description	Impact	Likelihood
Weather or Natural Events	Risk that roading infrastructure is damaged or becomes unsafe due to a severe weather or natural event, resulting in repair or reinstatement requirements, potential public harm, and financial loss. 20 (Very High)	20 (Very High)	16 (High)
External Decision-Making Impacts	Risk that decisions made outside the Roading Team/Council are detrimental to planned activity, due to lack of consultation, or non-adherence to guidelines and best practice, resulting in financial loss, reduced funding, reputational damage, staff dissatisfaction, increased burden on ratepayers, and resident dissatisfaction.	16 (High)	16 (High)
Policy Alignment with Legislation and Regulation	Risk that Roading Policy is not aligned with legislation and regulation, due to lack of external consideration, or insufficient engagement, resulting in breach of legislation and regulation, and reputational damage.	12 (High)	6 (Low)
Resource Capacity	Risk that Team resource capacity is exceeded due to an inability to retain or recruit staff, leading to service degradation, staff dissatisfaction, and reputational damage.	12 (High)	6 (Low)
Health and Safety	Risk that a member of staff, the public, an on-site worker, or elected member has an accident or incident on a Council Roading worksite or whilst conducting activities on behalf of Council, resulting in potential fine, breach of legislation, reputational damage, personal injury, illness, or death.	12 (High)	6 (Low)
Road Corridor Management	Risk that Road Corridor Management activities/plans are inadequate or poorly executed, due to lack of clarification of ownership or unclear responsibilities, resulting in delays, safety issues, reputational damage, and contractor relationship issues.	16 (High)	6 (Low)
Asset Management	Risk that roading assets are not appropriately managed or maintained, due to lack of planning or processes not being defined or followed, resulting in resident dissatisfaction, reputational damage, legislative breach, and financial loss to Council and Community.	15 (High)	6 (Low)
Resource Consent Adherence	Risk that consents are not adhered to and conditions are breached due to lack of awareness of requirements, or human error, resulting in road network safety reduction, damage to roading assets and community connection, personal safety issues, damage to relationship with ORC or ECAN, reputational damage, and financial loss.	12 (High)	6 (Low)
Third Party Resource Consents	Risk that consents are granted without prior knowledge/inclusion of Roading, due to lack of communication, or human error, resulting in road network	12 (High)	3 (Low)

	safety reduction, damage to roading assets and community connection, personal safety issues, damage to relationship with ORC or ECAN, reputational damage, and financial loss.		
Environmental Impacts	Risk that Roading activity negatively impacts the environment through lack of planning or considered decision-making, resulting in financial loss, reputational damage, and legislative breach.	12 (High)	6 (Low)
Third Party utility failure affects public use of roading network	Risk that structural performance of the utility damages the road structure or road network operation damages a third-party utility, due to lack of co-ordination and communication, affecting public safety and access to the network, financial and reputational damage to Council	16 (High)	6 (Low)

Table 5: Climate change, slow and sudden onset impacts

IMPACT STATEMENT		RISK		VULNERABILITY	
		Probability	Consequence	Sensitivity	Adaptive Capacity
SLOW-ONSET Impacts	Fire risk periods may become longer and more frequent, impacting our ability to complete rural maintenance	MOD	MOD	HIGH	POOR
	Winter season and frost periods may become shorter and less predictable	HIGH	LOW	HIGH	GOOD
	Sea level rise causing coastal erosion threating infrastructure	HIGH	MOD	MOD	POOR
	Land use change leading to changes in travel demand (volume, mass, and dimension) and VKT	MOD	LOW	MOD	GOOD
SUDDEN ONSET Impacts	Extreme weather may become more frequent and damaging, especially wind and rain events	HIGH	HIGH	HIGH	POOR
	Storm events causing considerable coastal erosion	HIGH	MOD	MOD	MOD
	Wildfires may become larger and more frequent	HIGH	HIGH	MOD	POOR

Definitions	LOW/GOOD	MODERATE	HIGH/POOR
Probability	Low agreement in scientific literature that the impact will occur.	Moderate agreement in scientific literature that the impact will occur.	High agreement in the literature that the impact will occur.
Consequence	No LoS or cost impact	Minor to isolated but significant instances of LoS decline that could be reversed with effort.	Severe LoS decline and a danger of progressive, irrecoverable loss of service.
Sensitivity	No change in functionality of the transport service area.	Ability of the transport service area to maintain the network at desired LoS is likely to get worse.	Ability of the transport service area to maintain the network at desired LoS will get significantly worse.
Adaptive Capacity	No to little costs and staff intervention.	Will require some costs and staff intervention to adjust the service area to the impact.	Will require substantial costs and staff intervention to adjust the service area to the impact.

Performance

The effectiveness of this plan in addressing our problem statements will be monitored against performance measures. This is aligned to our Community Outcomes

Figure 10: LoS Outcomes Alignment with WDC Community Outcomes

Table 6: Current Te Ringa Maimoa performance measures reported with respect to ONF (green indicates improving trend, red indicates worsening trend)

Transport outcomes framework	Benefit	Measure	Current Performance with respect to ONF (21/22)									Comments
			Urban					Rural				
			Urban Connectors	Local Streets	Activity Streets	Main Streets	Civic Spaces	Rural Connectors	Rural Roads	Peri-Urban Roads	Stopping Places	
Healthy and safe people	1.1 Impact on social cost of deaths and serious injuries 1.2 Impact on a safe system	Safe Travel -Collective Risk (crash density)	49	4	89	0	0	13	2	6	0	
		Safe Travel -Personal risk (crash rate)	5	3	19	0	0	9	9	8	0	
		Safe Travel - Deaths and Serious Injuries	0	2 →	1	3	0	2	0	0	0	
		Safe Travel – Crashes at Night	0	1	0	0	0	1	0	0	0	
		Safe Travel - Crashes at Intersections	0	0	1	1	0	0	0	0	0	
		Safe Travel – Vulnerable User Crashes	0	0	0	1	0	0	0	0	0	
Environmental sustainability	8.1 Impact on greenhouse gas emissions	CO2 emissions	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	
		Vehicle kilometres travelled (M VKT)	14.6	16.4	2.6	1	0.1→	29.2	35.9	2.6	0.3	
Inclusive access	10.1 Impact on user experience of the transport system	Smooth Travel Exposure (%)	84	69	66	98	92	97	94	91	85	
		Peak Roughness (75th %ile)	117	156	163	64	153	85	104	118	90	
		Peak Roughness (85th %ile)	134	174	174	65	159	96	118	130	106	
		Peak Roughness (95th %ile)	161	207	217	77	166	120	146	153	134	
Economic prosperity	5.2 Impact on network productivity and utilisation	Chipseal resurfacing cost ($)	-	587,634	-	-	-	244,980	840,696	153,578	-	

Table 7: Current Te Ringa Maimoa performance measures reported with respect to ONRC (green indicates improving trend, red indicates worsening trend)

Transport outcomes framework	Benefit	Measure	Current Performance with respect to ONRC (21/22)												Comments
			Urban				Rural				Total				
			PC	SC	Ac	LV	PC	SC	Ac	LV	PC	SC	Ac	LV	
Resilience and security	4.1 Impact on system vulnerabilities and redundancies	4.1.1 Availability of a viable alternative to high-risk and high impact route	Need to develop	Need to develop	Need to develop	Need to develop	Need to develop	Need to develop	Need to develop	Need to develop	Need to develop	Need to develop	Need to develop	Need to develop	

Transport outcomes framework	Benefit	Measure	Current Performance with respect to ONRC (21/22)												Comments
			Urban				Rural				Total				
			PC	SC	Ac	LV	PC	SC	Ac	LV	PC	SC	Ac	LV	
Economic prosperity	5.1 Impact on system reliability	Unplanned Road Closures	No U/R split	No U/R split	No U/R split	No U/R split	No U/R split	No U/R split	No U/R split	No U/R split	0	3	5	5	
	5.2 Impact on network productivity and utilisation	Chipseal Average Life Achieved	31.3	14.9	15.2	17	18.2	12.7	16.2	13.9	19.8	13.2	15.8	15.9	Green = lives increasing in trend Red – lives decreasing in trend

PART A: STRATEGIC & PROGRAMME BUSINESS CASE/ACTIVITY MANAGEMENT PLAN

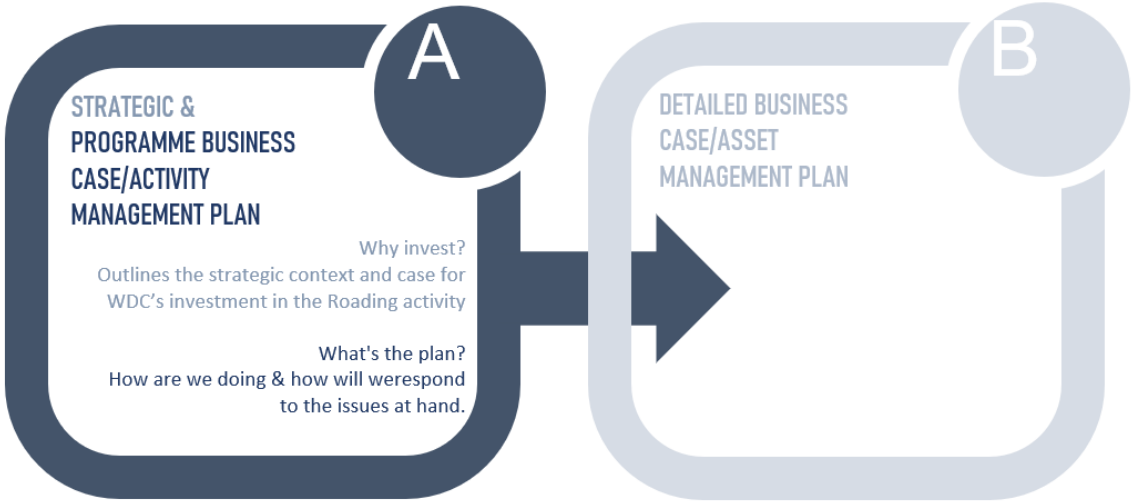


Figure 11: TAMP Plan Framework

1 Introduction

1.1 Purpose of this Plan

The Transport Asset Management Plan (TAMP) serves as a strategic tool for Waitaki District Council (WDC) to guide land transport priorities investment. It undergoes a thorough Strategic and Programme Business Case review every three years to ensure alignment with national transport policy and the achievement of Government Policy Statement (GPS) and Regional Land Transport Plan (RLTP) objectives. This review provides an opportunity to assess progress made in the current 10-year plan, identify changes that have occurred, and determine if any reprioritisation of investment objectives is necessary.

The TAMP reflects the outcomes outlined in the Infrastructure Strategy and the WDC 2021-31 Long Term Plan (LTP), and it gives effect to the planned activities and programs of work. It serves as a roadmap for maintaining the transportation network to the appropriate condition and will contribute as an input into the development of the 2024-34 (LTP.

With a focus on Asset Management (AM) maturity, practices, Levels of Service (LoS), and program delivery, the TAMP establishes a strategic rationale that links local, regional, and central government policies and actions. By adopting a business case approach and exploring various investment options, the TAMP aims to demonstrate the value of each investment made to address strategic transportation challenges and fulfil our core business operations. All investments are aligned with desired

Figure 12: Value for Money

outcomes, delivering benefits to our customers and stakeholders while ensuring value for money.

Moreover, the TAMP fulfils our statutory obligation to consider climate change implications as we manage and steward the transportation assets entrusted to us. By adhering to planning and investment standards set by Waka Kotahi (NZ Transport Agency), we aim to offer a cost-effective solution that aligns with the principles depicted in Figure 6.

In summary, the TAMP represents our commitment to strategically aligning WDC's regional transport program with national transport policy. It enables us to assess progress, adapt to changes, and prioritise investment objectives as we work towards maintaining and enhancing our transportation infrastructure.

1.2 Plan Framework

To achieve the purposes outlined in section 1.1 this TAMP is divided into 2 parts that is shown in Figure 11 and expanded upon in Table 8. WDC have also developed an Online Summary Version of the TAMP to aid in communication of the key content in Parts A and B.

Table 8: TAMP Plan Framework

TAMP Part	Key Focus	Audience
Part A: Strategic & Programme Business Case/Activity Management Plan 	This section of the plan addresses the question of why investing is necessary. It presents the strategic background and identifies the crucial challenges and obstacles faced by WDC. Moreover, it highlights the advantages that customers would gain from addressing these issues. It also presents evidence that bolsters the proposed investment. We accomplish this by unequivocally establishing the connection between the investment and the resulting service outcomes. Furthermore, we identify and prioritize the significant challenges that must be addressed, such as customer service levels, and explicate the actions we will take to confront these challenges and carry out the investment.	Investors (e.g. Waka Kotahi, Council, Community etc); WDC Reporting (Annual Plan/LTP etc).
Part B: Detailed Business Case/Asset Management Plan 	This section of the plan provides a comprehensive description of the management approaches and options for both asset portfolios and activity programs. It is structured into subsections according to asset groupings and offers detailed evidence that supports the proposed investment. Additionally, it demonstrates how we will ensure value for money by elaborating on the asset management processes used to manage our transportation assets and how we plan to comply with regulatory requirements.	Waka Kotahi, WDC Staff; Contractors; Professional service providers.

1.3 Relationship with other Council Plans

Under the Local Government Act 2002, WDC are required to put together a LTP. The LTP sets out our overall goals (community outcomes) and the projects we intend to deliver over a 10-year period and how these will be funded.

Reviewing and updating of the LTP and TAMP are related and integrated within Council's operational and strategic annual and 3-year planning cycles:

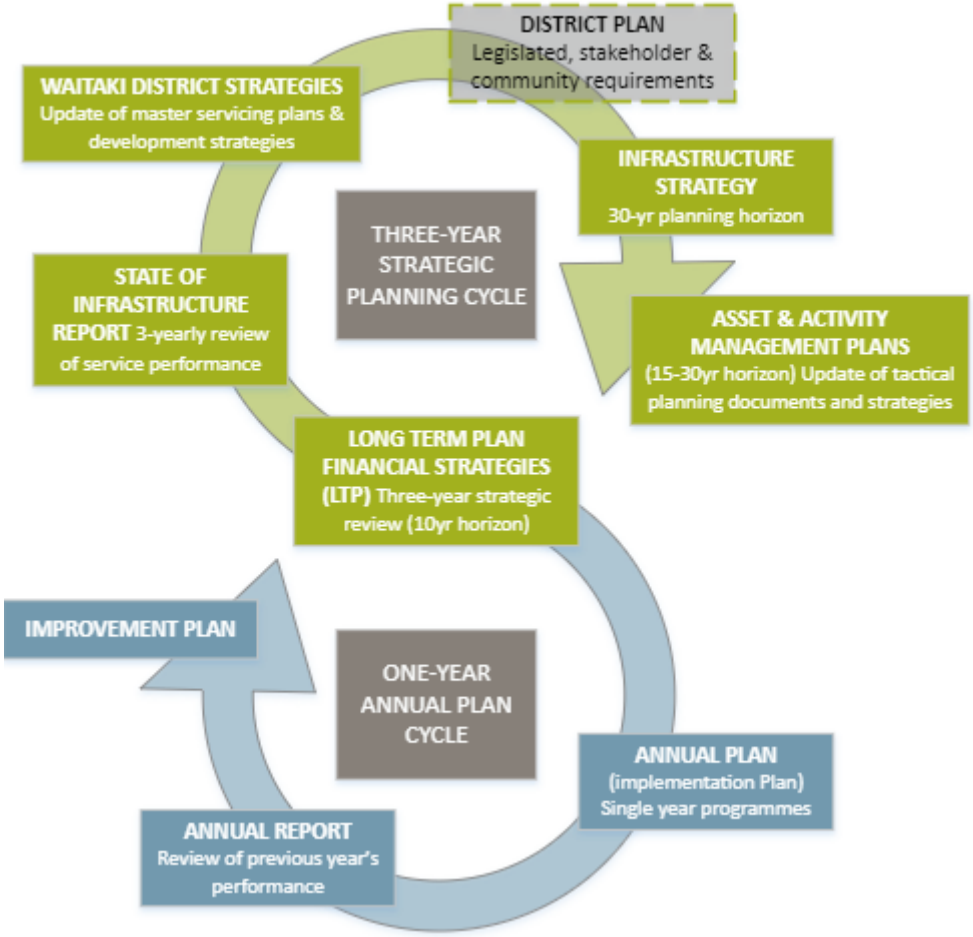


Figure 13: LTP/TAMP integration with Council's operational/strategic annual/3-year planning cycles

The overall relationship of different planning documents is shown in the following figure:

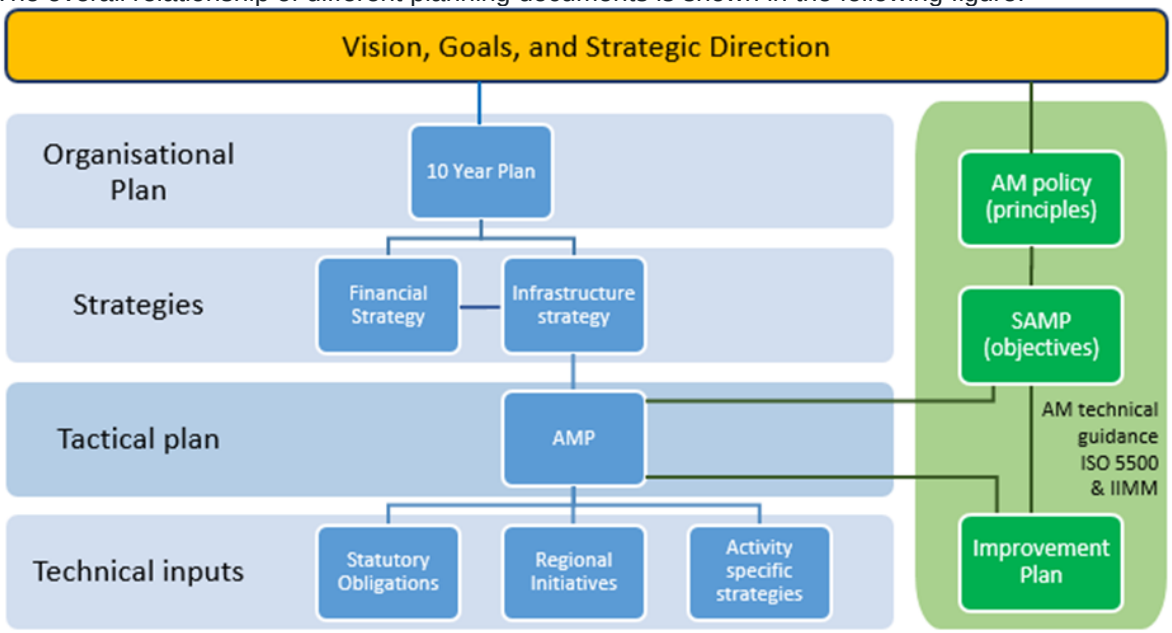


Figure 14: Relationship Between Planning Documents

The interpretation of this for the Waitaki Roading service area is as follows:

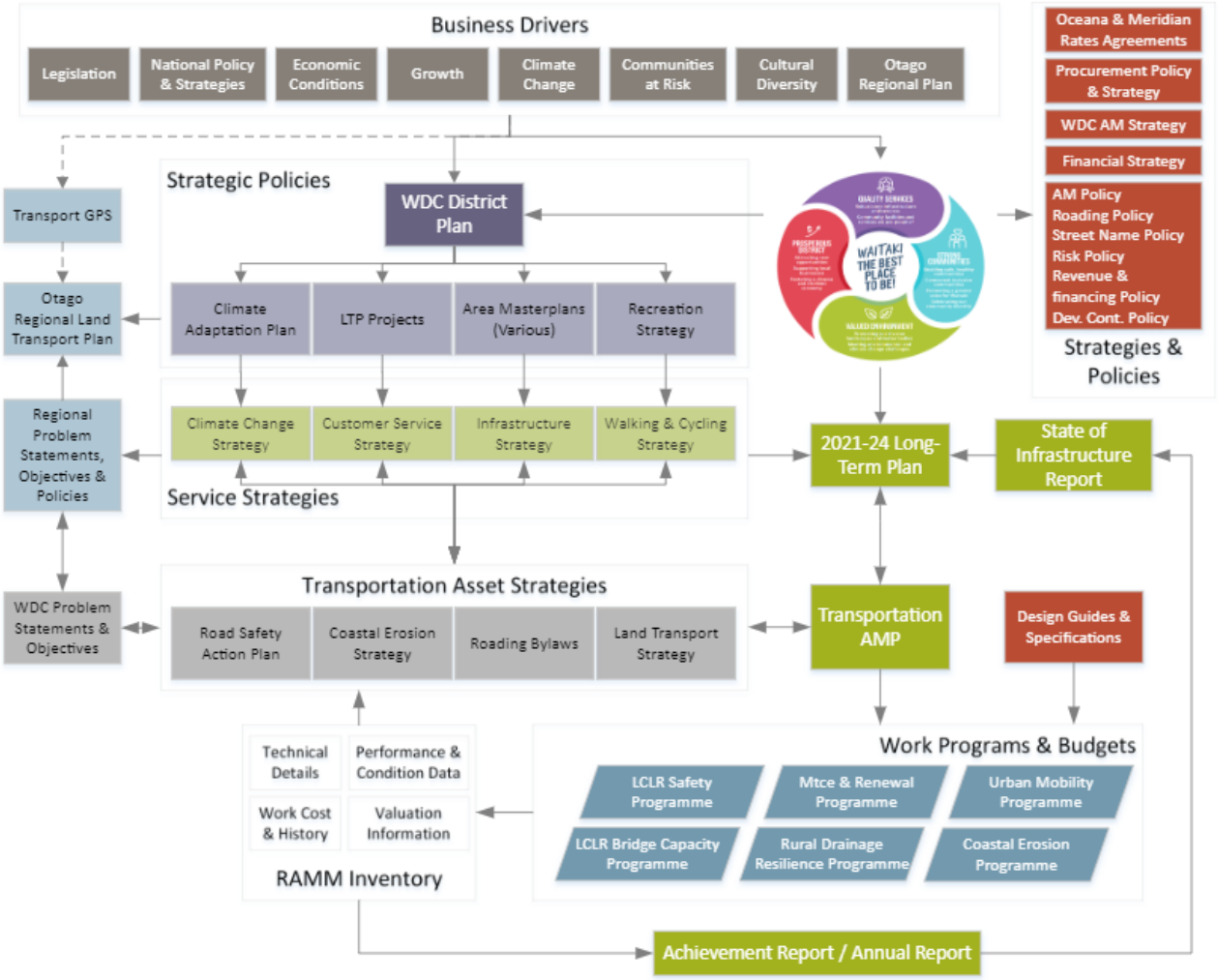


Figure 15: Interpretation for the Waitaki Roading service area

1.4 Why Is Transport Important for Waitaki?

The essential purpose of Waitaki's transport network is to enable access and is a significant and essential physical resource in the District, contributing to the social and economic wellbeing of residents, visitors and businesses.

The Waitaki District is on the lower east coast of the South Island and reaches inland from the Waitaki River mouth, up the Waitaki River Valley, through Ohau to the top of the Ahuriri River Valley and across to the Lindis Pass. It extends south down the east coast beyond Palmerston to Flag Swamp, across to Macraes and covers 714,805 hectares (7,148km^2).

Waitaki is accessible by sea, train, air, or road. The local road network is administered by Waitaki District Council and consists of 1799 kilometres of formed road which is Council's largest infrastructure asset, with an optimum depreciated replacement value of 668 million excluding land (June 2023).

The main centre is Oamaru located on the east coast 1.5 hours north of Dunedin. Other urban centres in the district include Kurow, Omarama, Otematata and Palmerston. Popular holiday spots include Hampden, Kakanui, Moeraki, Lake Ohau and the Waitaki Valley.

As of 2022, Waitaki District's population is estimated at 24,000, of which approximately 13,000 live in Oamaru. Waitaki is experiencing the impacts of growth – both economic growth: reflected in increased freight movements and busier highways; as well as population growth: reflected in increased housing demand, new subdivisions, and pressure on existing/ demand for new urban infrastructure. Demand is placing pressure on the network as indicated in the Demand section of this TAMP.

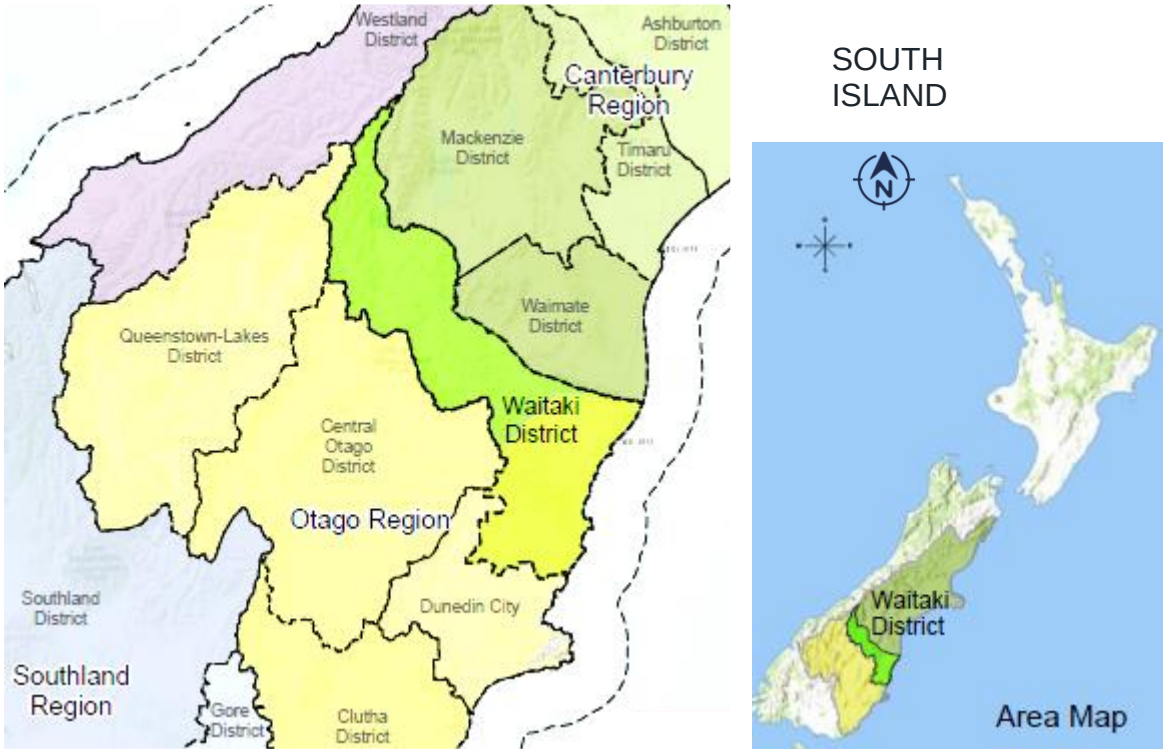


Figure 16: Waitaki District Location

Traditionally a rural and farming district, Waitaki's tourism market is on the rise again after Covid-19. There are many attractions and activities, including beautiful lakes ideal for all sorts of water activities, ski fields, tramping, fishing and hunting, and beaches with great surf and brilliant white sand.

In 2023 the Waitaki region attained the distinguished status of New Zealand's first United Nations Educational, Scientific and Cultural Organization (UNESCO) global geopark. Features like Elephant Rocks, Moeraki Boulders, and Omarama's Clay Cliffs highlight the region's international geological

significance. This recognition aims to stimulate tourism and safeguard the exceptional heritage sites and landscapes in the area.

In 2014 Lonely Planet named Oamaru NZs Coolest Town and it is, offering "*some pretty special things – the historic Victorian precinct (including Victorian Heritage Week), little blue penguins and Steampunk HQ*". Further afield we have award-winning restaurants, wineries, craft breweries and special archaeological sites.

Waitaki is the only district in the South Island that lies within two regions. A major reason for this split was the governance of the Waitaki River, which forms a political boundary between Canterbury and Otago. Therefore, the district has two regional authorities – the Otago Regional Council (ORC) and the Canterbury Regional Council (ECan).

In 2008 WDC aligned itself with Otago for the purposes of land transport planning so sits on the Otago and Southland RTC. The reasons for this were two-fold; most of the population resides in North Otago and the bulk of the land mass is also in North Otago.

1.5 How we Manage and Operate the Road Network

1.5.1 Confidence in Delivery

The Council delivers a fit for purpose roading network by applying life-cycle management practices to create, operate, maintain, renew and improve the existing infrastructure to meet the increased demand and provide appropriate LoS. We consult actively with the community about their needs and preferences.

This TAMP covers all land-based transportation activities that Council pays for either fully or with assistance from Waka Kotahi. It discusses how WDC assets, and our functions as a Road Controlling Authority (RCA) can best be managed and delivered to meet our community outcomes and the Transport Outcomes being targeted nationally for the transportation network (as detailed in Table 9):

- Healthy and Safe people
- Resilience and Security
- Economic Prosperity
- Environmental Sustainability
- Inclusive Access

Table 9: Land-based Transportation Activities

User	Council Assets / Services Provided	Link to Community Outcomes	National Transport Outcomes Achieved by the activity
   	**Development & Improvement** of the transportation & traffic networks **Maintenance and renewal of:** · Sealed roads · Unsealed roads · Drainage · Bridges & other structures · Traffic services including lighting, signage, road marking, & road furniture · Car parks	· **Quality Services** · **Valued Environment** · **Strong Communities** · **Prosperous District**	· **Resilience and Security** – providing drainage and road support structures to reduce risk of interruption to travel during high rainfall events – includes providing resilience for the state highway in the event of closures. · **Inclusive Access** – renewed bridges allow for HPMV, 50MAX and Class 1 heavy vehicle access to productive land. · **Inclusive Access** – road network is easy to navigate through well

User	Council Assets / Services Provided	Link to Community Outcomes	National Transport Outcomes Achieved by the activity
	· Meters **Maintenance of the road reserve including:** · Mowing, weed spraying · Sweeping and cleaning (e.g. litter & graffiti removal) **Planning and management** to ensure the transportation system is integrated with land use and able to cope with future needs **Issue access and use permits**		maintained directional and guidance signage. · **Healthy and Safe people** – reduction in crashes due to fit for purpose road surfaces, intersection improvements, guardrails, lighting, road marking, signs. · **Healthy and Safe people** – on and off-street parking facilities to ease the safe movement of passenger vehicles within urban transport networks. · **Economic Prosperity** – business journeys encouraged by providing pavement rehabilitation, reseals & maintenance. · **Economic Prosperity** – road network kept tidy and functional by keeping vegetation controlled, graffiti removed, and roadside furniture maintained. · **Economic Prosperity** – Car parking availability within the CBD is also an important factor to ensure the access to local businesses and viability of the local economy as a whole
	Maintenance and renewal of: · Cycle ways · Cycle lanes · Footpaths Maintenance of the road reserve including: · Sweeping and cleaning (e.g. litter and graffiti removal) Safety improvements	· **Quality Services** · **Valued Environment** · **Strong Communities** · **Prosperous District**	· **Healthy and Safe people** – vulnerable user accidents reduced by providing paths separated from other traffic. · **Environmental Sustainability** – shared footpaths for pedestrians and cyclists to be identified which is aligned with a mode neutral approach to the transport network. · **Inclusive Access** – cycling and walking paths kept tidy and functional by keeping vegetation controlled, graffiti removed, and roadside furniture maintained.

The land transport network also provides an important “place” function and role in provision of other services to the community:

- **Streetscape and sense of place.** Road corridors constitute the largest public space in the district and are an important amenity space used for beautification (planting and public art), community interaction, recreation and commerce (al-fresco dining, road-side stalls, etc.)
- **Stormwater Management.** Road corridors are important for urban and rural stormwater management, providing overland flow paths, detention, and infiltration opportunity.

- **Utility corridors:** provision of essential services including maintenance and installation of power, telecommunications and water, storm water and wastewater. Also allows for installation of private infrastructure including pipelines and stock underpasses.
- **Fire breaks:** these are essential to safety and community well-being of smaller rural communities e.g. Shag Point has one road entry and exit, is built above a coal mine and has a comprehensive fire evacuation plan when required.

1.5.2 Service Delivery Structure

These assets and services are managed by WDC's Roading Department. The team provides professional engineering and management services to all roading asset-based activities, and is supplemented by professional services providers for technical, design and AM input.

The physical works required to deliver the assets and services are completed by Contractors through various short and long term physical works contracts. There are several challenges associated with the physical work including cost, capability, and capacity. This has been discussed further throughout the TAMP.

Activity management is a continuous process because operational circumstances change minute by minute. Data is collected to inform short, medium and long term operational and maintenance decisions. The data is also analysed to identify where system improvements are required.

1.6 Our Key Partners and Stakeholders

Our key partners are those groups or organisations that we are aligned with as owners of the transportation issues in our region and district.

Our key stakeholders are those groups or individuals who can help us to focus our strategic planning on the right things. They have information and knowledge to help us make better decisions.

In terms of setting the strategic context and direction for the TAMP our key partners and stakeholders and their reason for involvement are shown in the tables below.

1.6.1 Our Key Partners

Table 10: Key Partners

Partners	Knowledge/Involvement
Waka Kotahi New Zealand Transport Agency (Waka Kotahi)	Funding partner and sets out the activities that can receive funding from the National Land Transport Fund under the Land Transport Management Act. Provides a vital link between government policy making and the operation of the transport sector. Highways and Network Operations (HNO) division manages the maintenance, operations and renewals of State Highways that run through Waitaki, providing connectivity to other parts of the Otago and Canterbury regions and beyond. Waka Kotahi and WDC operate a maintenance boundary agreement and hold regular operational liaison meetings. WDC also have delegations for street lighting and street sweeping on the state highway.
Te Ringa Maimoa (formally known as the Road Efficiency Group)	Providing support and tools for implementing ONF and Business Case Approach (BCA) AMP.

Partners	Knowledge/Involvement
Road Controlling Authorities Forum New Zealand (RCAF)	RCAF is a closed, non-political group with representatives from the 73 territorial local authorities, the Department of Conservation, Local Government New Zealand and Waka Kotahi. Its purpose is to assist RCA's to make informed decisions, through information exchange, working groups, legislation, standards and guidelines, highway and procurement strategies etc.
Otago & Southland Regional Councils	Sets the direction for the region's land transport system for the next 30 years through the Regional Land Transport Strategy.
Regional Transport Committee (RTC)	Committee includes regional councillors and appointees from transport interests and other councils in the region. The aim is to prepare both the Regional Land Transport Strategy and the Regional Land Transport Plan for approval by the Regional Council, and consider other issues related to land transport which have a regional impact.
Dunedin CC Central Otago DC, Queenstown Lakes DC Westland DC Mackenzie DC Waimate DC	Neighbouring RCA's with whom we have a strong strategic alignment. Westland, Mackenzie, Waimate are not part of the Otago and Southland Regional Transport Committee, so contact is minimal.

1.6.2 Māori Stakeholders

Māori stakeholders*: Ngai Tahu	Contribution to the cultural processes – site approval for significant work. Environmental impacts. Liaison with ORC regarding river metal extraction, resource consents and archaeological sites. Te Rūnanga o Moeraki is local contact with which WDC has a Memorandum of Understanding.

* We aim to have a greater level of engagement with Māori included in future plans.

IMPROVEMENT ITEM – Council should consider further development of its Māori Policy which would expand on the current Policy included in the 2021-31 LTP and the Memorandum of Understanding with Te Rūnanga o Moeraki. The Updated Policy should consider:

- Acknowledge the inclusion and importance of mātauranga Māori in WDC infrastructure design and implementation processes;
- Commit to establishing a relationship/partnership with meaningful engagement between WDC and tangata whenua to achieve mutually beneficial outcomes for the community of Waitaki;
- Set up processes and procedures that facilitate effective communication between WDC and Tangata Whenua o te Waitaki, as set out by LGNZ 2017;
- Provide an opportunity for tangata whenua and local authorities to work together on environmental issues under the Resource Management Act 1991 (RMA) through Mana Whakahono ā Rohe;
- Enable a Māori world view to be incorporated into local government decision making, policies and procedures; and
- Improve the degree to which Māori participate in Council/community consultation.

The development of this policy would define a collaborative relationship within the framework of the Tiriti o Waitangi/Treaty of Waitangi, while recognising limitations imposed by statutory responsibilities.

1.6.3 Other Key Stakeholders

Table 11: Key Stakeholders

Stakeholders	Knowledge/Involvement
Single end users	Extent of Network Policy applies for road use and maintenance where they are the only end user, primarily farmers and forestry companies. Oceania Gold (gold extraction and processing at Macraes in the Waihemo area) maintain roads as required by their land-use resource consent. Meridian Energy (energy generation in the Waitaki Valley) require WDC to maintain their roads by road deed as agreed by CEO and the SOE.
Forestry companies: PF Olsen Port Blakely Wenita Forestry	Council notification for harvesting activity. Individual stakeholder meetings with transport team as and when appropriate. There is currently no fixed meeting schedule for this.
Road User Groups Heavy Haulage Assn. AA	Council has regular meeting with road safety partners and other stakeholders as appropriate. There is currently no fixed meeting schedule for this.
Utility Companies	Annual or at least Bi-Annual meetings including awareness and requirements of Oamaru's archaeological authority.

Local residents, other TLA's, Waka Kotahi, and the travelling public (customers) have the opportunity to provide input through the following mechanisms:

- The LTP: The 10-30-year plan which goes out to public consultation and is updated every three years.
- The Annual Plan: The yearly plan which goes out to consultation if there are significant changes to what was consulted on in the LTP.
- The Council's Customer Request Management System (CRM): The database whereby the public can report issues or request service for specific items or areas. This database is electronic and as requests are called or sent in they are entered into the system. Each request is assigned a Land Transport Officer to follow the request and a response time for the request to be followed up.
- Daily contact through phone or e-mail: All members of the public can contact the Council, the Chief Executive and the elected representatives to report issues or request service. These are always followed up by the Land Transport department. Council has implemented a minimum of 90% response rate for CRM's.
- Online Platforms: Feedback and engagement is often sought and provided through online platforms such as Facebook. These engagements are managed internally by the Council Communications Team and where appropriate entered back into the CRM database.

Engagement is communicating effectively with the people who affect, and are affected by, the Land Transport activities (its stakeholders). WDC's engagement process is as per the WDC Significance and Engagement Policy (2014), with its purpose stated as:

- To enable Council and its communities to identify the degree of significance attached to proposals relating to issues, assets, and other matters.
- To provide clarity about how and when communities can expect to be engaged in decisions made by Council.
- To inform Council from the beginning of a decision-making process about the appropriate extent, form and type of engagement that may be required.

A good engagement process typically involves identifying and prioritising stakeholders, conducting a dialogue with them to understand their interest in an issue and any concerns they may have, exploring with them ways to address these issues, and providing feedback to stakeholders on actions.

2 Strategic Context

This TAMP has been prepared to align with the national and regional strategic context that it sits within. The diagram below shows how national and regional strategic documents provide strategic context feeding into Council's planning and activity management approach. The following section describes this strategic context in more detail.

The local road network is the largest value social asset in Waitaki. All journeys in Waitaki use some elements of the local road network and is therefore critical to our community and economy. We rely on the network of roads to keep people safe, connected, provide access to employment, education and health services, and getting our goods to market. How the roads are maintained and renewed are a crucial foundational element to enable our district to prosper.

This Strategic Business Case considers the GPS on Land Transport, the Waka Kotahi's Arataki 30 -year plan (2023), and the RLTP.

Sections 2.1, 2.2, 2.3 describe this strategic context in more detail.

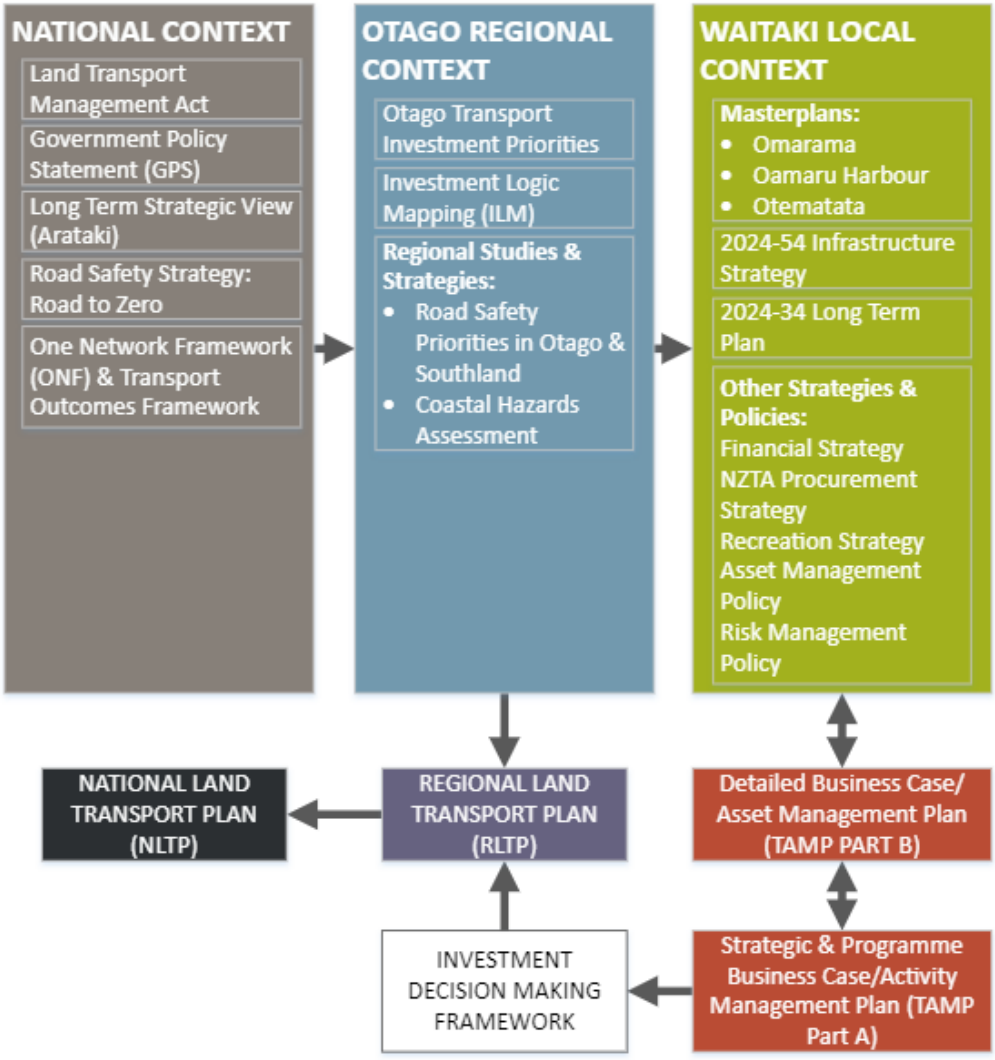


Figure 17: National and Regional Strategic Context in relation to Local Context

We seek investment to give effect to the objectives and priorities of the new government's draft Government Policy Statement (GPS) on Land Transport 2023.

2.1 National Context

2.1.1 Legislation & By-Laws

The following legislation is applicable to this TAMP:

- Local government Act 2002 & Amendments
- Land Transport Act 1998
- Land transport management act 2013 & Amendments
- Climate Change Response Act
- Civil Defence Emergency Management Act 2002
- Health & Safety Act 2015
- Resource Management Act 1991 & Amendments. *Note: to be replaced with the following during the term of this plan:*
  - *Spatial Planning Act (SPA) which requires the development of long-term regional spatial strategies to help coordinate and integrate decisions made under relevant legislation.*
  - *Natural and Built Environment Act (NBA), the main replacement for the RMA, to protect and restore the environment while better enabling development.*
  - *Climate Adaptation Act (CAA) to address complex issues associated with managed retreat, and funding and financing climate adaptation.*
- Public Work Act 1981
- Utilities Access Act 2010 and Amendments

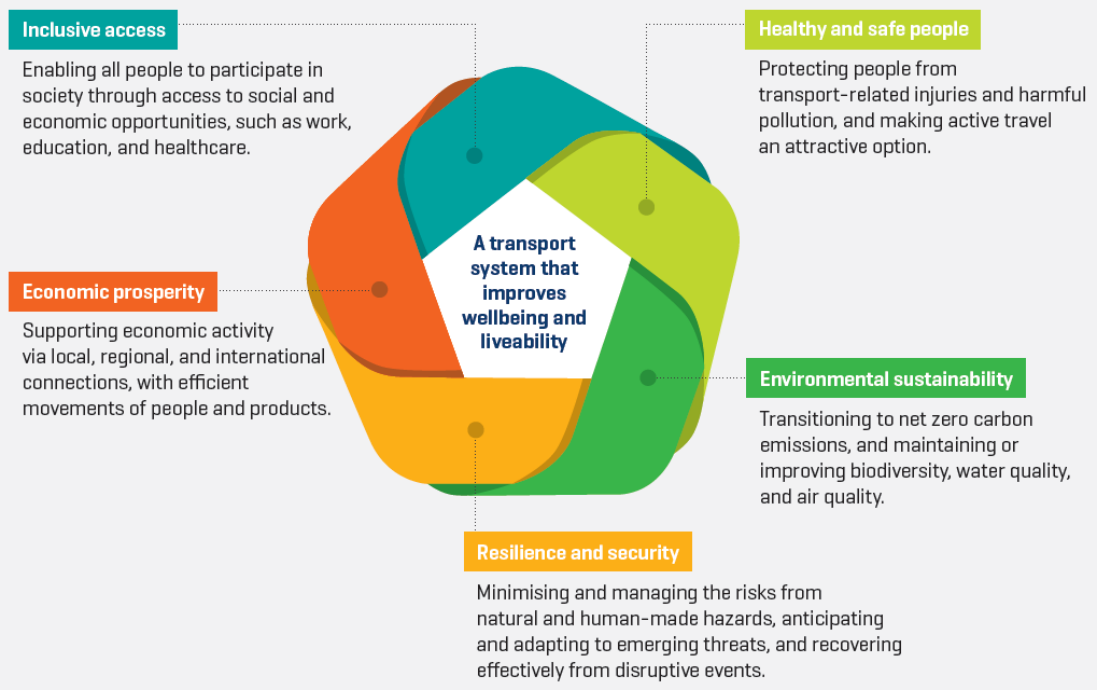
2.1.2 National Policy

When considering the content contained within the following National Policy subsections, it is important to note that at the time of writing this TAMP the final 2024 GPS has not been released. The content presented is based on the latest information available at the time of writing.

2.1.2.1 Transport Outcomes Framework

The purpose of the national land transport system is to improve people's wellbeing, and the liveability of places. It does this by contributing to five key outcomes represented in the diagram below: healthy and safe people; environmental sustainability; resilience and security; economic prosperity; and inclusive access. Each of these outcomes is inter-related and needs to be met as a whole to improve intergenerational wellbeing and the quality of life in New Zealand's cities, towns, and provinces. To make a positive contribution across the five outcomes, the transport system also needs to be integrated with land use planning, urban development, and regional development strategies.

The maintenance and renewals programme has linkages to the GPS primarily through contributing to the underlying delivery of healthy and safe people and resilience and security, but investment in maintenance and renewals also supports economic prosperity and environmental sustainability.



2.1.2.2 Government Policy Statement 2024

Government may sometimes prioritise some outcomes over others, depending on social/ economic/ environmental circumstances and the Government of the day, as set out in the Government Policy Statement for Land Transport (the GPS). These strategic priorities must be reflected in local plans.

At the time of writing this TAMP the 2024 GPS had not yet been released due to the delay caused by Cyclone Gabrielle in New Zealand. However, from indications released to the industry the key priorities are likely to be as shown in

Figure 18.

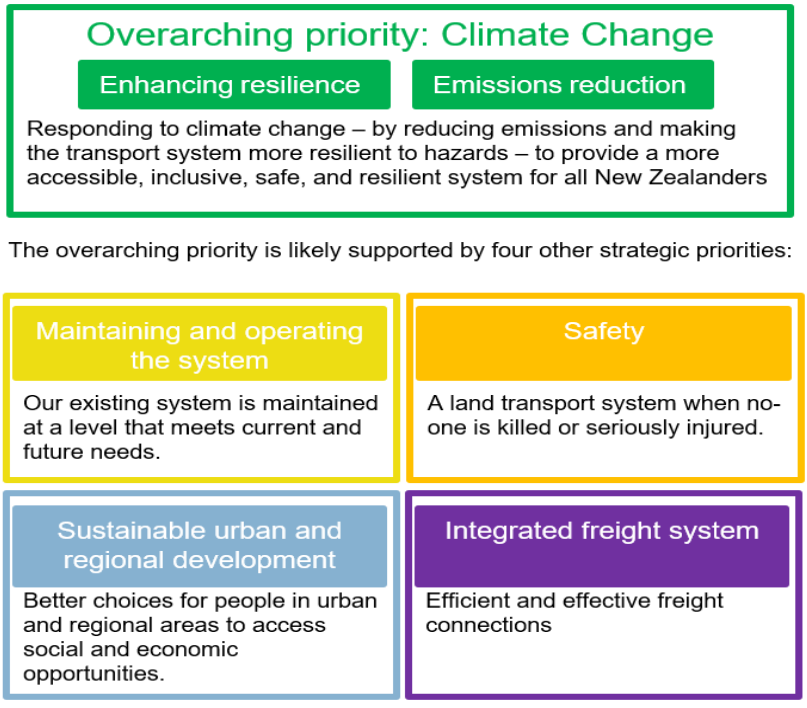


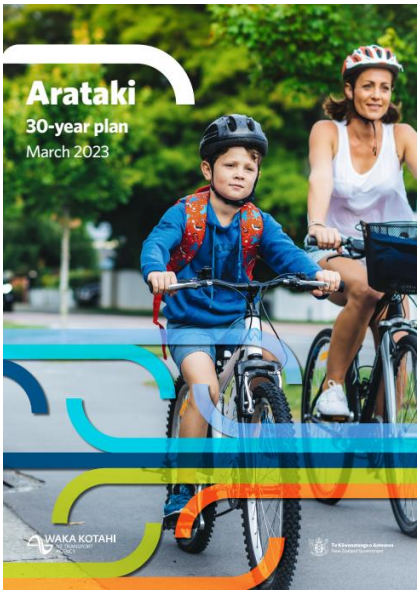
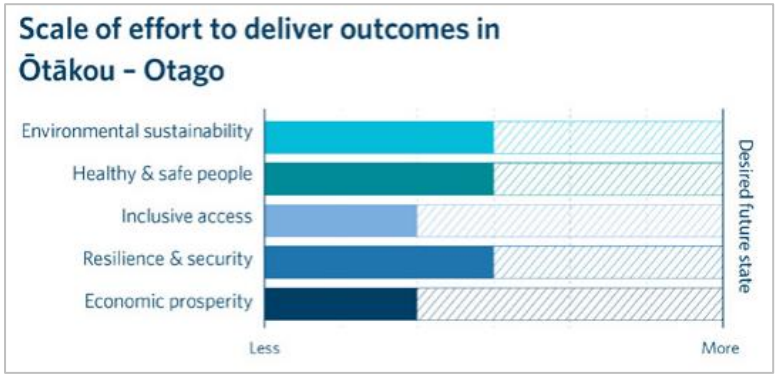
Figure 18: Potential 2024 GPS Priorities (Source Ministry of Transport 21st Pavements Conference 2023)

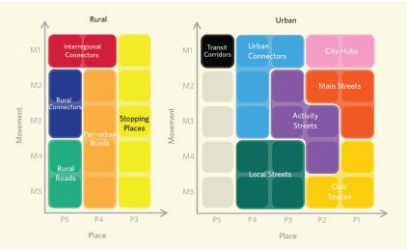
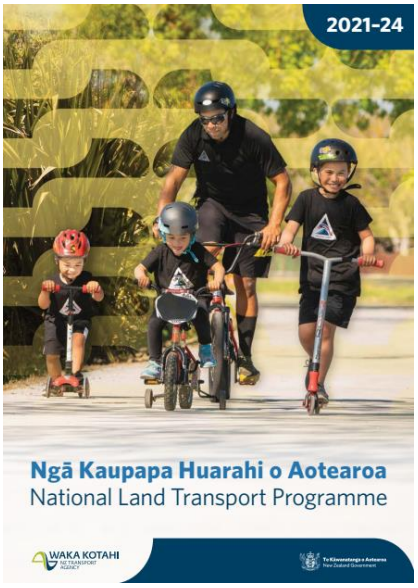
Once the 2024 GPS is released then Waitaki District Council will ensure that local strategies remain aligned with the 2024 GPS.

2.1.3 National Strategy

The Government provides further direction for investment in Land Transport through a combination of strategies and statements:

Table 12: Further Government Strategies and Statements

Reference	Objective
Waka Kotahi Arataki 2024-33 	Arataki (2023) outlines a framework that will steer NZ's collaborative efforts over the next 30 years, enabling NZ to develop and implement the necessary land transport system to ensure the continued mobility of Aotearoa New Zealand. It looks at how the land transport system will need to change and what Waka Kotahi and its partners will to do in response, both to deliver for the future and on the government's long-term priorities for the transport system. There are six key drivers for future change: climate change, demographic change, changing economic structure, funding and financing challenges, customer desire, and technology and data. Key insights for the Otago region in the Arataki are as follows: – The scale of effort in Otago are shown in the Figure 19, illustrating the level of emphasis that Waka Kotahi is placing on each.  *Figure 19: Scale of effort to deliver outcomes in Otago (source: Arataki (2023)* – Otago's safety record is poor with issues on high-risk rural roads, at high-risk urban intersections, and in urban areas with many deaths and serious injuries involving pedestrians and cyclists. – Resilience also needs to be a focus, with coastal flooding expected to increase, and Coastal erosion already occurring on the network.
Road to Zero	**Road Safety Strategy:** *"A New Zealand where no one is killed or seriously injured in road crashes. This means that no death or serious injury while travelling on our roads is acceptable".* Road to Zero: New Zealand's road safety strategy for 2020-2030 and advocates for a Safe System approach to road safety. It contains 15 initial actions within each of Road to Zero's five focus areas. Progress on each of the 15 actions will be key to laying the foundations for Road to Zero's 10-year change programme. WDC's plans align with the national road to zero vision. We seek to minimise harm to all uses the road, be it state highways, urban roads or footpaths, to ensure Waitaki can have a safe and sustainable transport network.

Reference	Objective
National Infrastructure Plan	The purpose of the Thirty-Year New Zealand Infrastructure Plan 2015 is to help navigate our way through these challenges and grasp the opportunities they present. To achieve this purpose, the Plan sets out a vision that: *By 2045 New Zealand's infrastructure will be resilient and co-ordinated and contribute to a strong economy and high living standards.*
Waka Kotahi Investment Decision Making Framework (IDMF).	Provides a structured and logical approach to how investment decisions are made, this includes the benefits framework for investment.
One Network Framework (ONF) 	The roading sector in New Zealand has embraced the adoption of the ONF. It acknowledges that streets play a vital role in facilitating movement of people and goods, while also serving as spaces for living, working, and recreation. The ONF aims to enhance road safety and foster the development of dynamic and enjoyable communities. WDC has integrated the ONF into their business processes and investment decision-making for the 2024-27 NLTP. The ONF focuses on two dimensions: Movement and Place. ONF Transport Outcomes have been developed, however there is still development likely regarding performance measures associated. ONF Transport Outcomes reported on in Waka Kotahi's Transport Insights currently include: • **Healthy and safe people** • **Inclusive access** • **Economic prosperity**
National Land Transport Programme 2021-24 (NLTP) 	The NLTP, a partnership between Waka Kotahi and local government, translates the GPS into a three-year program of prioritised State Highway activities and expenditure. It includes projects from regional plans, state highway maintenance, and national initiatives. The significant investment and prioritisation outlined in the NLTP are likely to have a considerable impact on the road network. The emphasis on safety, connectivity, and low emissions suggests an increased focus on infrastructure improvements, including road upgrades, maintenance, and initiatives to promote sustainable transport options.
Te hau mārohi ki anamata (NZ's First Emissions Reduction Plan)	Te hau mārohi ki anamata emphasises the urgency and importance of transitioning to a net-zero emissions economy. It outlines strategies, policies, and actions to achieve emissions reduction targets and align with global efforts. Transport has a significant role to play, with a target of 41% reduction in emissions from the transport sector by 2035. Three focus areas will support this: 1. reduce reliance on cars and support people to walk, cycle and use public transport 2. rapidly adopt low-emissions vehicles 3. begin work now to decarbonise heavy transport and freight

Reference	Objective
	The Government has committed to four transport targets to support these focus areas: 1. reduce total kilometres travelled by the light fleet by 20% by 2035 through improved urban form and providing better travel options 2. increase zero-emissions vehicles to 30% of the light fleet by 2035 3. reduce emissions from freight transport by 35% by 2035 4. reduce the emissions intensity of transport fuel by 10% by 2035 For Waitaki's transport programmes, the plan may lead to increased focus and prioritisation on improved public and active transport options and infrastructure, as well as potential changes in transportation practices and technologies to reduce emissions. This may include initiatives to promote electric vehicles, develop charging infrastructure, and enhance public transport services. The plan's focus on reducing emissions may also lead to the exploration of innovative technologies and practices within the road transport sector.
Waka Kotahi Climate Adaptation Plan	Adaptation sits at the heart of system-wide change across the transport sector with major links to digital transformation, Resource Management Act reform, funding and investment reviews, as well as three waters, emergency management, and local government reforms. On 3 August 2022, the Government launched Aotearoa New Zealand's first national adaptation plan. It identifies six infrastructure objectives: 1. Drive climate-resilient development in the right locations 2. Contribute to a resilient natural environment 3. Reduce inequity and improve affordability and access to infrastructure services – for example, investment in public and active transport 4. Reduce the vulnerability of assets exposed to climate change 5. Ensure all new infrastructure is fit for a changing climate 6. Use renewal programmes to improve adaptive capacity Priority Transport related actions over the next 6 years in the national adaptation plan are: 1. Develop and implement the Waka Kotahi Climate Adaptation Plan 2. Integrate adaptation into Waka Kotahi decision making 3. Invest in public transport and active transport 4. Embed nature-based solutions as part of the response to reducing transport emissions and improving climate adaptation and biodiversity outcomes 5. Progress the rail network investment programme 6. Deliver the New Zealand Freight and Supply Chain strategy Tiro Rangi – Waka Kotahi's climate adaptation plan is a critical action in the national adaptation plan. It is Waka Kotahi's long-term plan for adapting the land transport system to our changing climate. The plan outlines 21 priority high level actions for implementation over the coming two years to 2024, and a long-term 2050 goal. To give effect to this plan, it is vital WDC consider the changing climate and adapt our land transport system. Improving resilience will decrease disruptions to communities and minimise the risk of climate impacts. By the end of 2024, we expect Waka Kotahi to establish an adaptation framework and and initiate a significant transformation in climate adaptation across various aspects of the land transport system, including planning, investment, design, delivery, operation, and usage. This initial plan is likely to

Reference	Objective
	build upon existing resilience efforts and emphasise prioritising actions that pave the way for future initiatives.
Waka Kotahi Sustainability Action Plan 	Waka Kotahi NZ Transport Agency envisions a sustainable land transport system that prioritizes public transport, active modes, and shared transport options, reducing reliance on cars. The system aims to be low carbon, safe, and efficient, promoting healthy lifestyles and preserving the environment. This vision addresses challenges such as emissions reduction, public health improvement, biodiversity protection, and resource sustainability. Waka Kotahi's sustainability action plan, "Toitū Te Taiao," outlines their commitment to environmental stewardship, while their land transport plan, "Arataki," focuses on reducing emissions and enhancing public health. These plans detail the actions necessary to achieve these objectives.
Carbon Neutral Government Programme (CNGP)	The CNGP aims to make a number of government agencies carbon neutral from 2025. Immediate priorities for Waka Kotahi are: 1. Transition fleet vehicles to electric vehicles or low-emission vehicles when EVs aren't an option 2. Measure, verify, report and reduce across all corporate emissions. Actions in this respect to reducing corporate emissions are guided by Toitū Te Taiao – WK's Sustainability Action Plan. 3. Measure and reduce construction (embodied) and operational emissions in infrastructure projects and activities. Measuring and verifying these emissions at an appropriate level of detail for the scale of the activity and stage of the assessment within the decision making cycle, along with setting and reporting against reduction targets, will be done in partnership with suppliers.
Climate Emergency Response Fund (CERF) programme	The purpose of the CERF programme is to deliver initiatives that help Aotearoa New Zealand transition to a low-emission, more accessible and equitable transport system that supports wellbeing. Budget 22 provided significant new funding to Waka Kotahi to help achieve goals set out in the government's Emissions Reduction Plan. Budget 23 provided additional funding for Public Transport Initiatives, to take the overall CERF programme funding to $970 million, supporting Aotearoa to transition to a low-emission economy. The funding will enable Waka Kotahi to deliver key emission reduction initiatives, including planning and infrastructure improvements to reduce reliance on cars and encourage people to walk, cycle and use public transport, and funding to support the decarbonisation of buses.
Te Ara Kotahi (Waka Kotahi's Māori Strategy)	Waka Kotahi NZ Transport Agency acknowledges and honors Te Tiriti o Waitangi and is committed to establishing strong and enduring relationships with Māori to achieve mutually beneficial outcomes. Our Māori Strategy, Te Ara Kotahi, guides our approach in working with and responding to Māori as partners under the Treaty.

2.2 Otago Southland Regional Context

2.2.1 Otago/Southland Regional Transport Network at a Glance

Otago and Southland are the southernmost regions in New Zealand, together comprising nearly half of the South Island's land area and are similar in size. They are among the largest regions in New Zealand. Southland's land area is 34,000 km^2 and Otago's is 32,000 km^2.

Stretching from the Waitaki River in the north to the Brother's Point / Waiparau Head in the Catlins, Otago is bounded by the Southland, Canterbury and West Coast regions, and to the east by the Pacific Ocean.

The economy of the Otago/Southland region relies largely on agriculture and other primary industry, and on downstream manufacturing industries. These industries are heavily dependent on land transport infrastructure for their continued economic growth.

Both Otago and Southland also have a strong tourism industry, with the coastal, lake and mountain areas and scenery being major attractions. Tourism is one of the three fastest growing sectors of the combined regions' economies and depends on the road network. Tourism growth (particularly from international visitors accessing southern New Zealand through Queenstown) is projected to continue to increase.

Land transport in Otago and Southland is mainly road-based and focused on the use of private cars and trucks. In Otago, there are approximately:

- 1,300 km of state highway (managed by Waka Kotahi).
- 9,200 km of local roads (managed by TAs), Approximate 40% per cent of which is sealed.
- 280 km of main trunk rail line and 10 km of branch line
- Three urban bus networks (Dunedin, Queenstown & Invercargill) and long-distance buses between Otago towns and to other regions.
- ORC are investigating the options of public bus transport in Oamaru.

It is likely that road transport will continue to be the primary mode of transport in the years to come. The extensive local network across the region is therefore vital for travel across the large land area, and for carrying freight link between farm gate and the state highway network.

The key inter-regional journeys in Otago are the north and south road and rail connections to Canterbury and Southland respectively, and the road corridors that link Queenstown to Milford Sound and other key tourist destinations across the South Island. High-quality access to the port and airport in Dunedin is important to the success of the wider Otago, and Southland, economies.

2.2.2 What is Generating Demand for Transport in Otago

The main contributors to Otago's economy are the accommodation, food service, and education industries, which are closely linked to the region's tourism and the prominence of Dunedin as a hub for tertiary education. Safe and reliable transportation links to Port Otago, as well as the airports in Dunedin and Queenstown, play a crucial role in sustaining the economies of Otago and Southland.

Tourism and freight are major sources of traffic on the transport network, although their travel needs are different. Freight trips are time dependant, while tourists can take their time, have multiple stops and drive at slower speeds.

The region is a large producer of high-volume and value dairy products, vegetables, grains, fruits, logs, processed wood products, minerals, aggregates, seafood, livestock and meat, wine and general freight. These supply local and export markets.

2.2.3 Otago Regional Transport Performance and Pressures

Challenges throughout Otago include a very large land area and road network but comparatively low rating population in many areas. For the majority of the region, the major emphasis in Activity Management Plans is on maintaining and operating the roading networks, in most cases to existing levels of service. Providing funds to keep the network at similar levels of service to those that exist today is a major challenge. Council is looking to improve within a restricted investment environment.

The Otago transport system has enough capacity to meet current and future demand, although the scale of growth in Queenstown means transformational change is needed in coming decades. While some parts of the system are subject to resilience issues and disruption, particularly during winter storms, there are appropriate alternate routes in most locations.

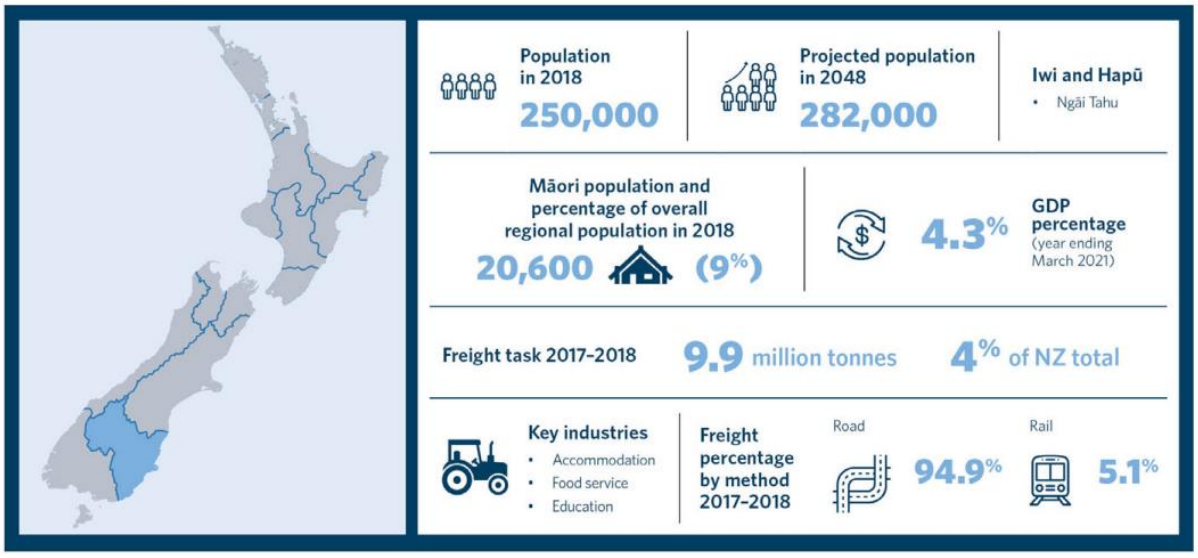


Figure 20: Otago Regional Statistics (Source: Arataki 2023)

Otago faces a range of effects from climate change. Sea level rise, flooding, and storms are predicted to intensify over the next 30 years along with increased slips and erosion, increasing risk to communities and the road and rail networks that support them.

Technological changes expected over the next decade will offer choices to reduce carbon emissions and reliance on private transport in the main urban centres. These include the increase in use of alternative fuels, shared transport, and on-call transport services.

The Queenstown-Lakes and Central Otago districts will face challenges post Covid-19 to fund new infrastructure and services to keep pace with expected population and visitor growth. There will also be greater pressure on the ability of councils such as Waitaki and Clutha to maintain and fund new infrastructure and provide appropriate services to residents, as a result of an aging population living on fixed incomes.

2.2.4 Regional Transport Priorities and Objectives

Arataki (30-year plan) and the Otago Southland RLTP (10 years) set out the region's land transport objectives, policies, and measures. The direction set by these documents are an essential part of the strategic context for this land transport investment proposal.

Figure 21: Otago's Sustainability (Source: Arataki 2023)

Figure 22: Otago's Health & Safety (Source: Arataki 2023)

Figure 23: Otago's Inclusive Access (Source: Arataki 2023)

Figure 24: Otago's Economy (Source: Arataki 2023)

Environmental Sustainability

Otago faces sustainability challenges: reducing VKT, promoting public transport, addressing pollution, and improving infrastructure. Actions include compact urban development, cycleway expansion, and supporting vehicle fleet transformation while implementing environmental regulations.

Healthy and Safe People

Ensuring the health and safety of people in Otago is paramount. With approximately 140 annual deaths and serious injuries on the roads, urgent action is required. Promoting walking and cycling, enhancing road safety, and reducing vehicle emissions are key steps. This includes implementing safety improvements on highways, developing well-connected cycling networks, enforcing emission regulations, managing speeds, and advocating for improved mobile network coverage.

Inclusive Access

Promoting inclusive access is crucial for Otago's transport system. Many face challenges due to limited travel options, high car costs, and inadequate connections. To address this, we will leverage emerging technologies, improve data management, enhance public transport, and prioritize affordable, accessible infrastructure. Our progress will benefit the entire community.

Economic Prosperity

The region's economy relies on tourism, education, and primary production. COVID-19 impacted the region due to restricted international travel. A robust transport system is crucial for economic productivity, offering diverse travel options, reliable journeys, and cost-effective mobility. Actions include improving access, enhancing freight travel, managing costs, and supporting economic centre development.

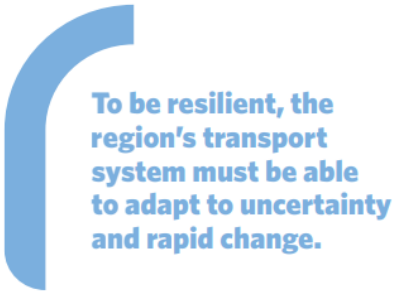


Figure 25: Otago's Resilience and Security (Source: Arataki 2023)

Resilience and Security

Challenges and opportunities arise from climate change and natural hazards in Otago. Key risks include rockfall, landslips, flooding, and ice. Coastal corridors and southern parts are particularly at risk. Maintaining existing assets and adapting road space management are key. Actions involve hazard planning, network resilience, infrastructure avoidance, maintenance, operational responses, adaptable planning, and personal security improvements.

2.2.5 Aligning Regional Strategy to National Strategy

1.1.1.1 Otago Southland Regional Land Transport Plan

The focus of the RLTP supports economic and population growth; improving safety; improving travel choice and resilience.

An Investment Logic Map (ILM) was undertaken to identify the key regional problems and their relative weighting together with benefits for the region for resolving these problems.

1.1.1.2 Current Otago Southland Regional Land Transport Outcomes Framework

Figure 26 captures some of the regional context at the time the ORC Otago Southland Regional Land Transport Plan 2021-31 was produced. As outlined in Section 5 of this TAMP, Waitaki has utilised the updated Investment Logic Mapping (ILM) from ORC that will likely inform an updated ORC Otago Southland Regional Land Transport Plan in the future. However Figure 26 is still included here as it provides useful regional context that is still applicable.

The purpose of Otago's land transport system is to improve people's wellbeing, and the liveability of places.

Inclusive access | Healthy and safe people | Environmental sustainability | Resilience and security | Economic prosperity

Regional Land Transport Plan – 30-year vision

A transport system providing integrated, quality choices that are safe, environmentally sustainable and support the regions wellbeing and prosperity.

Strategic objectives – What the region will do to deliver the 30-year vision and Outcomes

ROAD SAFETY
Prioritise high risk areas to create a safe transport system free of death or serious.

ASSET CONDITION
Prioritise maintenance and renewal to ensure the road network is fit-for-purpose and resilient.

FUTURE FOCUSED
Position the regions to ensure proactive responses to change and challenges.

CONNECTIVITY & CHOICE
Develop a range of travel choices that are used by communities and business to connect.

ENVIRONMENTAL SUSTAINABILITY
Facilitate understanding and support responses that help meet environmental and emissions targets.

The short-term (10-year) priorities where investment will be focused through this RLTP are:

1. **Network Deficiencies**

Aging and vulnerable assets present an increasingly unacceptable risk to social wellbeing and economic prosperity. Without sufficient, sustained investment, asset deficiencies will increase and may be at risk of failure, creating access, safety, resilience and productivity issues for affected communities.

2. **High Risk Areas**

In Otago and Southland, the roads, fleet, vehicle speeds and drivers all contribute to an unfavourable road safety record. The regions need a continues and sustained investment response to reduce road safety risk and improve infrastructure in high risk areas.

3. **Creating Genuine Mode Choice**

Rapid change and unplanned urban growth is impacting on the timely upgrade of infrastructure. Urgent investment in multi-modal transport options, alongside integrated land use and transport planning, is needed to develop genuine mode choices, as well as address pressing environmental issues, meet carbon emissions targets and mode shift goals.

Figure 26: Otago Southland Regional Land Transport Outcomes Framework (Content derived from ORC Otago Southland Regional Land Transport Plans 2021-31)

2.3 Waitaki Local Context

2.3.1 Local Waitaki District Council Community Outcomes

Community Outcomes are statements that describe the community's vision for the future of Waitaki District. Council's contribution to achieving the community outcomes and the vision is summarised in the following figure:

Figure 27: WDC Strategic Framework (2023)

2.3.2 Community Context

WDC was established in 1989 when it replaced the Oamaru Borough, Waitaki County and Waihemo County Councils. The Council's vision for success is orientated around achieving 4 Community Outcomes with respect to the Economic, Social, Cultural, and Environmental wellbeing. Each of the activities have a number of key performance measures and targets which WDC use to track performance. These are detailed further in Section 8

Each of the performance measures detailed in the LTP relate to a community outcome and well-being and are shown in Figure 28.

Community outcome	Community well-being
Prosperous district	Economic well-being
Strong Communities	Social and/or Cultural well-being
Quality services	Social and/or Cultural well-being
Valued environment	Environmental well-being

Figure 28: Relationship between Community Outcomes and Community Well-being's (Source: WDC LTP 2021-31)

2.3.3 Infrastructural Context

TOPOGRAPHY**:** The terrain in the Waitaki District varies from flat on the Waitaki Plains through to rolling in Corriedale and steep in the Kakanui Mountains. The roading conditions are varied with the use of asphalt on a few of the busier streets in Oamaru and the remainder of the 777km of the sealed network surfaced with chip seal. The 1,018km of unsealed network is generally narrow and presents some challenges to the wide agricultural equipment using it. WDC has a good supply of aggregate as it has its own quarries and is not reliant on the supply of expensive crushed aggregate. Of the bridges and large culverts, WDC has 16 posted bridges(3 are Class 1 with 10km/h speed limit) and has an upgrade programme in place for their renewal, strengthening or upgrade.

CLIMATE**:** In the 1990's, North Otago had a dry climate with an average rainfall of 550mm per year. Since then, due to effects of climate change, the climate in North Otago has changed. Rainfall is higher and is more erratic with severe weather events experienced every few years. This has impacted on the maintenance programme; approximately $11.5M since 2007.

NATURAL HAZARDS and RESILIENCE**:** Waitaki faces a range of effects from climate change. Sea level rise, flooding, and storms are predicted to intensify over the next 30 years along with increased slips and erosion, increasing risk to communities and the road networks that support them. The main affected areas are Corriedale and Waihemo Wards.

COMMUNITIES and INDUSTRY: are sparsely distributed and diverse. The Waitaki District reaches inland from the Waitaki River mouth, up the Waitaki River Valley, through Ohau to the top of the Ahuriri River Valley to Lindis Pass. It extends south down the east coast beyond Palmerston to Flag Swamp, across to Macraes and covers 714,805 hectares (7,148km^2).

The main centre is Oamaru located on the east coast 1.5 hour north of Dunedin. Other urban centres in the district include Kurow, Omarama, Otematata and Palmerston. Popular holiday spots include Hampden, Kakanui, Moeraki, Lake Ohau and the Waitaki Valley. As of 2022, Waitaki District's population is estimated at 24,000, most of which live in Oamaru (13,000).

2.3.4 The Transport Services we Deliver

The Waitaki District covers 7,152 km^2 and is sparsely populated. Our network is characterised as a rural, low volume network comprised predominantly of unsealed roads that provide effective access to properties and people.

WDC is responsible for most of the Land Transport system in the District other than state highways which are owned and operated by Waka Kotahi. Our transport system includes:

- Road pavements and surfaces (both sealed and unsealed), and ownership of the corridor.
- Drainage including culverts, water tables, kerb and channel and storm water systems.
- Signs and pavement markings to provide information and improve road safety.
- Bridges to carry traffic, including pedestrians and cyclists, over waterways.
- Footpaths, walkways and cycle facilities.
- Street lighting for safe and comfortable movement at night.

Walking and cycling is a comparatively small mode of transport but is an increasingly important part of the urban transport network, especially as our population ages.

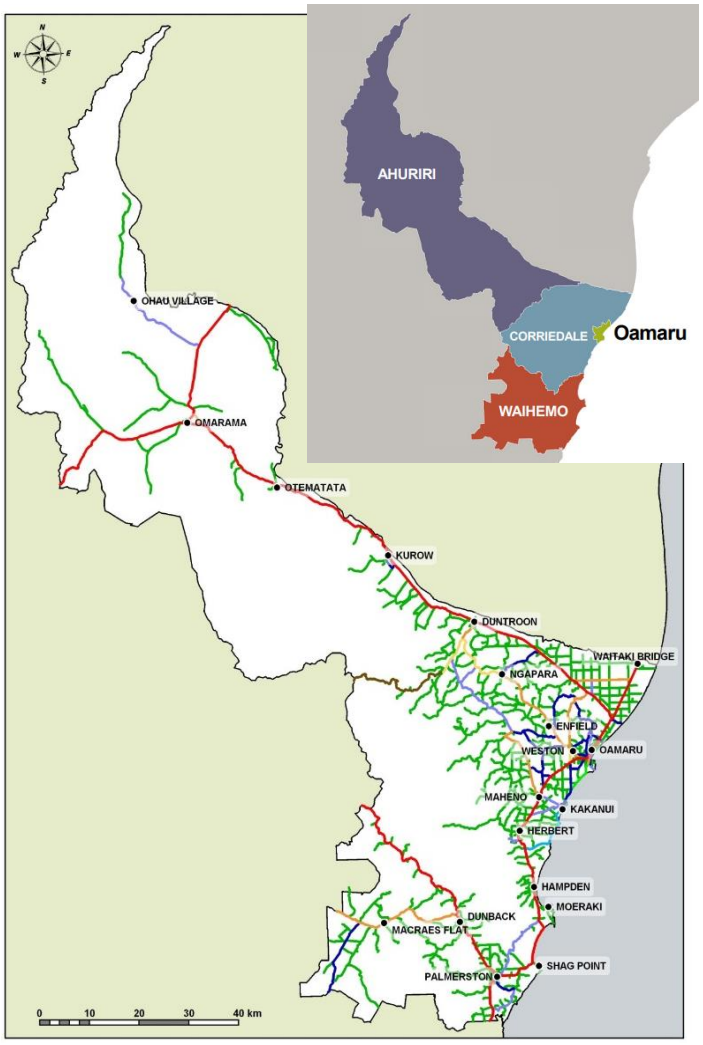


Figure 29: Transport Network in Waitaki

Asset summaries are showed in Figure 30 and Figure 31.

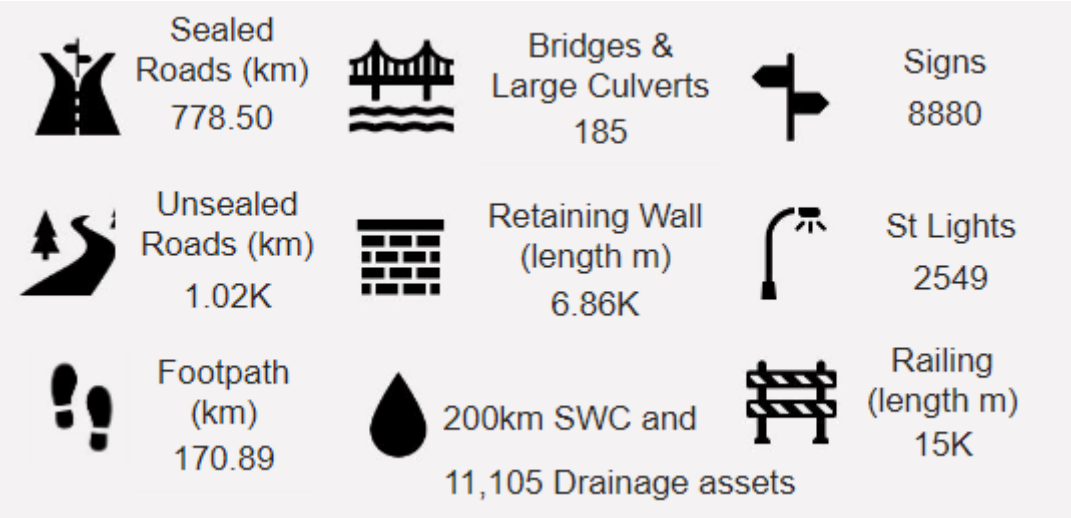
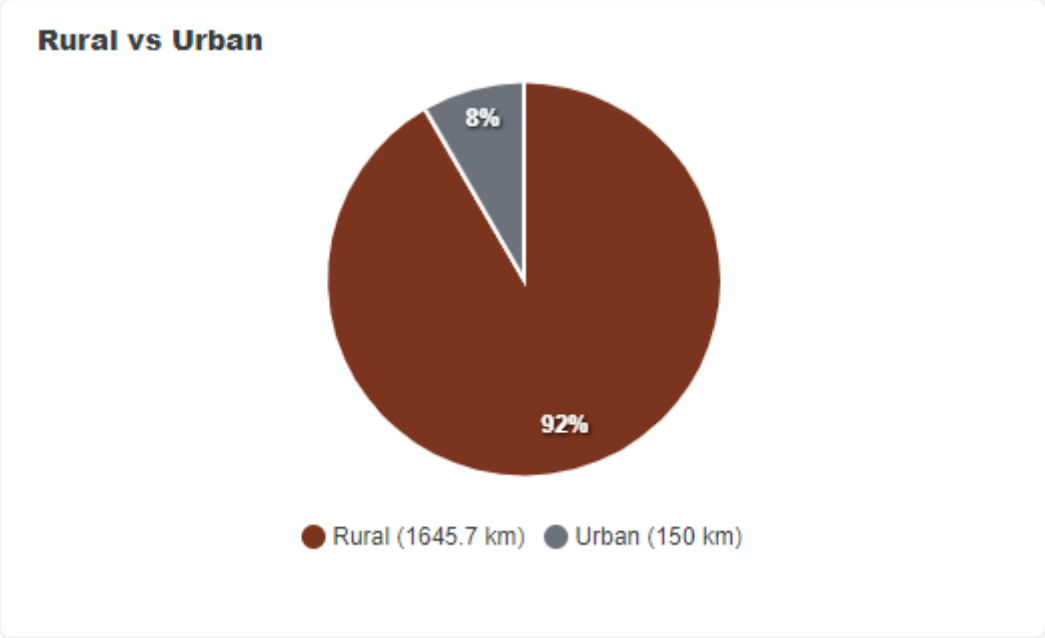


Figure 30: What are our assets?



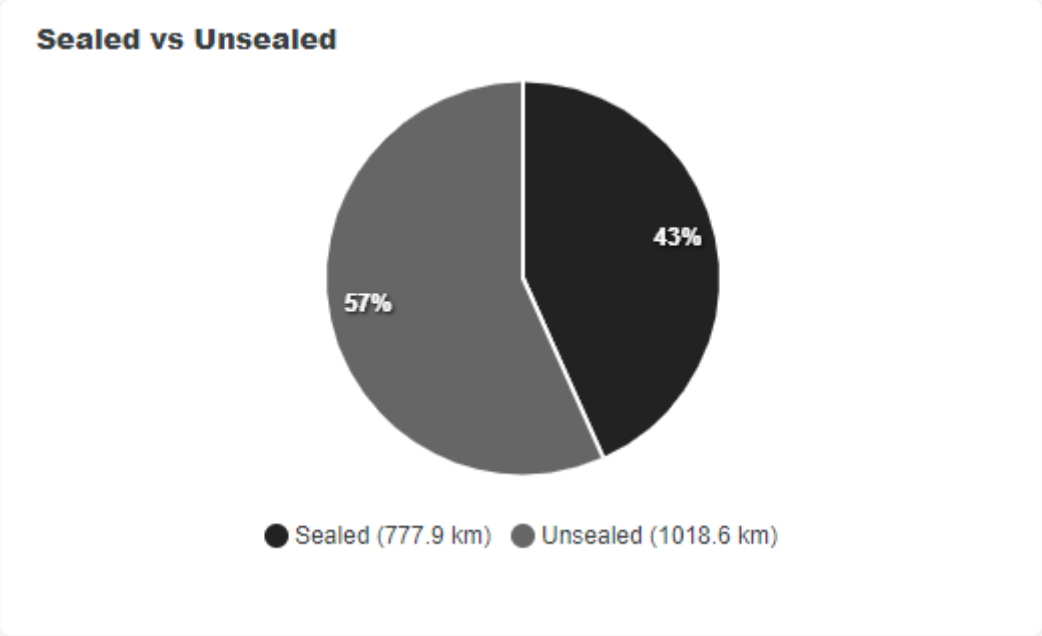


Figure 31: Network Characteristics for roads with ONF populated (Source: Te Ringa Maimoa Transport Insights)

Transport in Waitaki is dominated by personal vehicle travel, and freight transport servicing the agricultural and mining sectors, as detailed in Table 10.

Table 13: Transportation Modes

	Freight transport is critical for Waitaki's rural productivity and the overall prosperity of the region. The transportation of freight in the district is currently dominated by road at 91.4%. Waitaki also has a 5.5% annual increase in commercial registered vehicles. The South Island Freight Study anticipates a significant increase in freight by 2043 with the strongest growth before 2030. Changing how freight moves region-wide is an issue that presents an opportunity to shift some freight from the road network to rail or sea.
	There is currently no publicly funded 'public transport service' operating in the district. However, most of the region's population is concentrated in a few urban centres, so addition of a public transport service to provide some mode choice in these areas is periodically considered. There are currently some private commercial operators providing various ride share options.

	Private vehicle trips are the dominant form of transport in the region. Much of the region is sparsely populated and either used for rural production or in the conservation estate. These rural communities rely on private vehicle travel for access to essential services. The growing tourism industry brings a significant number of campervans to our district, and they are a key mode of transport for our visitors. Scenic lookouts, beaches and other naturally beautiful places are often remote and transport challenges associated with access roads need to be considered to ensure the safety of visitors.
	The only rail line in the region is a freight only coastal route between Christchurch and Invercargill. Rail faces constraints because of the small number of trains. On some parts of the network there are also constraints because of single tracking and poor signal systems.
	The airport in Oamaru is utilised mainly for agricultural activities, a flying club and a flying academy. It has in the past operated as an air link in the regions however has proved to be uneconomical.. The Omarama Airfield provides the best conditions for gliders in the South Island and is renowned for the spectacular scenery of the Southern Alps.
	Because the movement of freight is so important to the regional economies, the future role of ports and key freight hubs will shape demand and trip patterns across the transport system. The Lyttleton Port in Christchurch and Port of Otago are the largest ports with PrimePort in Timaru experiencing growth following a commercial alliance with Port of Tauranga (New Zealand's largest port).
	The objectives of the Recreation Strategy are to encourage and support residents to choose walking and cycling for an active and healthy lifestyle, and to develop a safe, convenient and attractive travel network for walking and cycling. Walking and Cycling in Waitaki is currently very low with only 5.1 km of financially assisted commuter tracks in the Waitaki District most of which are in Oamaru. The Waka Kotahi Transport Choices project scheduled 2023/24 will seek to improve walking and cycling options along State Highway 1 through Oamaru. The ageing population within the area requires better mobility in and around the urban centres. Significant improvements in LoS are required to support inclusive access in Waitaki's townships. Councils mode neutral approach to transport will result in the increase of walking and cycling in the Waitaki District. The Alps to Ocean provides a scenic track for cyclists through the Waitaki District separated from the state highway and local roads.

IMPROVEMENT ITEM: Table to describe detailed linkage between activity and WDC Community Outcomes.

2.3.5 Funding Streams

Funding for land transport activities comes from central government (through Waka Kotahi) and local rates. The Council designates these funds into three categories: Roading Subsidised, Roading Non-subsidised, and Parking. Our transport endeavours are supported by ratepayers and the National Land Transport Fund via Waka Kotahi. They provide 57% of funding for approved roading maintenance and renewal activities. Co-investment applies to 30% of urban street cleaning and drainage maintenance costs. Footpath projects are now eligible for Waka Kotahi subsidy as well.

In the economic climate it is important that WDC articulate the case for investment clearly as recently WDC had to re-tender the Maintenance Contract after the initial prices received from the market were unaffordable.

2.3.6 COVID-19

Waka Kotahi have published likely COVID-19 implications for New Zealand's communities and economy in Arataki (2023). While the impacts in the previous 3-year cycle have been substantial due to various national and international lockdowns, WDC is showing promising signs of recovering quickly as discussed in section 3.2.

3 Demand for the Transport Activity

3.1 Demand Overview

This section presents how road assets are likely to be affected by growth, changes in demand and various changes to the economy and population in the future.

The future performance and reliability of WDC's road assets is essential to support on-going land-based production, growth and efficient access to market. This in turn will support a sustainable future. Therefore, it is essential that WDC has a robust understanding of future growth and demands that will ultimately influence effective planning practices to ensure performance and reliability of the assets.

Figure 32 present various statistics that will affect demand on the transport network. Following Figure 32, the section proceeds to delve into further detail of current uses of the network today, demonstrating how the district is growing, the expected impact on the network, and our plans to manage these demands into the future.

Figure 32: Waitaki Economic Activity (Source: Infometrics)

As shown in Figure 32 and Figure 33 there is projected increase in population and households. This places pressure on WDC to plan for the increased demand on the network and its assets, whilst providing appropriate LoS.

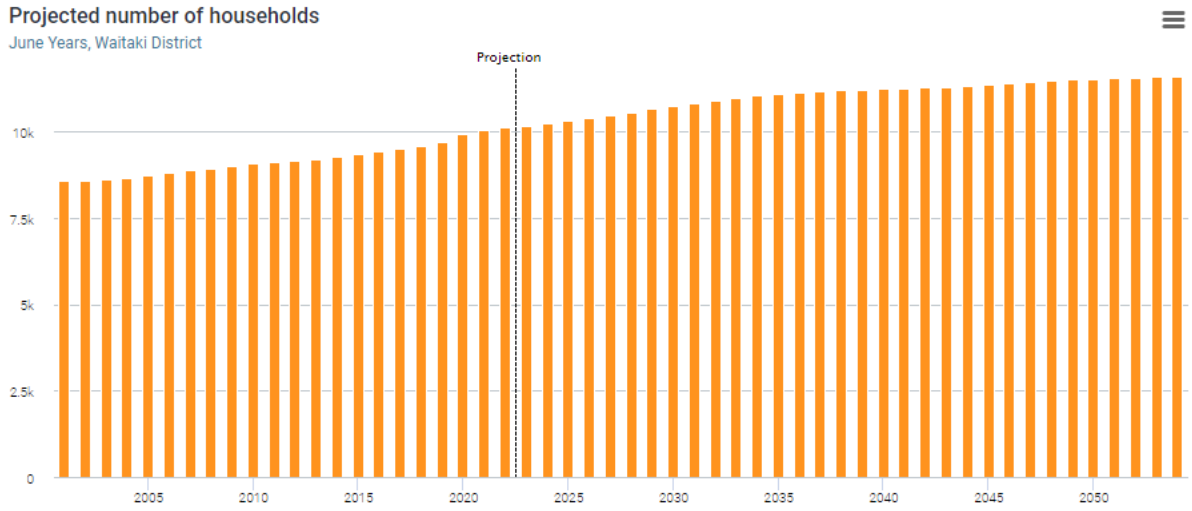


Figure 33: Projected number of households (Source: Infometrics)

Waitaki's economy is driven by primary production and tourism (as shown in Figure 34). Output from these base layer sectors have all increased considerably since 2000, most noticeably the mining, tourism and agriculture sectors. The mining sector is the largest portion of the base layer making up over a quarter of the district's GDP, however, the jobs into the sector are low at 6%. The growth in this base layer can be linked in some way to enabling projects that WDC have been involved in; the North Otago Irrigation Company (NOIC) irrigation scheme, Steampunk and Alps to Ocean tourism initiatives, and supporting Oceania Gold and other business in these key sectors.

Most of the remaining sectors have also grown in GDP and/or jobs with the most significant growth in Agriculture/Forestry/Fishing, Electricity/Gas/Water, and Construction industries.

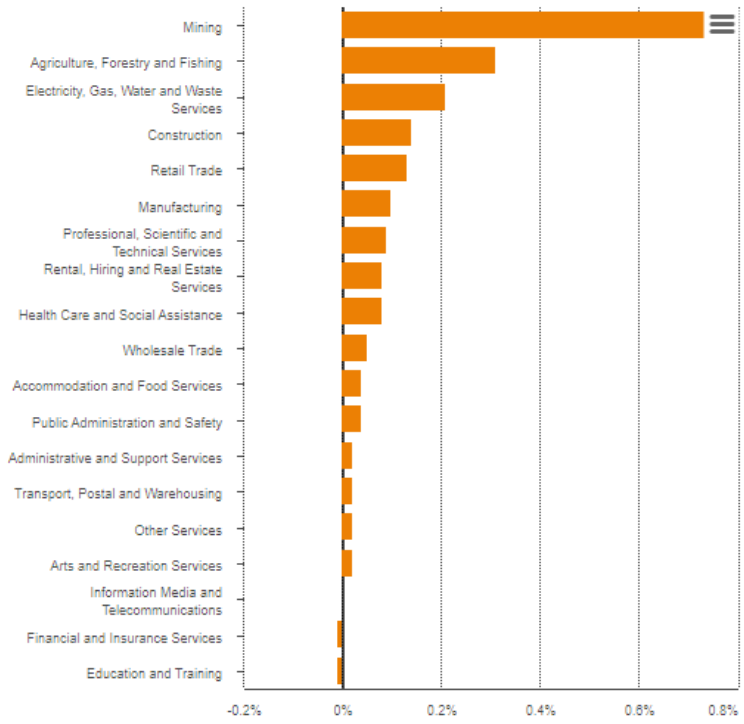


Figure 34: ANZSIC 1-digit industries by contribution to GDP growth in Waitaki District, 2000 to 2022 (Source: Infometrics).

The importance of these base layers is expanded upon below and also highlighted in the economic pyramid shown in Figure 35.

- **TOURISM**: is growing again in the region now the imposed Covid-19 restrictions have been relaxed. Tourism expenditure is up 10% and guest nights are up 13.5%. As mentioned earlier, Waitaki is New Zealand's first UNESCO global geopark. These factors all increase the need for input into road safety, and for more associated infrastructure such as car parks, rest areas and public facilities. International tourism will continue to strengthen Waitaki's economy although climate conscious consumers' may show some reluctance to travel long distance by air.

- **AGRICULTURE**: is Waitaki's second largest contributor to GDP and a significant driver of ongoing growth is new irrigation. The NOIC presently has consent for the supply of water to 31,000ha and has double this to 68,000ha. This expansion will enable increasingly intensive land use needing the support of a resilient network and expanded HPMV capability. Waitaki also has an 5.5% increase in commercial registered vehicles. Sheep and beef farming, along with fruit growing are likely to remain important contributors to the regional economy.

- **MINING**: Extension of a land use consent of 25 years for Oceana Gold provides surety and income for WDC roading as they pay 5% of roading rate. There are no major investment liabilities expected in relation to this contribution during this NLTP period. Oceana Gold is a significant contributor and provides 28.7% to the Waitaki District GDP.

- **HYDRO ELECTICITY**: Meridian Energy provides surety and income for WDC roading as they pay 8% of the roading rate. Employment in the electricity industry is increasing. There are no major investment liabilities expected in relation to this contribution during this NLTP period.

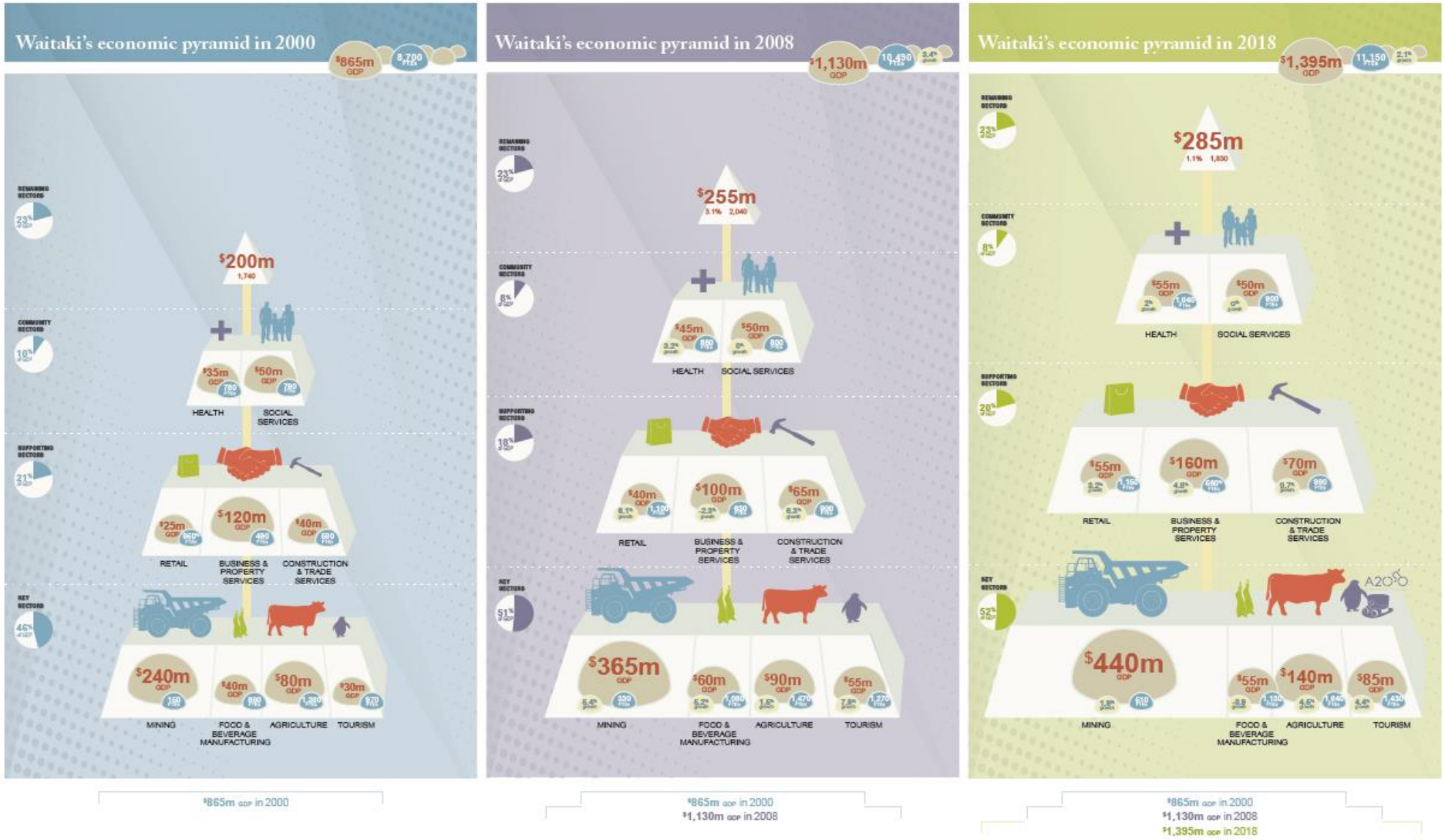


Figure 35: Waitaki's Economic Pyramid – 2000, 2008 & 2018

3.2 Demand Drivers

Future demand for services will change over time in response to a wide range of influences. These are presented in this section with respect to content in the Living Standards Framework 2021 (NZ Treasury): The transport network must support and enable:

- Individual and collective wellbeing
- Whanau, hapu, iwi, families, households and civil society; and
- The wealth of Aotearoa New Zealand

3.2.1 Natural Environment:

The natural environment plays a crucial role in influencing travel demand. Factors such as climate change, availability of renewable energy sources, and the conservation of ecosystems can significantly impact transportation choices. For example, if the natural environment is threatened by climate change effects like extreme weather events or rising sea levels, there might be a greater demand for resilient and sustainable transportation options, such as electric vehicles or public transportation systems.

3.2.2 Social Cohesion:

Social cohesion refers to the interconnectedness and inclusivity of communities. It can affect travel demand through factors like population density, community engagement, and access to transportation infrastructure. When communities are well-connected and cohesive, there is a higher likelihood of shared transportation options, such as carpooling or community-based transit, which can reduce individual travel demand and enhance overall efficiency.

3.2.3 Human Capability/Cultural:

Human capability and cultural factors shape travel demand by influencing people's mobility needs and preferences. Access to education, healthcare, and employment opportunities can impact commuting patterns and transportation demands. Recognising and integrating cultural values and capabilities into transport planning can help ensure equitable and culturally appropriate transportation solutions.

3.2.4 Financial/Physical Capital:

Financial and physical capital aspects of the framework relate to the economic resources and infrastructure necessary to support transportation systems. Factors like investment in transportation infrastructure, maintenance of existing assets, and the availability of financial resources can all affect travel demand. For instance, a well-maintained and efficient transportation network can encourage higher usage and demand, while inadequate funding or infrastructure can limit access and hinder travel options.

3.2.5 Population

WDC’s population is predicted to increase as shown in Figure 36. Understanding population changes helps to identify changing service need and the potential impact of growth-driven change for tools such as the current ONF road classifications.

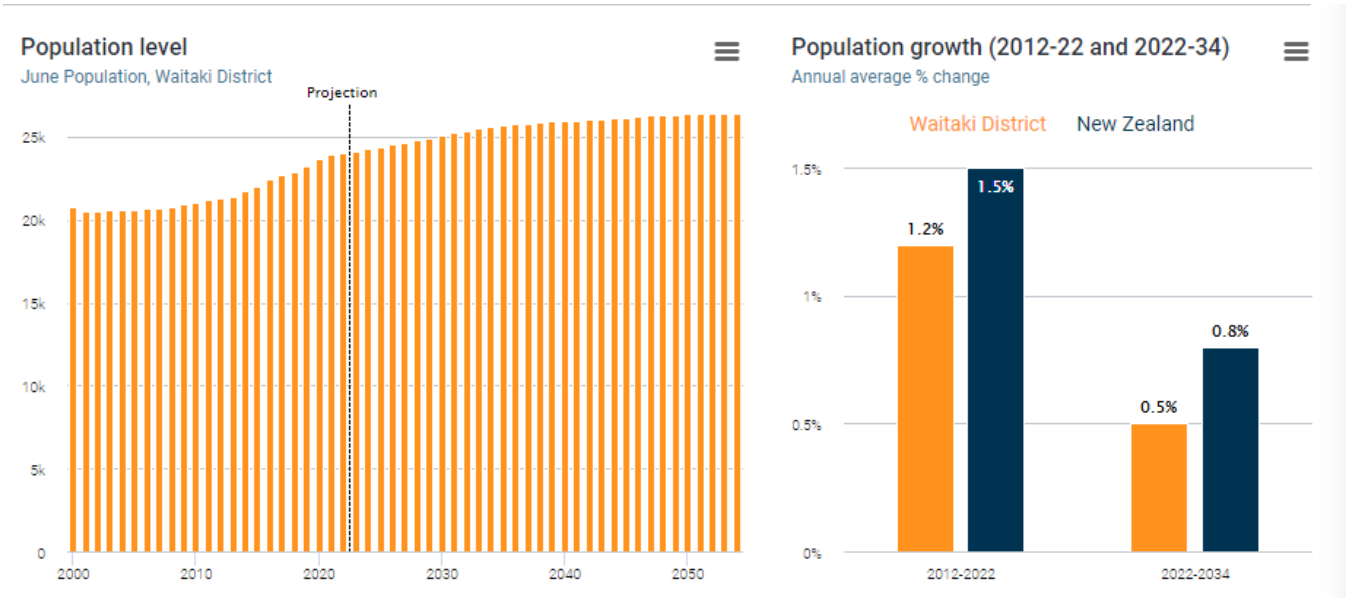


Figure 36: WDC Population Predictions (Source: Infometrics).

As expected, the number of households in WDC is also predicted to rise (Figure 37). This growth has already been occurring and is placing increasing demand on the land transport network and its assets.

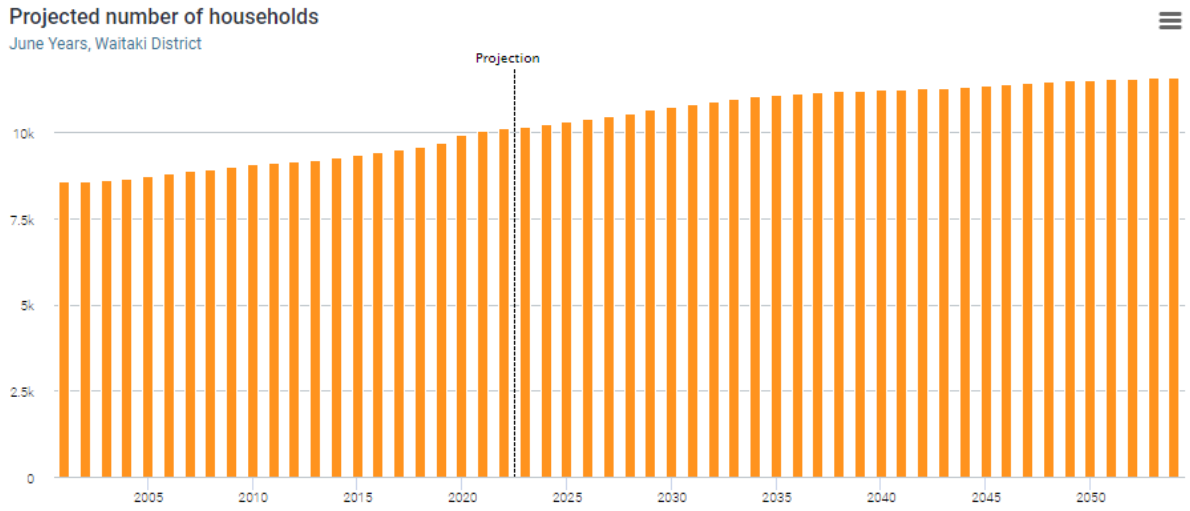


Figure 37: Projected number of households in WDC (Source: Infometrics)

There is also an ageing population in WDC. The significant changes in the district's demographics (increasing numbers in the 65 years and over age bracket) mean there will likely be an increase in demand for public transport and Total Mobility services. It is also expected that there will also be an increased need for provision of infrastructure suitable for walking, motorised wheelchairs, scooters and cycling. Demand for these modes is expected to rise, especially in urban areas. Similar to VKT estimates for vehicular traffic, estimates for pedestrian traffic needs to be produced. All indications are that pedestrian activity will grow, particularly in urban areas, but this demand needs to be properly investigated.

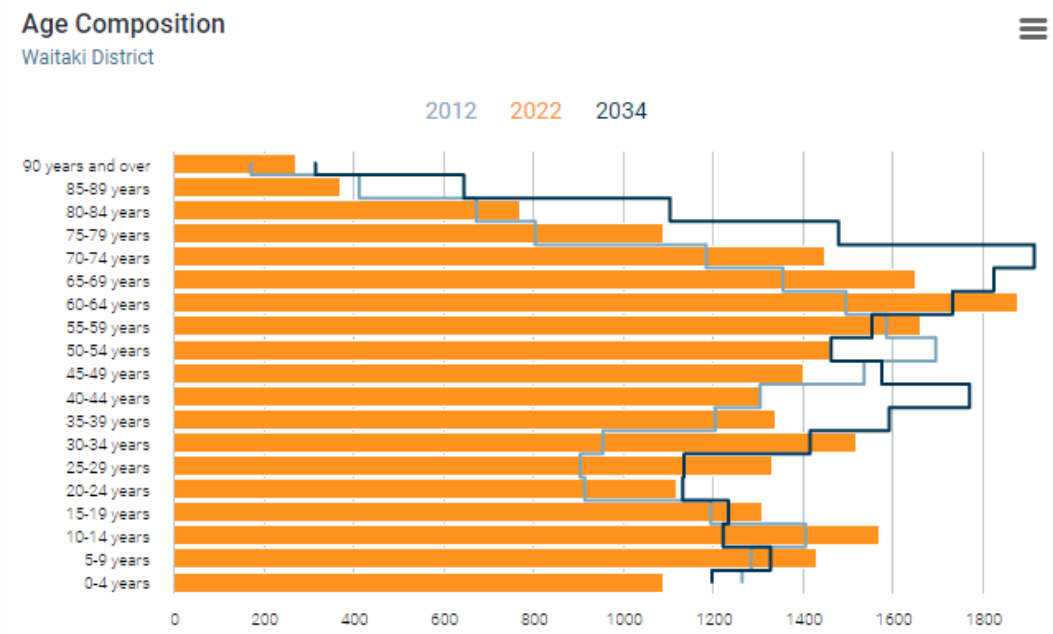


Figure 38: Predicted Age Structure of WDC until 2034 (Source: Infometrics)

3.2.6 Tourism

Tourism is an important industry and attractor for the district. The region has shown a strong recovery from Covid-19 as shown in Figure 39.

Figure 39: Tourism in Waitaki (Source: Infometrics)

At the time of the last census (2018) WDC had the 3rd highest of guest nights per capita in New Zealand according to the Ministry for Business, Innovation and Employment.

The traffic growth on roads to key tourist destinations is shown in Figure 40. As indicated earlier in this section, the tourism industry in the region has recovered well from the effects of Covid-19. With respect to Figure 40, it has not been possible to assess the effects of Covid-19 on all of the sites shown. Therefore we have left Figure 40 in this TAMP with pre-Covid-19 numbers. The intention is to demonstrate the popular nature of the Tourism sites. Given that the region has recovered well from Covid-19 there is good reason to assume that these sites will again have increased traffic numbers. WDC will need to target traffic counts to demonstrate the continued demand at these sites.

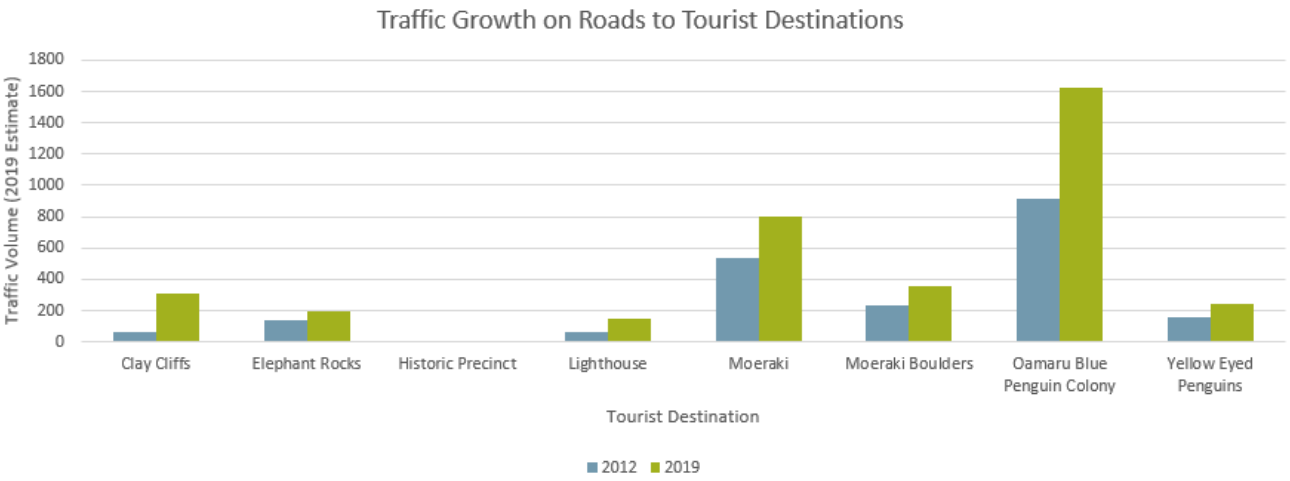


Figure 40: Pre Covid-19 Traffic growth on roads to key tourist destinations.

Whilst traffic volumes remain relatively low at many of these locations, they experienced significant growth pre-Covid 19 over the 7-year period analysed. Growth rates are as follows:

- Clay Cliffs: 360% growth
- Lighthouse: 130%
- Oamaru Blue Penguins: 70%
- Moeraki Boulders: 50%
- Yellow Eyed Penguins: 50%.
- Moeraki: 40%
- Elephant Rocks: 30%
- Historic Precinct: Targeted traffic counting required 2024-27. Growth anticipated.

A growing tourist population creates additional demand for infrastructure and services (mainly in the specific areas shown above) which may need specific investment. This growth is leading to increases in campervan and car traffic along these routes. With the recent UNESCO Geopark certification this further accentuates the need for considering the demand at these locations.

3.2.7 Primary Production

Primary production sectors are central to the region's growth and development. These include agriculture (including irrigation and dairy conversions), and food manufacturing. These industry sectors are exporters and therefore importers of money to the district and are projected to grow more than any other in the district.

In the Waitaki District, the primary production sector is largely made up of inland, rural based businesses. They depend on reliable and efficient transportation infrastructure to get their products and services to market. They are served primarily by heavy vehicles on rural roads. Demand is strongly influenced by:

- Irrigation
- Dairy Conversions

Land use change is increasing heavy vehicle traffic on rural roads, resulting in safety, pavement consumption and environment issues.

The North Otago Irrigation Company (NOIC) scheme is opening up more productive land for dairy farming use. This is leading to increases in HPMVs (high productivity motor vehicles, including 50MAX) and is placing additional demand on existing bridges, many of which need to be improved to carry additional loading.

Current threats to meeting Primary sector demand are bridge capacity for HPMV traffic, and continuous operation of the network during adverse events which are expected to increase in frequency. Managing both threats is vital to the economic prosperity of the region and reducing the carbon footprint of the transport system.

It is imperative that the opportunities within these economic sectors are realised through robust and efficient transportation infrastructure.

3.2.8 Mining

Oceana Gold Mine at Macraes is the country's largest active gold producing mine, employing over 600 people in the region. It has recently had its operational life extended by 25 years. Access to the mine is via WDC's Macraes Road, which has significant pavement loading from mining traffic.

Holcim New Zealand has proposed a new cement plant at Weston near Oamaru. If this proceeds it could create 120 jobs at the site and would result in a significant traffic increase. The project is currently on hold and is unlikely go ahead in the future.

WDC is ensuring available capacity and safety through increase heavy traffic for these operations.

3.2.9 Customer Expectations

The district is predominantly rural, and the population is highly dependent on motor vehicles.

This is reflected in the 2018 census data which indicates that that 71.1% travel to work by car (Figure 41).

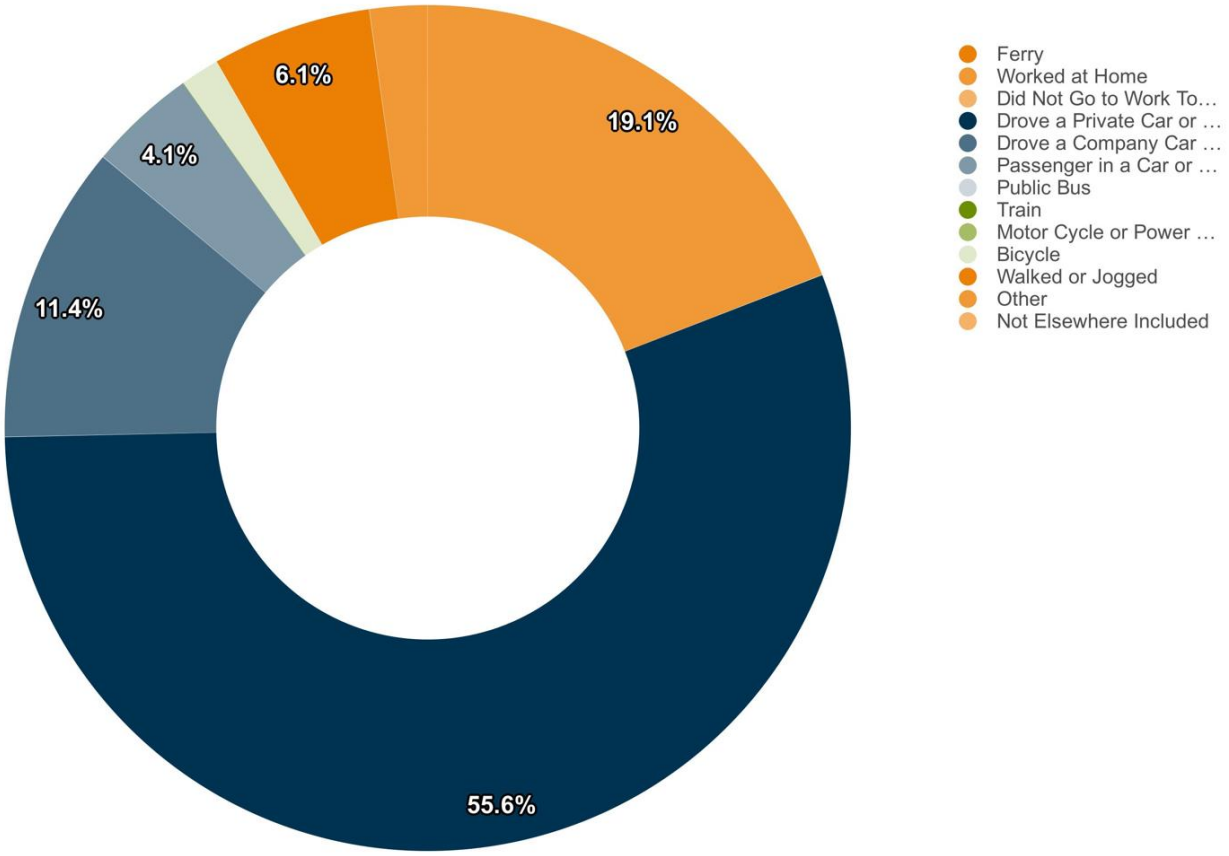


Figure 41: WDC Population - Travel to work

3.2.10 Environmental

The physical impacts of climate change are being seen across the Waitaki network. Approximately $11,66.7M has been spent over the past 150 years on flooding and erosion-related works. These environmental demands are expected to continue to increase in their frequency and severity. Consequence of this environmental demand is both increased costs (maintenance, renewal, capital) and potential loss of assets.

Table 14 summarises what the demands outlined in sections 3.2.1 through to 3.2.10 mean for the transport network.

Table 14: Drivers of Demand

Drivers of Demand	What does this mean for demand on our transport network?
Population	• Sufficient network capacity but safety will continue to be a priority. • Priorities will shift to safety and mobility. • Fixed income for ageing population will affect ability to pay.
Tourism	• Sufficient network capacity but safety will continue to be a priority. • Focus on significant sites (UNESCO Geopark sites).
Economic / Land Use	• Increase in volume of commercial traffic combined with heavier vehicles (tankers, forestry trucks, etc) will have an adverse impact on the network condition.
Customer Expectations	• Long term reductions in Waka Kotahi funding i.e. investment less than CPI will result in lower LoS requiring Council to temper expectations. • Need to align expectations with new ONF LoS which will apply across NZ.

Drivers of Demand	What does this mean for demand on our transport network?
Environmental	• Although difficult to quantify the expected increase, WDC has been working to identify vulnerable areas and potential mitigation measures. • THE Consequence of this environmental demand is both increased costs (maintenance, renewal, capital) and potential loss of assets.

Asset-based factors influence how use demand impacts on the asset, including:

- Road geometry
- Road width
- Shoulder widths
- Road environment
- Sealed or unsealed roads
- Design capacity

The combination of the asset and its use defines what needs to be considered to fully understand the demand impact. These asset-based factors can be considered as critical failure points if the use demand on a section of road increases to a point that exceeds the assets ability to sustain its use.

3.3 Transport Demand Forecasts

3.3.1 Economic Drivers and Land Use

The 2022 Oamaru Spatial Plan contains relevant information on the Land Use Strategy that will impact the local demand for transport. This is shown below.

Ōamaru:

1. Approximately 110 hectares of new residential growth areas
2. 200 hectares of land suitable for medium density residential development
3. Enables development of between 2,080– 3,358 new dwellings
4. Commercial growth accommodated through intensification of existing commercial areas

Transport:

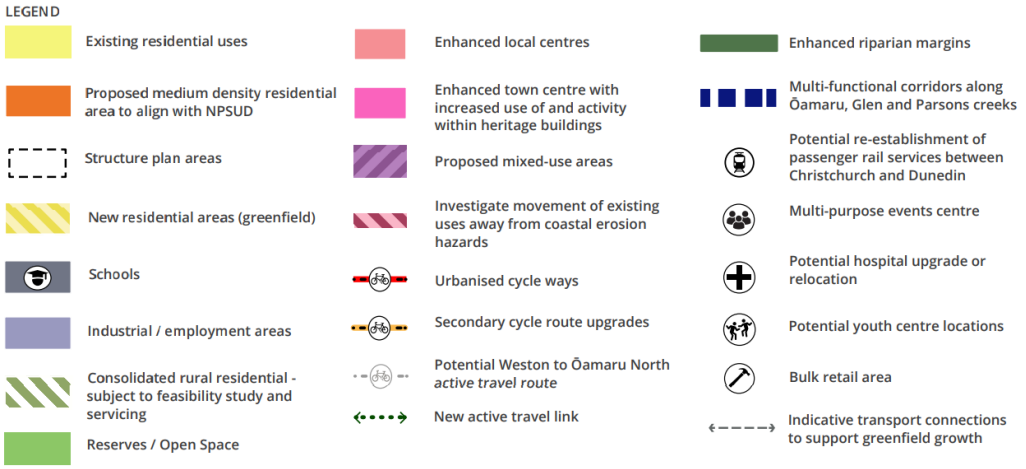
1. Urbanisation of the A2O and northern rail corridor cycle way
2. Establishment of safe shared routes along State Highway 1
3. Provision for active transport modes through the Spatial Plan area
4. Potential establishment of public transport services and re-establishment of passenger rail

Weston:

1. Potential to accommodate between 850 – 1,430 new dwellings across 105 hectares of new residential growth areas
2. Protection of high-class soils
3. Enhancement of the local centre to support existing residents and future growth
4. Extension of urban infrastructure (e.g. three-waters, kerbs, footpaths, lighting)

Ōamaru Town Centre:

1. Consolidation of the town centre to improve vibrancy and vitality
2. Continued protection and enhancement of the Ōamaru Historic Area including incentives to encourage adaptive re-use of heritage buildings
3. Pedestrianisation of Harbour Street and other public realm upgrades
4. Development of a wayfinding strategy that incorporates cultural narratives



3.3.2 Travel Demand

Travel demand can be measured using Vehicle Kilometres Travelled (VKT), which considers both traffic volumes and the length of the network.

The historical traffic demand induced by the primary demand factors is shown in Figure 42 below. In assessing the VKT trend over time it is important to consider the effects of Covid-19 and the reduction of vehicles on the roads due to the international and local lockdowns. For this reason WDC have kept the forecast lines on Figure 42 the same as pre Covid-19 numbers. One of the reasons for this is the regions strong recovery after Covid-19.

The reason for the spike in 2013/14 and 2014/15 is understood to be a combination of urban demand from Ultra-Fast Broadband (UFB) activity and rural demand from the NOIC scheme development, However the data for 2013/14 and 2014/15 is to be treated with caution. There is confidence for the other years to remain high.

The VKT in 2022/23 was approximately 111 million.

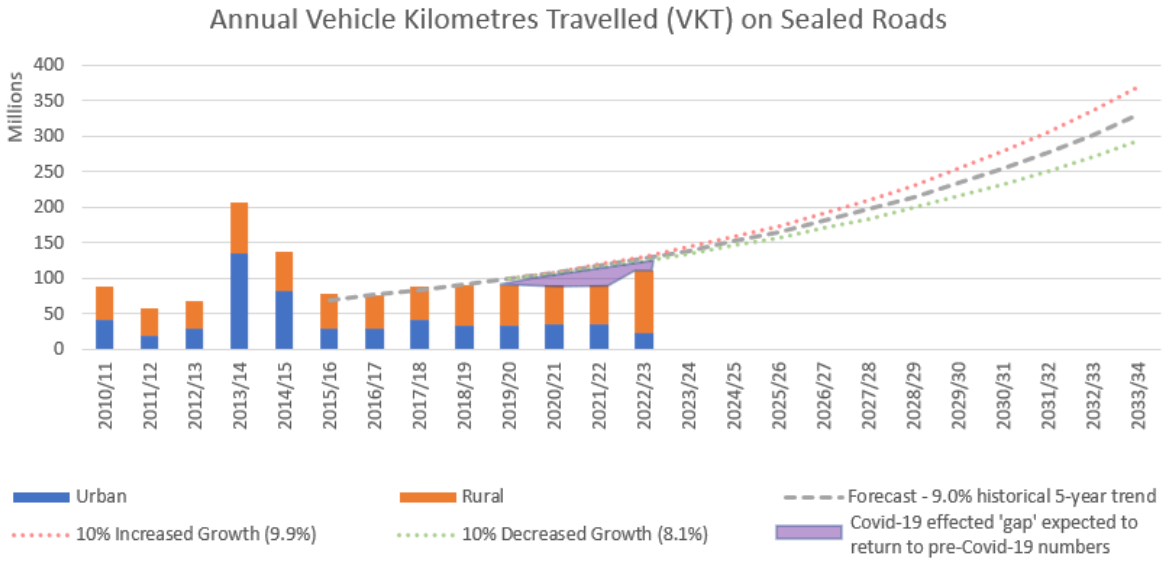


Figure 42: Annual Vehicle Kilometres Travelled

Prior to Covid-19, an average traffic growth across 5 years was observed at 9.0%. This has been projected forward for 10 years which results in a forecast VKT of approx. 330 million in 2033/34. Even though WDC has bounced back nicely from Covid-19 it may be best to consider the conservative forecast of 294 million in 2033/34.

Each of these three growth estimates will see an approximate doubling (or more) in VKT in the next 10 years. This demand increase will place significant pressure on the existing infrastructure and will require significant investment.

At this stage, a 30-year demand forecast in terms of VKT has not been developed. This is an important aspect for the management of the transport activity going forward. An accurate assessment of Waitaki's main industries will be a significant input into this assessment.

IMPROVEMENT ITEM – Complete review of Waitaki specific 30-year demand forecast model. Review predicted transport demand against existing transport capacity to determine when transport capacity upgrades are required.

3.4 Managing the Impacts of Demand

3.4.1 Demand Management Plan

High peak day demands place pressure on network capacity, and generally manifests as traffic congestion where constrained. Waitaki roads generally have a large capacity based on present demand and short-term traffic volume growth is unlikely to significantly alter this.

Our LoS are considered to be representative of the present demands of the current community. As transport activity changes in response to economic drivers, the LoS provided on some individual routes may change. Travel demand management emphasises the movement of people and goods rather than vehicles and should give priority to travel methods which maximise the economic value and minimise the cost of each trip. Council will enable infrastructure investment that emphasises the economic benefit of moving people, goods and services.

Given the on-going uncertainty of the global economy, Council will also need to meet increased transport demand by working smarter and where possible utilising 'non-asset' solutions. Council will also need to ensure road safety remains a priority.

3.4.2 Programmes to Meet Demand

The following projects relate directly to enabling economic growth with respect to demand drivers while continually improving road safety:

- **Pavement Rehabilitation - (Primary Industries and Safety)** - Ensuring the condition of the transportation network remains robust in response to increased heavy vehicle traffic. This will take place by increasing total pavement rehabilitations and reducing pavement reseals to remain cost neutral.

- **Condition Monitoring (Primary Industries)** - Opportunities for efficiency and improvements exist through the use of better tools, such as dTIMS deterioration modelling software, more reliable asset data (RAMM) and implementation of Juno Viewer and AI technology.

- **Roads of Economic Benefit – (Primary Industries) -** Prioritising investment that supports economic wealth. This will be achieved through the embedding of ONF within the WDC decision making process.

- **Walking and Cycling - (Tourism and Modal Diversification)** - Providing for modal diversification into Walking and Cycling through improved footpath condition, new footpaths, cycle lanes and shared paths.

- **Oceana Gold Mine – (Mining and Safety)** - Providing the roading requirements for the existing Oceana Gold mine at Macraes which has been extended by 25 years of life. WDC is ensuring available capacity and safety through increase heavy traffic.

- **Stock Crossings - (Agricultural and Safety)** - Council adopted a Stock Crossing Code of Practice in response to dairy growth and associated safety issues. Council funds the consent fees and percentage of underpass construction from Council's unsubsidised programme if budget allows.

- **Carriageway Widening (Agricultural and Safety)** – Widening projects are undertaken as prioritised within the WDC ONF and are subject to Waka Kotahi subsidy through the LCLR improvements programme allocation. These projects are focussed on safety, particularly on heavy vehicle trafficked routes.

- **Road Safety Programme - (Safety)** –The programme aims to address safety concerns around Driver Distraction, Fatigue, Older Drivers, Youth, Straights, Bends and

Intersections. The programme directly supports the Waitaki Road Safety Action Plan, Road to Zero, and the Governments GPS.

- **Oamaru Harbourside Projects (Tourism)** – Council unsubsidised capital programme will be used to enhance access and mobility in the harbourside. Harbour Development was out for consultation in November 2019, has been deferred by Covid-19 but is now on rack for implementation.

- **Coastal Erosion (Tourism and Environmental)** – Council will submit to undertake preventative maintenance of economically justifiable sections of Beach and Waianakarua Roads as well as beach frontage in Oamaru.

- **Bridge Renewals - (Agriculture)** – Council has an ongoing programme of bridge replacements. Old, smaller bridges are replaced with culverts or washover structures where possible.

District Plan

Since the last TAMP a District Plan has been developed which contains provisions that deal with on-site transport facilities and the effects of high trip generating use and development. Development of the District Plan is an important project and will enable WDC to better plan investment to target the high demand areas.

Traffic Counting

Data is collected by the Council using regular traffic count surveys within the current maintenance contract. These provide crucial data for planning and demand management and includes quarterly control stations to assess network growth.

The current traffic count programme has been developed by WDC and ONF was considered. In developing the programme, Urban Connectors, Activity Streets, Rural Connectors, and Per-Urban Roads were considered first. This will ensure key routes are covered and will improve trend monitoring and traffic estimating processes. As indicated in section 6.2.2, WDC should also consider special counts at the key tourism destinations to capture traffic numbers post-Covid-19.

Now that WDC have a programme in place with respect to ONF, the next step is to develop a wider WDC Traffic Count Strategy that can inform the next iteration of the programme.

Implementation of actions described in this section should ensure a more efficient traffic counting programme that:

- Targets those roads that contribute most to network traffic
- Retains the investment in historical monitoring
- Provides a means for monitoring the volume of traffic on the network
- Ensures regular and targeted traffic counts
- Capture growth and monitor trends across areas of the network
- Obtain seasonal adjustment factors across areas of the network
- Collects enough data to produce traffic estimate data for the remainder of the network.

IMPROVEMENT ITEM – Develop a Traffic Count Strategy to inform the next iteration of the Traffic Count Programme.

3.4.3 Heavy Vehicle Access (Heavy Commercial Vehicle (HCV), High Productivity Motor Vehicle (HPMV) Routes and 50MAX).

Heavy vehicle traffic count data for Waitaki's roads is proportionally high due to the rural commercial sector of our community.

50MAX (vehicle combinations have one more axle than conventional 44-tonne vehicles combinations). Screening of bridges has been carried out to assess any bridge capacity issues that may prohibit 50MAX vehicles on Waitaki's roads.

There are 12 bridges that currently fail the 50MAX screening that could potentially be restricted for 45 tonnes / 46 tonnes. Council has information on HCV, HPMV and 50MAX usage on the roading network on their website, including bridge restrictions.

It is also worth noting that WDC does have a forestry rate in place to deal with damage to roading network during harvesting.

IMPROVEMENT ITEM – As identified above in section 3.4.2, development of a Traffic Count Strategy will further target key heavy routes and improve trend monitoring and traffic estimating processes.

4 Current Performance

4.1 Strategic benefit Measures

To enable consistent and accurate reporting on activities and programmes within the NLTP, Waka Kotahi have identified strategic measures to be used for the 2024-27 NLTP.

The measures are representative of all five areas of the transport outcomes framework and align to critical areas of investment both in the current and future NLTPs ensuring these measures will be enduring across NLTP periods.

For the 2024-27 NLTP there is one compulsory measure "8.1.3 Vehicle kilometres travelled (light vehicles)". This measure will need to be reported for all activities and programmes in TIO. The measure has been selected as a compulsory measure to ensure we can meet emission reduction plan and future GPS reporting requirements.

Our current performance against the NLTP strategic benefit measures is shown in Table 15. It is then expanded upon further in Section 8.

Table 15: Current performance against the NLTP strategic benefit measures

Transport outcomes framework	Benefit	Measure	Current Performance	Future Target
Healthy and safe people	1.1 Impact on social cost of deaths and serious injuries	1.1.1 Collective risk (crash density)	Currently measuring with respect to individual ONF Categories.	Reduction in risk across all ONF categories.
		1.1.3 Deaths and serious injuries	8 current DSI, decreasing trend across 3 years.	Continued reduction in DSI's.
		1.1.4 Personal risk (crash rate)	Currently measuring with respect to individual ONF Categories.	Reduction in risk across all ONF categories.
Resilience and security	4.1 Impact on system vulnerabilities and redundancies	4.1.1 Availability of a viable alternative to high-risk and high impact route	Bridge inventory understood. WDC specific resilience measures an improvement item.	WDC specific resilience measures an improvement item.
	5.2 Impact on network productivity and utilisation	5.2.2 Freight – mode share value	Cost and Achieved lives of chipseal and AC are measured which fits under Benefit 5.2. Emphasis on Freight measures an improvement item.	Cost and Achieved lives of chipseal and AC are measured which fits under Benefit 5.2. Emphasis on Freight measures an improvement item.
Environmental sustainability	8.1 Impact on greenhouse gas emissions	8.1.1 CO2 emissions	Emissions currently considered by WDC, but yet to be measured as performance measure.	Emissions currently considered by WDC, but yet to be measured as performance measure.
		8.1.3 Vehicle kilometres travelled	102.9m VKT and decreasing trend (is heading in the right direction).	Continued reduction in VKT with increased multi modal.
Inclusive access	10.1 Impact on user experience of the transport system	10.2.1 People – mode share	Current WDC measure STE, Roughness which fits within Benefit 10.1.	Need to consider measuring 10.2.1 People Mode Share.
	10.2 Impact on mode choice	10.3.1 Access to key social destinations (all modes)	Need to consider implementation of measure at WDC.	Need to consider implementation of measure at WDC.

4.2 WDC Level of Service Measure Framework

4.2.1 One Network Framework and the One Network Road Classification

The ONF represents a shift in how we think about, plan and invest in our roads and streets by putting people, and the diverse ways we use our roads and streets, at the heart of how we plan. The ONF recognises that roads and streets are places for people as well as transport corridors, and they contribute to vibrant and liveable towns and cities. It aims to provide an easy-to-understand common language that everyone in the transport system can use, from planning through to delivery. A summary of the ONF is shown below in Figure 43.

Figure 43: ONF Framework (Source: Waka Kotahi)

4.2.2 Local Transition from ONRC to ONF.

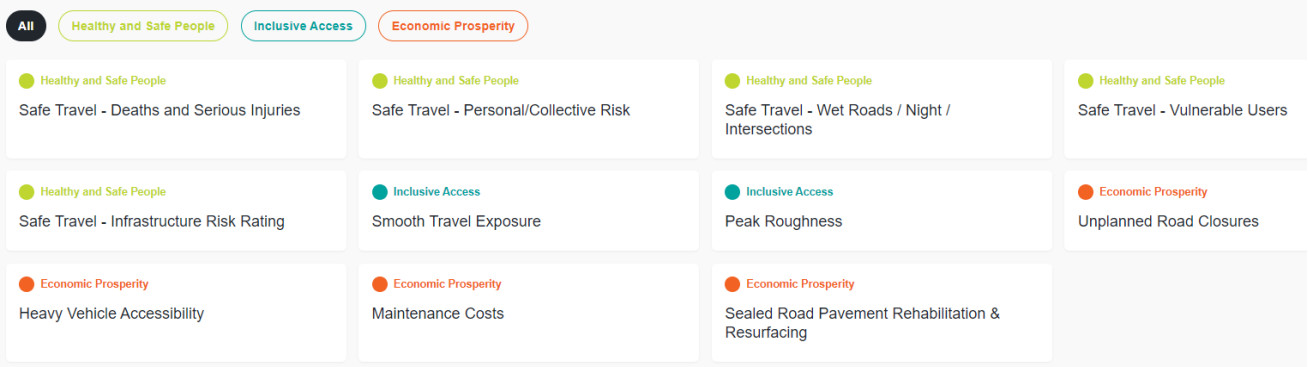
WDC has taken a staged approach to embedding ONF in the business operating procedure and decision-making process and are working through the implication of the implementation of ONF and are considering factors such as but are not limited to:

- **Cost**: The implementation of ONF for WDC. This investment has already begun with the definition of the new classifications and embedding it within current decision making. However other costs will need to be considered incurred updating road signs, delineation etc to bring LoS in line with ONF classifications.
- **Time**: The implementation of ONF will likely take several years to complete. This is because WDC will need to take the time to develop a detailed plan, gather public input, and make the necessary changes to the road network.
- **Public acceptance**: The local authority will need to ensure that the public is supportive of the implementation of ONF. This can be done by providing clear and concise information about the benefits of the new system and by engaging with the public in a meaningful way.
- **Technical challenges**: The implementation of ONF may pose some technical implications yet to be quantified, including by not limited to the impacts of multi modal transport/carbon reduction given the place value on ONF classifications. Road classification has been established but there is still work to do to transition to the new framework. Development of a network operating framework focused on the Oamaru urban area has been started with the aim of supporting WDC and Waka Kotahi NZ transport agency and stakeholders to plan a multi-modal urban transport network. Rural is yet to be started.

WDC will be forming its response to the above. However, Levels of service using the framework are a priority so in this TAMP we have referenced the ONF in addition to the ONRC were possible.

WDC is currently measuring LoS with respect ONF for the Transport Outcomes shown in Figure 44.

Figure 44: Current Measures being reported on with respect to ONF (Source: Te Ringa Maimoa)



Where ONF reporting is still to be developed then WDC will revert back to measuring LoS with respect to the ONRC framework. The measures under ONRC are shown in Figure 45.

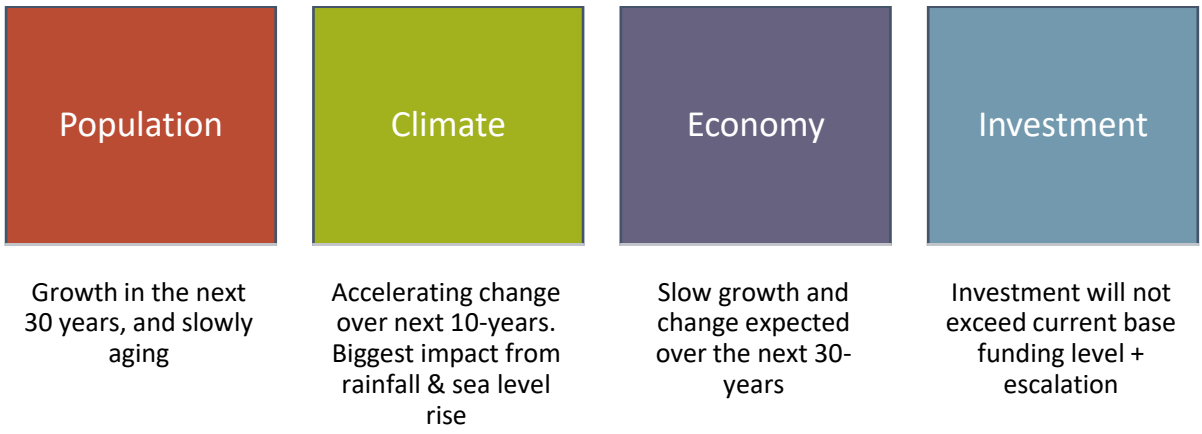
Figure 45: ONRC Measure Groupings

Both ONF and ONRC are customer-centric approaches and align with our Community Outcomes as shown in Figure 46. We have added an image of the Waka Kotahi Evidence Package to demonstrate that we are considering VKT as one of the measures. All of the ONF/ONRC LoS measures are unpacked in more detail in Section 8.

Figure 46: LoS Outcomes Alignment with WDC Community Outcomes

4.2.3 Future State Planning Scenario and Assumptions

In developing problem statements, it is important to consider the future state of the network. The introduction of ONF sees future state considered and embed in decision making. WDC have begun embedding ONF current state in their business processes, and in the next cycle we will seek to improve the ONF Future State network planning. The problem statements outlined in this TAMP consider future state planning scenarios and assumptions generated from a number of sources including Infometrics and are summarised briefly below.



Population

Transport change will be closely linked to the following population changes

- Increasing population
- Growth of residents & houses over the next 30 years
- Population aged over 65 is projected to continue to increase

Climate

Changing weather patterns with extreme weather, rainfall intensity and sea level rise will impact the transport network's infrastructure. Rate of change will accelerate over the next 10 years.

- Sea level risk is expected
- Severe weather will increasingly impact our environment, communities and infrastructure. Rainfall intensity will be the biggest factor
- Emissions budgets arising from the Climate Change Response (Zero Carbon) Amendment Act will require significant change in land-use patterns, the supporting land transport system, vehicle fleet & travel choice

Economic Structure

Change and growth will be slow but trend towards a service industry-based economy with more intense urban development.

- Moderate growth in domestic and international Tourism will continue
- The NOIC scheme continues to impact the network through intensive agriculture in Corriedale Ward and increase demand for HPMV capable routes
- The mining sector is the largest primary sector activity making up over a quarter of the district's GDP, but will have a limited remaining life (25years)

Funding & Finances	Affordability of vehicle-based infrastructure will gradually decrease. We must prioritise our investment to deliver the most effective, long-term solutions • Increase in capital costs, due to managing the effects of climate change, will impact the amount of funding available for the transport system • WDC will face additional funding pressures because of an ageing population on fixed incomes, meaning our community will be less able to cope with significant rates increases. Rates for transport will also be constrained as we face significant investment in Three Waters • Escalation on our contracts will continue to exceed the community's tolerance for rate increases

5 Strategic Assessment

This section provides an overview of the importance of investment. It elucidates the primary challenges that our region and district encounter, the supporting information for these challenges, and the advantages of investing to respond to them. The section begins with outlining the regional ILM (Section 5.1), then states the WDC adopted problem statements (Section 5.2). The section then covers the Strategic Response/links (Section 5.3) as well as Investment Benefits (Section 5.7), before the WDC problem statements are unpacked in detail in Sections 5.4,5.5,and 5.6.

5.1 Investment Logic – Regional Problems

Central to the development of this Business Case and the Long-Term Plan is the understanding that customer experience and outcomes must drive investment decisions, contributing to the achievement of the goals.

In 2023, an Investment logic Mapping (ILM) process was conducted at the regional level by the ORC. The ILM process involved a series of facilitated workshops involving key stakeholders, where the following topics were investigated:

1. The problems with the current state of the road network, and the impact of these problems on stakeholders;
2. The desired benefits that could be achieved if the problems were effectively addressed;
3. The strategic responses that are required to address the problems and achieve the benefits;
4. The range of possible solutions considering people, technology and infrastructure Initiatives;
5. Strategic Options identification to rationalise how the interventions can be packaged to deliver the expected benefits and responses; and
6. Strategic Options Assessment Workshop to determine the preferred way forward.

The outcomes of this process are shown in Figure 47. These findings serve as a compass for making investment choices at the regional level.

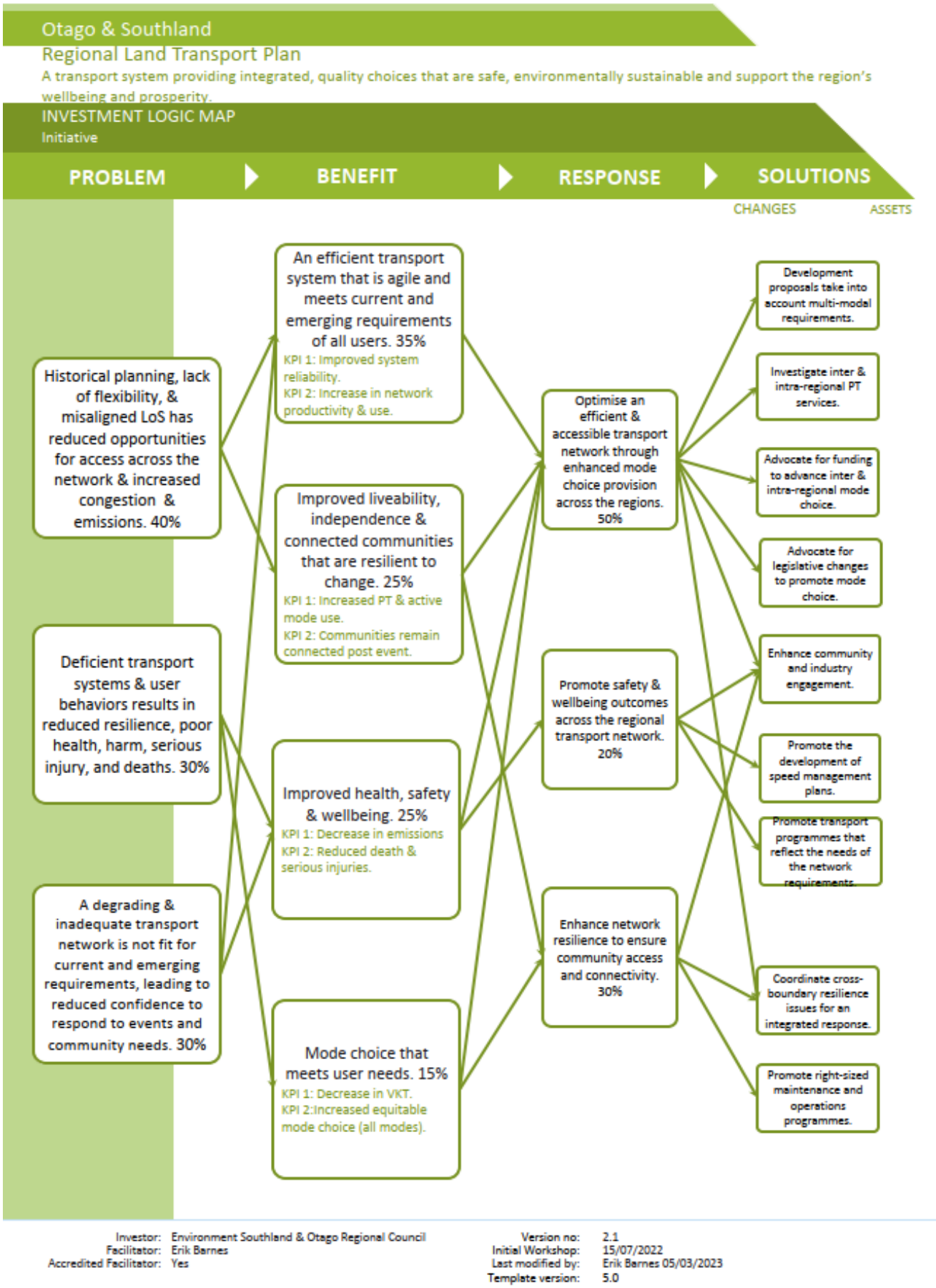


Figure 47: ORC RLTP ILM 2023

5.2 Investment Logic - Waitaki District Problems

For this TAMP WDC considered the 2023 ORC problem statements developed during the ORC ILM. WDC believes that they are also applicable locally so has elected to adopt these problem statements. They have been summarised for the local context into headings as shown in Figure 48. They are then expanded upon in Table 16.

Figure 48: WDC 2024-27 Problem Statements

In prioritising the problem statements, we analysed data such as that presented in the NZTA Te Ringa Maimoa Transport Insights tool (specifically the ONF content); and also took on board the strategic direction and funding signals given to us by Waka Kotahi (via 'Arataki) and the Government in its draft Government Policy Statement. This has enabled us to identify key Strategic Objectives and Reponses that we will use across the next 3-year period.

5.3 Investment Logic -Strategic Responses

To tackle the identified problems in Waitaki, we have set Strategic Objectives and devised corresponding Strategic Responses to achieve them. These are shown in Figure 49.

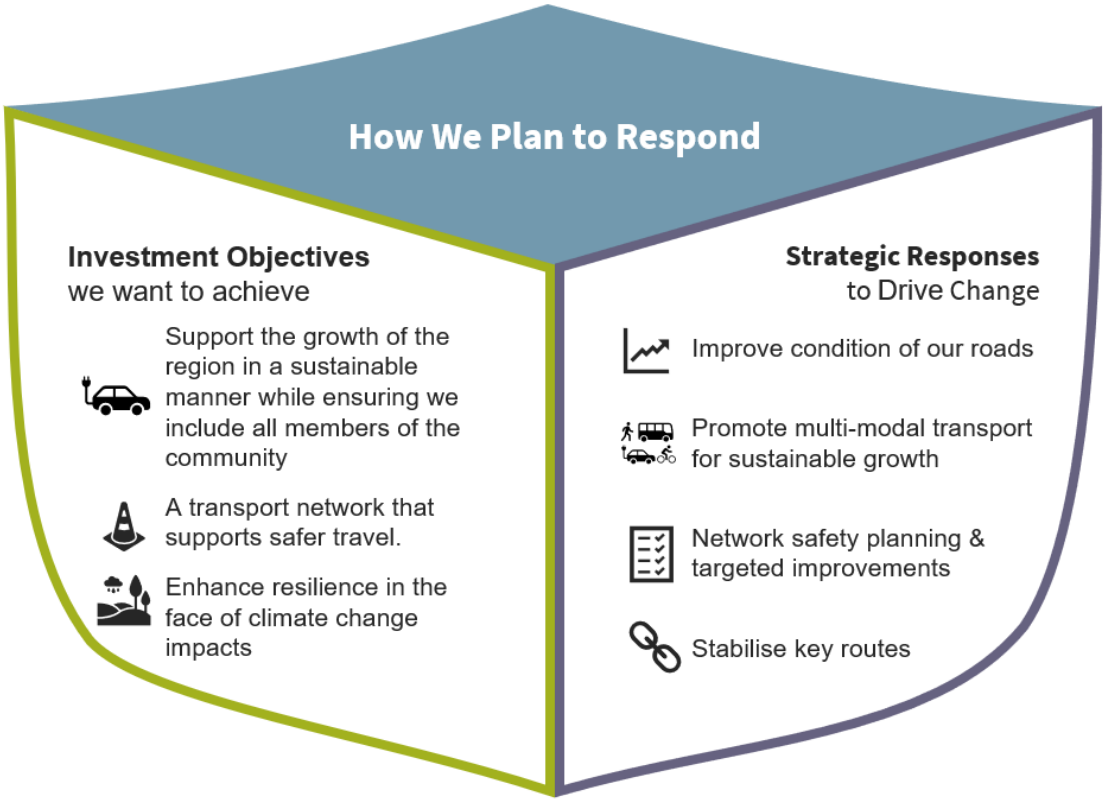


Figure 49: How we plan to respond

5.3.1 Alignment of problems with strategic objectives

The table below presents a comprehensive evaluation of how WDC problems align with the strategic objectives at the local, regional, and national levels.

Table 16: Line of sight between WDC problems and Local, Regional, and National levels

WDC Problem Statement	Local	Regional	National		
	Council Community Outcomes	Regional Problems	ONF Transport Service Outcomes	Arataki	Government Policy Statement
 Historical planning, lack of flexibility, & misaligned LoS has reduced opportunities for access across the network & increased emissions	**Prosperous District** **Strong Communities** **Quality Services** **Valued Environment**	**WDC adopted the same problem statements from the 2023 ORC ILM.**	**Environmental Sustainability** Reducing land transport's environmental impact through sustainability measures. **Inclusive Access** Enhancing transport experiences for all, enabling journeys, community participation, sense of place, and cultural values.	**Environmental Sustainability** Transitioning to net zero carbon emissions, and maintaining or improving biodiversity, water quality, and air quality. **Inclusive Access** Enabling all people to participate in society through access to social and economic opportunities, such as work, education, and healthcare.	**Sustainable Urban Development** People in urban areas have better choices to access economic and social opportunities. **Maintaining and Operating the System** The existing system is maintained at a level that meets current and future needs.

WDC Problem Statement	Local	Regional	National		
	Council Community Outcomes	Regional Problems	ONF Transport Service Outcomes	Arataki	Government Policy Statement
			Economic Prosperity Consistent travel experience, network efficiency, agglomeration effects, labor supply, sectoral output, and tourism benefits	**Economic Prosperity** Supporting economic activity via local, regional, and international connections, with efficient movements of people and products.	**Integrated Freight System** Efficient and effective freight connections
 Deficient transport systems & user behaviors results in reduced resilience, poor health, harm, serious injury, and deaths.	**Prosperous District** **Strong Communities** **Valued Environment**	**WDC adopted the same problem statements from the 2023 ORC ILM**	**Health and Safety People** Promoting safer and healthier and transport: reducing accidents, improving user perception, minimising emissions, and mitigating noise and vibration.	**Health and Safety People** Protecting people from transport-related injuries and harmful pollution and making active travel an attractive option.	**Safety** A land transport system where no-one is killed or seriously injured.
 A degrading & inadequate transport network is not fit for current and emerging requirements, leading to reduced confidence to respond to events and community needs.	**Prosperous District** **Strong Communities** **Valued Environment**	**WDC adopted the same problem statements from the 2023 ORC ILM**	**Resilience and Security** Reducing the risk of communities not being able to access social and economic opportunities due to unexpected outages.	**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	**Resilience** Managing the risks from natural and human-made hazards **Integrated Freight System** Efficient and effective freight connections

5.3.2 Evidence Base

The strategic case relies on an evidence base to evaluate the strength of the identified problems and benefits, utilizing both current information and input from stakeholders. This evidence assists confirming the accuracy of the problem statements.

A significant component of this evidence comes from the ONF and associated implications. WDC has examined how the district's road performance compares to other RCAs within a peer group. These measures showcase the council's efficiency and effectiveness in meeting customer expectations.

The individual problem sections below provide additional detail on each problem statement and include some of the evidence. Further evidence can be found in Part B: Detailed Business Case/Asset Management Plan.

5.4 Problem 1 – Sustainable Inclusive Growth

The problem of Sustainable Inclusive Growth in the transportation sector is characterized by historical planning, lack of flexibility, and misaligned LoS, which have significantly reduced opportunities for access across the network. As a result, network use in certain areas and emissions have increased, hindering the overall sustainability and inclusivity of the transport system. In order to address this issue effectively, it is important to understand the evidence of the problem, the consequences of not investing in Sustainable Inclusive Growth, the benefits of making such investments, and our strategic response to tackle this problem statement.

5.4.1 Progress and Changes

While this problem statement was not specifically focused on in the 2021-24 TAMP, there are elements that are related that WDC has progressed in the last strategic cycle.

[Key: 😟 : Mixed success 🙂 : Successful 😀 : Very successful]

Activity / Programme	Outcome	Status / 2024-27 Proposal	Adjustments
1. Walking & Cycling Improvements	😟	The Humber Street proposal has been placed on hold due to securing land and funding options. However, the Weston Road cycleway was successfully completed in 2022, with a planned Ardgowan Rd shared path in 2023. Council has secured $5.2M in Oamaru for Transport Choices. A significant part of the project is for a shared or separated walking and cycling track on the existing footpath on the state highway. Council also has projects for completion as part of the Walking and Cycling Strategy.	Continue
2. Travel Options – Programme Adjustment	😟	A footpath 'scooter survey' of the district's 166km footpath network was undertaken in 2020 to identify and prioritise footpath faults. The data has been used to assemble a Forward Word Programme (FWP) for Footpath Renewals which has identified 28km of footpath over 5 years. As our existing renewal programme covers 2-3km per year, the FWP is likely to take 10-15 years to complete. Percentage of footpath network complying with acceptable Levels of Service are 98%+. Deferential Levels of Service (dLos) will be important as renewals programme becomes more expensive. We have converted 92% of Streetlights to LED (Direct savings from streetlight LED conversion to support additional investment in transport planning & urban mobility), with the remainder being heritage style lighting which does not currently have a practical and value for money LED fitting available. Council has commissioned a streetlighting central management which will allow for dimming of lights in the future as well as accurate identification of failures in the network. Council has completed a Network Operating Framework and will be completing a Maintenance Intervention Strategy for road maintenance (recommendation in the 2020 technical audit).	Continue (as BAU)

Activity / Programme	Outcome	Status / 2024-27 Proposal	Adjustments
3. Travel Options – Risk Adjustment		We have implemented prioritisation based on road category into the new maintenance contract. In addition, Council's Roading Team will be leading the programming of activities.	Continue
4. Travel Options – Demand Management		Council has worked with heavy haulers to determine suitable routes (i.e.. HPMV routes, Logging routes). Administrator roles to help enhance the customer service focus. Customer Service response times are a minimum of 90% within 2 days. In addition council's proposed internal Transformation is designed to improve customer responsiveness.	Continue focus in 2024-27

5.4.2 Evidence

Condition of Footpaths

The condition of footpaths poses a significant barrier to safe access for vulnerable users, particularly the ageing population. The condition hampers mobility and limits opportunities for individuals to participate in social and economic activities.

During the last funding cycle WDC collected a full footpath network survey which collected all the faults on the footpath network. The fault lengths demonstrated 2.8km of faults that were classed as poor or very poor (Figure 50).

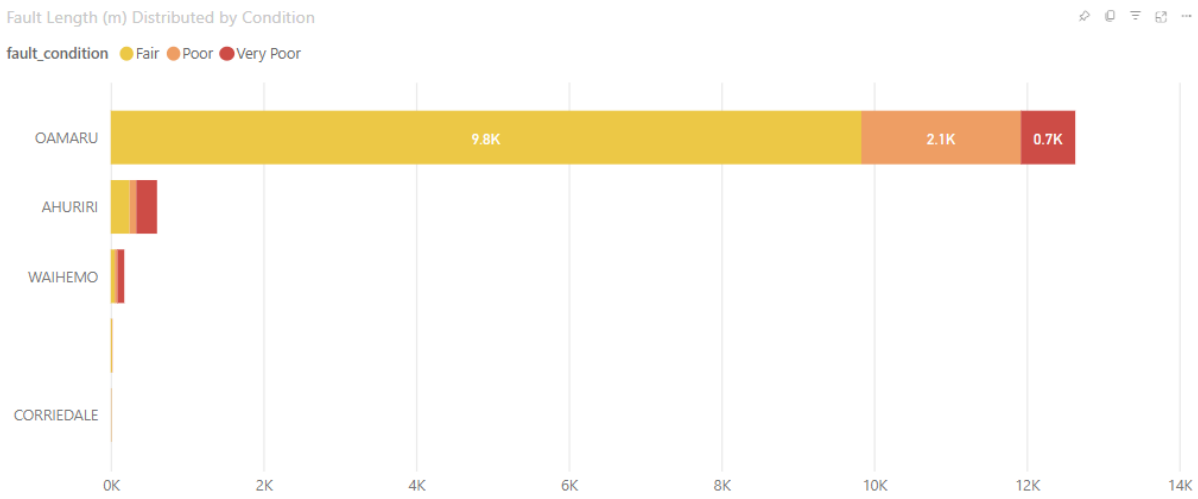


Figure 50: Footpath Fault Length Conditions

Several fault types that will affect mobility include but are not limited to Potholes, Trenches, Trip lips etc and these are shown in Figure 51.

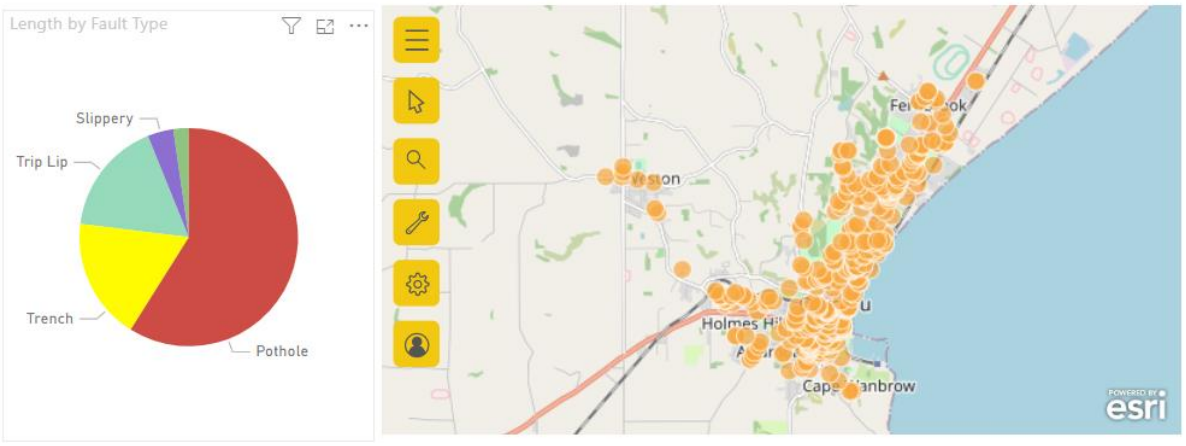


Figure 51: Oamaru Mobility Related Faults

Dissatisfaction with Road Maintenance Standards

Monitoring customer satisfaction is important to WDC because it not only informs the Council of how the roading level of service is experienced from the customers' perspective, but it also acts as a surrogate measure for economic growth opportunities. The annual customer satisfaction survey is WDC's biggest indicator of satisfaction and customer service.

The last 3 Annual Residents Surveys reveal a notable level of dissatisfaction among respondents regarding road maintenance standards, on both sealed and unsealed roads. For the last 3 years the primary reason for dissatisfaction on sealed roads is Ride Smoothness/Texture. For the last 3 years the primary reason for dissatisfaction on unsealed roads is Surface quality/Maintenance (e.g. frequency of grading). As dissatisfaction is increasing, there needs to be focus placed on overall quality and usability of the road network.

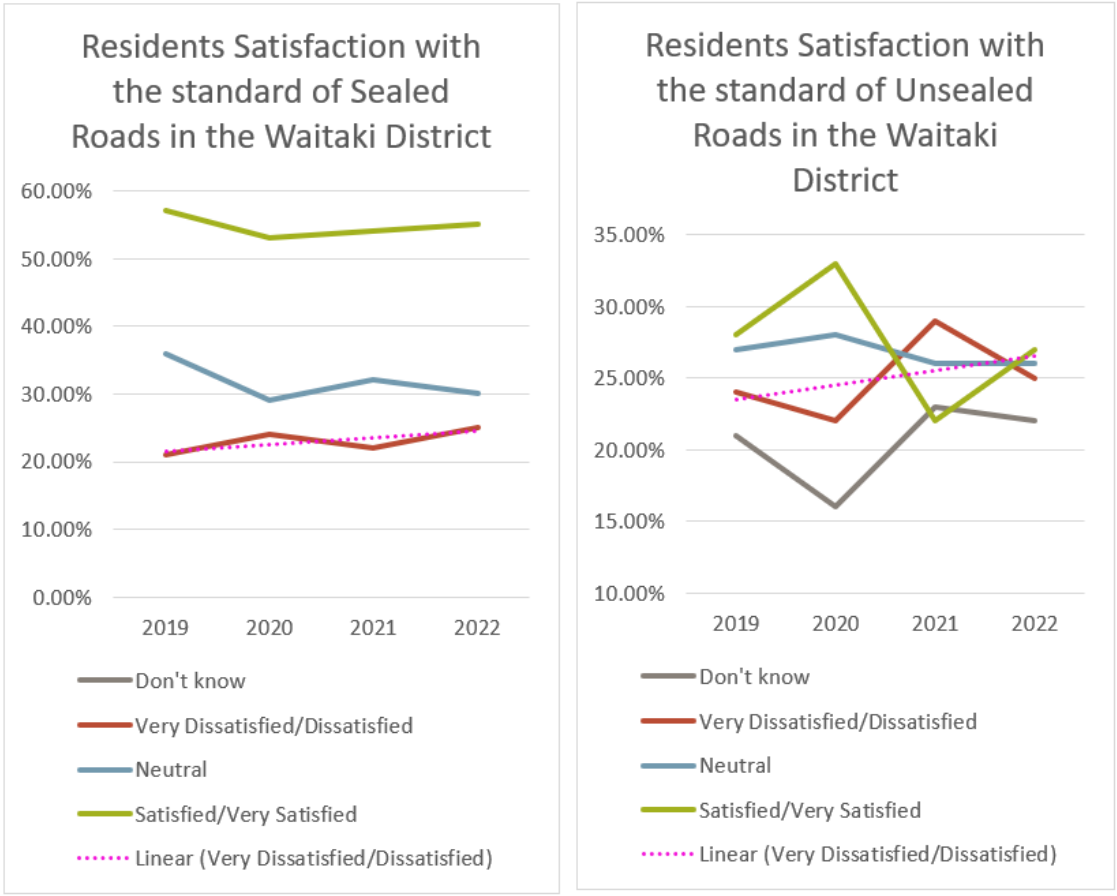


Figure 52: Sealed Road and Unsealed Customer Satisfaction

As indicated, lack of smoothness was one of the reasons for customer dissatisfaction. This is confirmed by Figure 53 which shows the road classifications that have increasing trends of roughness or higher than the regional/national levels of peak roughness.

Figure 53: WDC Peak Roughness Trends

5.4.2.1 *High risk intersections for pedestrians*

WDC was ranked as the 11th highest out of 71 councils for personal risk at Urban Intersections. This poses a high risk for pedestrian-vehicle crashes and serves as a critical indicator of the need for adequate footpaths and facilities for vulnerable users. Insufficient infrastructure and limited safety measures contribute to a higher risk of accidents and injuries, emphasising the urgency to prioritise pedestrian safety.

5.4.2.2 *Changing Utilization of the Road Network*

The ageing population, increased tourism back towards pre Covid-19 numbers, and growth in dairy/forestry industries have resulted in diverse utilisation of the road network. This shift in usage patterns has led to increased demand on transportation infrastructure, exacerbating the challenges faced in achieving Sustainable Inclusive Growth.

At present, WDC does not have a public transport system. The potential for a ride share system in Waitaki (such as MyWay by Metro) is currently being considered by ORC. Without a public transport system, it becomes harder for those wanting to explore the use of different modes to travel. Without a public transport system, it increases the VKT and emissions on the network will increase further.

In efforts to reduce emissions WDC also needs to consider how it can facilitate the increased use of electric vehicles on the network.

5.4.2.3 *Historical Planning Practices and Misaligned Level of Service*

The challenges in attaining Sustainable Inclusive Growth are further compounded by historical planning practices and misaligned LoS. Past decisions and inadequate alignment of service levels with community needs have hindered the development of an accessible, efficient, and

sustainable transport system. A comprehensive approach is necessary to overcome the challenges and work towards achieving Sustainable Inclusive Growth.

5.4.3 Consequence of not investing

Consequences of not investing to meet our investment objectives are detailed in Table 17.

Table 17: Consequences of not investing in Sustainable Inclusive Responses.

Consequence	Description	0-3 Years	3-10 years	10+ years
Limited Multi-Modal Access	Poor safety record in the district affecting personal and collective risk and increased social cost to the community and countr.	 Current levels remain the same	 Increased cars on the road. Less Pedestrians/Cyclists	 Increased cars on the road. Less Pedestrians/Cyclists
Negative Impact on Transportation Efficiency and Emissions:	Insufficient investment leads to higher VKT, impacting transportation efficiency, increasing congestion, and exacerbating emissions, undermining climate change mitigation.	 Higher VKT and Emissions	 Higher VKT and Emissions	 Higher VKT and Emissions
Declining Road Surface and Pavement Quality	Insufficient investment leads to deteriorating road quality, decreased comfort, increased maintenance costs, and higher accident risks.	 Decreased Road Quality. Increased Maintenance Costs	 Decreased Road Quality. Increased Maintenance Costs	 Decreased Road Quality. Increased Maintenance Costs
Higher Risk of Accidents and Injuries	Without investments in footpaths and multi modal facilities, vulnerable users face increased accident risks due to compromised safety measures.	 Increased accidents involving vulnerable users	 Increased accidents involving vulnerable users	 Increased accidents involving vulnerable users
Impaired Support for Growth, Agriculture, and Freight Movement	Insufficient investment hampers regional growth, agriculture, and efficient freight movement, hindering economic development and accessibility.	 Current levels remain the same	 Decreased economic development and accessibility	 Decreased economic development and accessibility

5.4.4 Benefit of Investing

We want to include the following Investment Objectives (Table 18) that we will achieve. We acknowledge the content in Table 18 was included earlier in Table 11. However, it has been included here again with only the investment objectives relevant to Sustainable Inclusive Growth.

Table 18: Benefit of Investing in Sustainable Inclusive Growth

Investment Objective	Benefits of Investing	Performance Measures
 Support the growth of the region in a sustainable manner while ensuring we include all members of the community	**Benefit 3.2: Reduced impact of air emissions on health** Land transport air emissions that impact on human health.	• BF 3.2.2: Ambient air quality – PM10
	Benefit 8.1: Reduced impact on greenhouse gas emissions Land transport air emissions that impact the environment.	• BF 8.1.1: CO2 emissions • BF 8.1.2 Mode shift from single occupancy private vehicle
	Benefit 10.1: Improved user experience of the transport system How all people experience the transport system, including people with disabilities, school children, and the elderly, and how different modes are experienced.	• BF 10.1.5, 10.1.4 Network Condition • (Benchmarking through ONF Peak Roughness Transport Outcome) • (Benchmarking through ONF Smooth Travel Exposure Transport Outcome) • DIA PM4: Network condition - footpaths
	Benefit 5.2: Improved network productivity and utilisation Network productivity and utilisation is about efficient use of the land transport network. Optimising our part of the broader economic/social system to allow broader benefits to be gained.	• BF 5.2.1: Spatial coverage - freight

5.4.5 Strategic Response

To make the right investment decisions to improve the resilience of our key routes on our network, our strategic response to this problem is shown below in Table 19. We acknowledge the content in Table 19 was included earlier in Table 11. However, it has been included here again with only the Strategic Responses relevant to Sustainable Inclusive Growth.

Table 19: Sustainable Inclusive Growth Strategic Responses

Problem Statement	 Strategic Responses: Improve condition of our roads; Promote multi-modal transport for sustainable growth	Priority
 Historical planning, lack of flexibility, & misaligned LoS has reduced opportunities for	• **PROGRAMME ADJUSTMENT**: Improve the condition of our footpaths. Direct savings from streetlight LED conversion to support additional investment in transport planning & urban mobility. Pursue the commencement of public transport option in Waitaki. Improve the condition of our roads targeting higher ONF category routes. Integrated network planning is necessary to respond to growth in Waitaki and changing economic base.	H
	• **RISK ADJUSTMENT**: Implement ONF and embed dLoS and prioritisation framework within the road maintenance operations	H

Problem Statement	 Strategic Responses: Improve condition of our roads; Promote multi-modal transport for sustainable growth	Priority
access across the network & increased emissions	• **DEMAND MANAGEMENT:** Commencement of public transport that leverages rideshare/user demand modal (such as Myway my Metro). Consider how WDC can support EV use. Continue to work with hauliers to use suitable roads & routes to confine investment need. Working with relocating traffic generators to optimise use of existing network. Linking Roading Strategy with District Plan review and consenting processes Enhance Customer Service Focus. Improving customer outcomes is not simply an end-result from executing the roading programme.	H L L

5.5 Problem 2 – Road Safety

5.5.1 Progress and Changes

This problem was also identified in the 2021-24 TAMP and continues to be a problem for WDC. Attitudes and behaviour of road users, and inconsistent route quality, have resulted in fatal and serious crashes. However, WDC has made some good progress in the last 3 years with 34 intersection improvements.

Table 20: Summary of 2021-24 Safety Strategic Activity Outcomes

[Key: : Mixed success : Successful : Very successful

Activity / Programme	Outcome	Status / 2024-27 Proposal	Adjustments
1. Community Road Safety Activities		Road to Zero programme is improving driver behaviour i.e. reducing speeds. Phase 1 Interim speed management plan to be implemented around schools. New Road Safety Action Plan to be completed to give effect to Road to Zero Safety Strategy and Communities at Risk Register.	Continue (Review Priorities)
2. Targeted Seal Widening		We have successfully completed a range of seal widening as per targeted ONF locations (i.e.. Weston-Ngapara Road). Seal widening on Seven Mile Road is underway and is to continue in the 2024-27 programme.	Continue
3. Targeted Intersection Treatments		We have almost completed the targeted urban intersection treatments, with a single intersection treatment in Palmerston at District Road and Gilligan Street. For unsealed roads we have completed treatments of the Seven Mile Road intersections. We also successfully petitioned Waka Kotahi to add a traction seal to the Orbell Rd intersection with SH1. Regarding unsealed intersections Waka Kotahi has recommended that road markings be improved at intersections. To enable this, seal backs or traction seals will be required at intersections.	Continue
4. Programme Adjustment: Network Safety Planning & Targeted Improvements		Seal widening completed on Secondary Collectors, such as Weston-Ngapara Rd. Intersection improvements along Wansbeck St and Reed St. Signage still to be completed. Road to Zero program will all be completed at the end of the 2022/23 financial year other than $15k in 2023/24. With Waka Kotahi collaboration, a comprehensive programme has been prepared for implementation in 2024-27. Intersection treatments have been relatively low cost with good benefits achieved i.e. driver behaviour and speeds.	Continue (Review Priorities)
5. Funding Adjustment		The old roading maintenance contract, now expired, was driving perverse behaviours from the contractor	Revisit

Activity / Programme	Outcome	Status / 2024-27 Proposal	Adjustments
		i.e. they were focussing on low volume roads as opposed to busy collectors as traffic management was proving too expensive and there was a reluctance to complete works on busier routes as the contractor was experiencing a financial loss. Likewise, historically, Roading focussed on rural low volume road renewals as they were easy to complete and were less controversial with the public. New maintenance contract is driving new behaviour with Council taking the lead in programming high priority roads. All faults survey is currently underway in the district. Pre-reseal repairs are also a priority for the programme. Temporary traffic management is now a provisional sum ensuring completion of priority works.	
6. Risk Adjustment	😟	Delineation reviews have been carried out with night-time audits. The Projects team have also carried out a review of curve advisory speeds and added chevrons/advisory speeds where identified. We have identified that many roads have permanent warning signage in selected locations only resulting in the remainder of the route being out of context. Macraes Road is a prime example of a rural connector route having heavy traffic and subject to multiple weather conditions with signage problems. Council will be adding $250k to Road to Zero for signage upgrades. Safety auditing of busy collector routes is required in 2024-27 to assess needs for upgrades.	Continue (Review Priorities)
7. Policy Approach	😟	A full review of existing Roading Bylaws won't happen until 2024/25. However, the introduction of the Setting of Speed Limit Rule 2022 has made the Speed Limit Bylaw redundant which will be repealed. An interim speed management plan has been approved by Council with a full speed management plan proposed for 2024-27. Roading Policy Review underway; 3 tranches of policies to be reviewed with the first tranche reviewed and approved by Council. Second tranche to be completed next year with the 3rd tranche in the following year.	Deferred to 2024-27 Programme

5.5.2 Evidence

The evidence for investment is compelling. The region is currently facing a road safety challenge, stemming from a combination of attitudes, behaviour, and inconsistent route quality. This situation has resulted in fatal and serious crashes. Furthermore, as indicated in section 3.4.2, according to the Waka Kotahi Communities at Risk Register (CARR) in 2022, WDC was ranked as the 11th highest out of 71 councils for personal risk at Urban Intersections. This ranking clearly highlights the need for improved road safety measures.

Figure 54 illustrates the increasing trend of serious crashes and fatalities on both urban and rural connector roads. The changing demographics and land use in the region further compound the problem. An ageing population, the return of post Covid-19 tourists, and growth in dairy/forestry have led to diverse utilisation of the road network. As a result, variable conditions across the network, including road width, visibility, and traffic mix, have emerged as significant contributors to road safety performance issues and congestion around key attractions and viewpoints.

The intensive movement of heavy vehicles associated with agricultural, quarrying, and other operations has had detrimental effects on critical assets. Under-strength pavements and structures have suffered damage, posing significant risks to safety and access. Moreover, certain parts of the road network fail to meet desired levels of service, impacting both safety and ease of movement.

This situation poses a personal and collective risk to the community and comes at a high social cost to both the region and the country as a whole. To mitigate this problem effectively, investment is required.

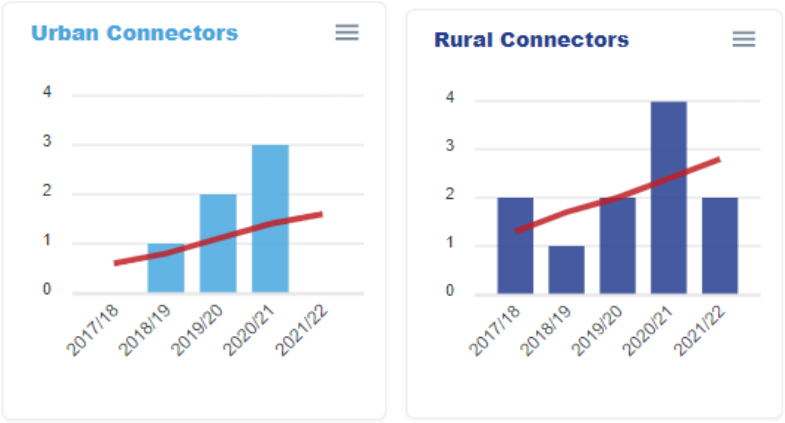


Figure 54: WDC Deaths and Serious Injuries (Source: Te Ringa Maimoa Transport Insights)

WDC currently experiences a higher number of reported crashes per 100 million Vehicle Kilometres Travelled (VKT) compared to both the regional and national averages. This data is depicted in Figure 55. Notably, the elevated crash rate on Activity Streets is likely one of the contributing factors behind WDC's ranking as the 11th highest in New Zealand for personal risk at Urban Intersections. Not only is the Activity Streets category currently higher – but it is also continuing to trend upwards (Figure 56). Urgent attention and substantial efforts are required to mitigate the harm caused to the community, particularly in urban areas.

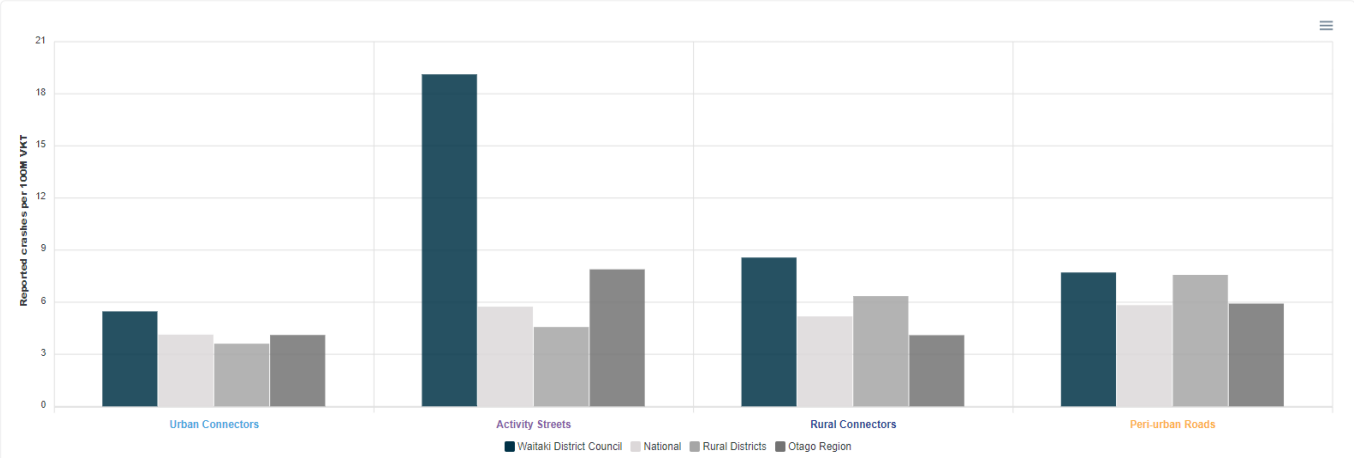


Figure 55: Reported Crashes per 100M VKT (Source: Te Ringa Maimoa Transport Insights)

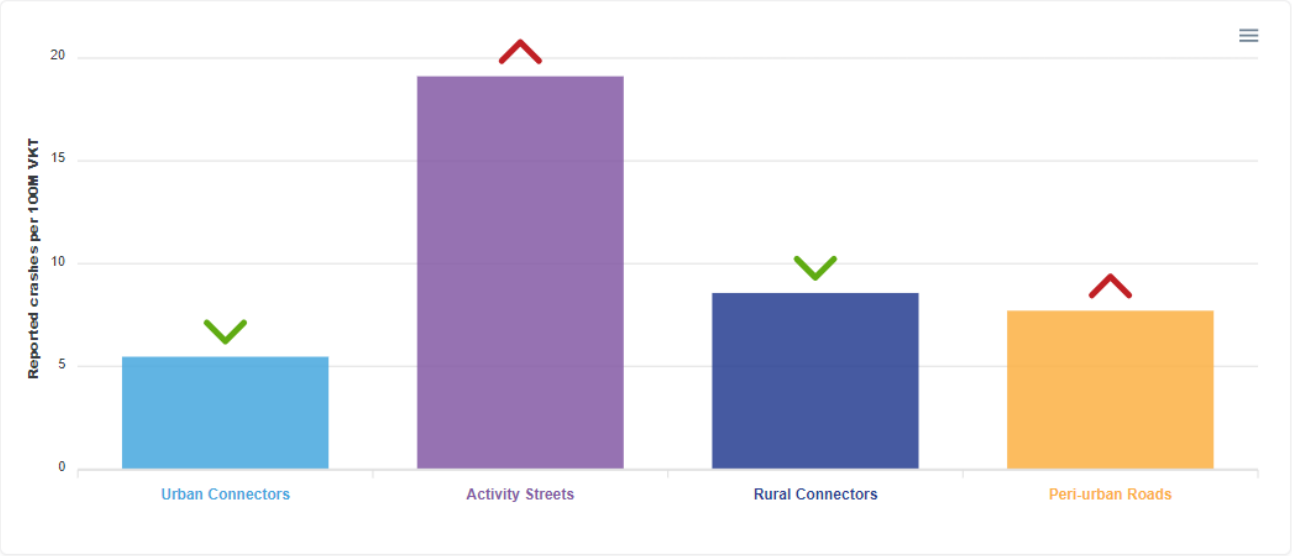


Figure 56: Reported Crashes per 100M VKT Trend. Arrows show if trend is increasing or decreasing (Source: Te Ringa Maimoa Transport Insights)

The Waka Kotahi 2022 CARR also reported that with respect to personal risk WDC is:

- Worse than average for driver distraction.
- Worse than average for cyclists involved.
- Worse than average for Young Drivers (16-24yrs).
- Worse than average for pedestrians involved.

5.5.3 Consequence of not investing

Consequences of not investing to meet our investment objectives are detailed in Table 21.

Table 21: Consequences of not investing in Safety Responses.

Consequence	Description	0-3 Years	3-10 years	10+ years
An Increasing trend in fatal and serious crashes	Poor safety record in the district affecting personal and collective risk and increased social cost to the community and country	↑ Increased DSI Crashes	↑ Increased DSI Crashes	↑ Increased DSI Crashes

5.5.4 Benefit of Investing

We want to include the following Investment Objectives (Table 22) that we will achieve. We acknowledge the content in Table 22 was included earlier in Table 11. However it has been included here again with only the investment objectives relevant to Safety.

Table 22: Benefit of Investing in Road Safety

Investment Objective	Benefits of Investing	Performance Measures
A transport network that supports safer travel.	**Benefit 1.1: Reduced social cost of deaths and serious injuries** The impact of reducing the number of DSIs on all land transport modes and their social costs.	• BF 1.1.1: Collective Risk (Benchmarking through ONF Personal/Collective Risk Outcome) • BF 1.1.2: Crashes by severity • BF 1.1.3: Deaths and serious injuries (Benchmarking through ONF Transport Outcome) • BF1.1.4: Personal risk (Benchmarking through ONF Personal/Collective Risk Outcome)

5.5.5 Strategic Response

To make the right investment decisions to improve Road Safety on our network, our strategic response to this problem is shown below in Table 23. We acknowledge the content in Table 23 was included earlier in Table 11. However it has been included here again with only the Strategic Responses relevant to Road Safety.

Table 23: Road Safety Strategic Responses

Problem Statement	Strategic Responses: Network safety planning & targeted improvements	Priority
30% Road Safety Deficient transport systems & user behaviors results in reduced resilience, poor health, harm, serious injury, and deaths.	• **PROGRAMME ADJUSTMENT**: **NETWORK SAFETY PLANNING & TARGETED IMPROVEMENTS**. Implement the response strategy in the current WDC Road Safety Action Plan. Prioritise infrastructure investment on Urban Connectors and Activity Streets; Specifically, intersection standards, shoulder maintenance/widening, guardrail, signage (route strategies to support isolated improvements), & road marking frequency.	H
	• **FUNDING ADJUSTMENT**: Absorb some good network condition on rural pavements and bridges by reducing renewal expenditure in these areas to offset increase in network safety and access improvements made to higher ONF category roads.	H
	• **RISK ADJUSTMENT**: Increase of Safety Auditing on Connector Roads, and Activity Streets. Ensure that roads are in contest both in day and night conditions. Ensure all works are carried out considering ONF category prioritisation.	L
	• **POLICY APPROACH**: Review speed with respect to the Setting of Speed Limit Rule 2022 and ONF. Integration of the Speed Management Plans into the network which is currently underway.	M

5.6 Problem 3 – Resilience

Waitaki is confronted with various consequences resulting from climate change. In the next three decades, predictions indicate that the region will experience rising sea levels, a hotter and drier climate, and more frequent and severe occurrences of extreme events like droughts and storms. These changes are expected to trigger a series of interconnected effects, such as heightened risks of landslides and erosion, water scarcity, floods, forest fires, fluctuations in lake and groundwater levels, challenges to biosecurity, and potential impacts on agricultural sustainability.

All of these impacts will likely result in increased coastal erosion from big seas impacting on our vulnerable local road network, more frequent emergency events, network deterioration and disruption. Old bridges need to be renewed appropriately to provide network accessibility for heavy vehicles.

5.6.1 Progress and Changes

Some resilience commentary was presented as part of the 2021-24 TAMP and remains a persistent concern for WDC. We have been implementing strategic measures to tackle this problem and will maintain our focus on them in the future. The advancements achieved through these strategic initiatives since the adoption of the 2021-24 TAMP are detailed in Table 24.

Table 24: Summary of 2021-24 Resilience Strategic Activity Outcomes

[Key: : Mixed success : Successful : Very successful]

Activity / Programme	Outcome	Status / 2024-27 Proposal	Adjustments
Resilience Improvements			
• Rural drainage improvements		The majority of treatments have been completed. New areas have been identified for monitoring for future investment.	Continue
• River Training		New global consent for road maintenance in waterways specifically excludes river training on the Kaura River. Long jaw Galaxias fish are located immediately upstream of the Kauru River bridge on Kakanui Valley Road. ORC is undertaking river training to prevent damage to road and bridge infrastructure.	Continue
• Small Timber Bridge Replacements		The majority of instances have been treated. Only outliers are where the property owner disagrees with the decision (i.e. Leiceister St).	Continue
• Unsealed Road Strengthening		Unsealed dTIMS modelling is to be replaced with modelling using Juno Viewer in the 2024-27 NLTP. Multispeed Deflectometer Survey on unsealed roads to determine where strengthening and where metalling renewals is required based on traffic use. An extensive traffic count programme will be required.	Continue
• Aggregate Source Acquisitions		Sourcing rock from the Robbs Crossing quarry has continued, however Council has elected not to outright purchase the quarry. The current economic climate would also restrict further investigation of new aggregate sources. Aggregate supply within the new road maintenance contract is from an external supplier. Council will continue to supply aggregate for new and renewal projects as well as to Southroads and 3 Waters for maintenance and renewal works. Council continues to seek quarry sites	Continue

[Key: : Mixed success : Successful : Very successful]

Activity / Programme	Outcome	Status / 2024-27 Proposal	Adjustments
		particularly with inflation and cost of aggregates always increasing.	
• Kakanui Point Bridge Replacement	Pending	Funding has been secured and design work to start in 2023/2024 with construction due to start in the 2024/25 financial year.	Construction in 2024-27 Programme
• Waianakarua Road Re-alignment		Work has been completed.	To be monitored
• Coastal Roads Protection Strategy		Ongoing annual programmes of coastal protection are continuing. Expenditure is now financially assisted. Council to revisit the Coastal Roads Strategy, particularly now that climate change is real forcing Council and Councillors to address the issue whether it be management and retreat or alternative.	Continue
• At risk freight routes		A list of flooding 'hot spots' was developed with the contractor and a flood response management plan implemented. This includes the install of permanent 'Flooding' warning signs in known areas which can be flipped down as required. Bridge postings on HPMV routes are being reassessed to determine what additional strengthening will be required to allow the network to be more accessible to heavy vehicles.	Continue

5.6.2 Evidence

The District's topography, characterised by rolling terrain and flat expanses, exacerbates the difficulties in achieving adequate outfalls and discharges, especially on the Waitaki Plains and in the Ahuriri area. Additionally, altered land use practices and modified natural flow paths have resulted in challenges related to stormwater discharge in the Corriedale region, which has the highest concentration of dairy farming. Steep inclines and heavy scouring during major storm events further compound these issues.

To ensure the long-term resilience of our infrastructure in the face of worsening climate change impacts, additional investment is essential. Severe and more frequent storms are projected, with some surpassing the 100-year return period. The Council's emergency works expenditure over a 15-year period amounted to $11.6 million, emphasising the ongoing costs and risks associated with climate-related damage. Investing in drainage improvements, road upgrades, and retaining wall strategies will mitigate these risks and provide a solid foundation for future weather events.

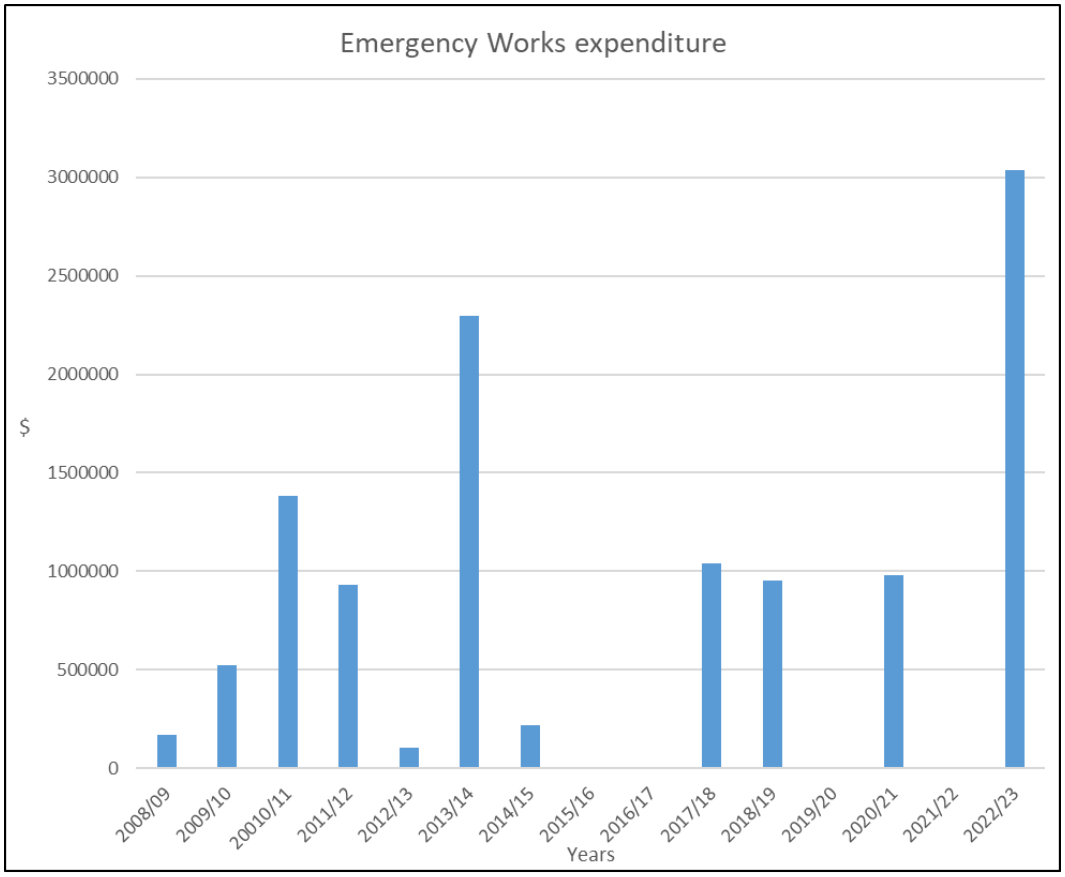


Figure 57: Emergency Works Expenditure

5.6.2.1 Storm Impacts - Drainage

The current road reserves, particularly the narrow 10m wide roads on the Waitaki Plains, pose challenges in achieving sufficient outfalls and discharges. Major lifeline routes such as Weston Road, Weston Ngapara Road, Seven Mile Road (a link between SH1 and SH83), Kakanui Valley Road, and Prohibition Road (a link between SH83 and SH8) are particularly vulnerable. Severe storms, including events with a return period exceeding 100 years, frequently cause damage, restrict access, and undermine travel time reliability.

Sumps, catchpits in urban areas, and culverts and wash over pads on lifeline routes require improvements to enhance their capacity to withstand severe weather events. Available evidence (as shown in Figure 58) indicates that the problem is being exacerbated by drainage maintenance issues, such as blocked culverts or surface water channels overflowing during heavy rainfall events. Additionally, erosion of riverbanks or coastlines adjacent to roads is also contributing to this issue.

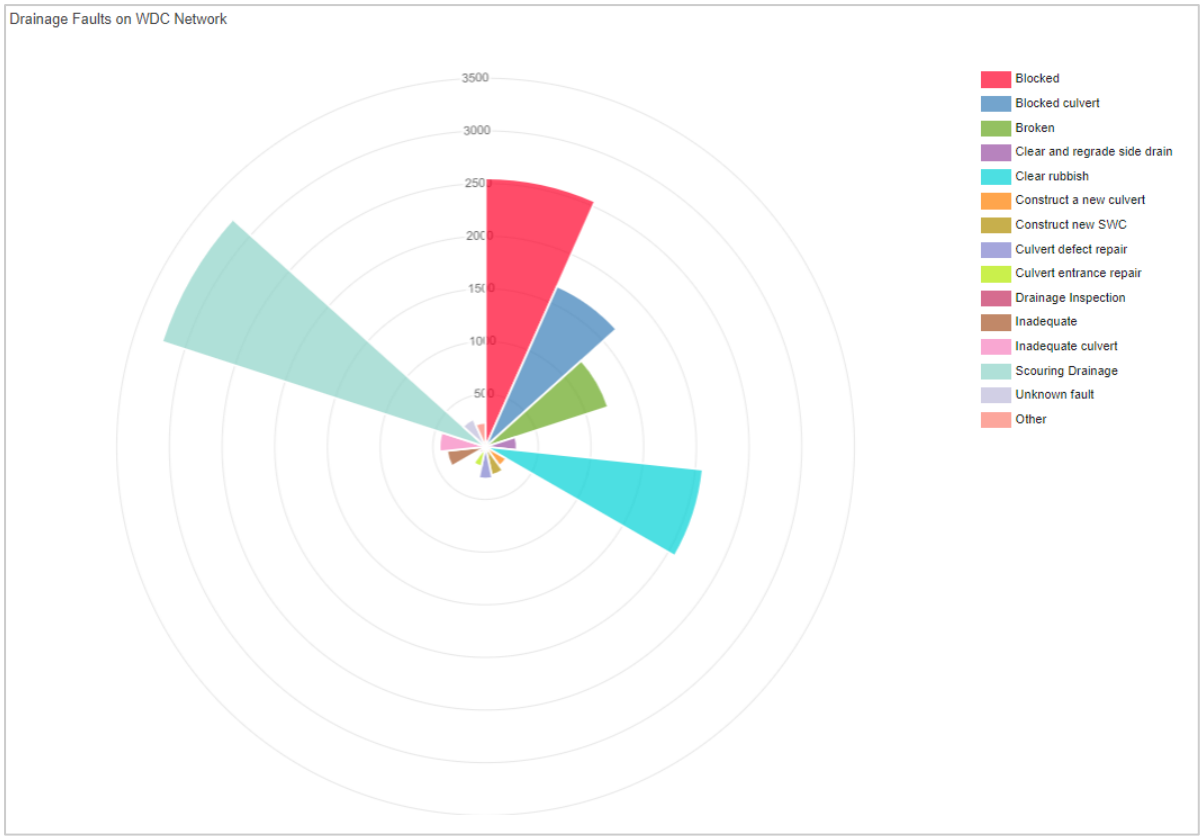


Figure 58: Drainage Faults on WDC Network (obtained from Maintenance Costs in RAMM 2023)

In addition, the condition information of WDC culverts could be improved to ensure that the assets are maintained sufficiently further aiding to the assets ability to perform during storm events. WDC will implement a field survey to assess and record condition.

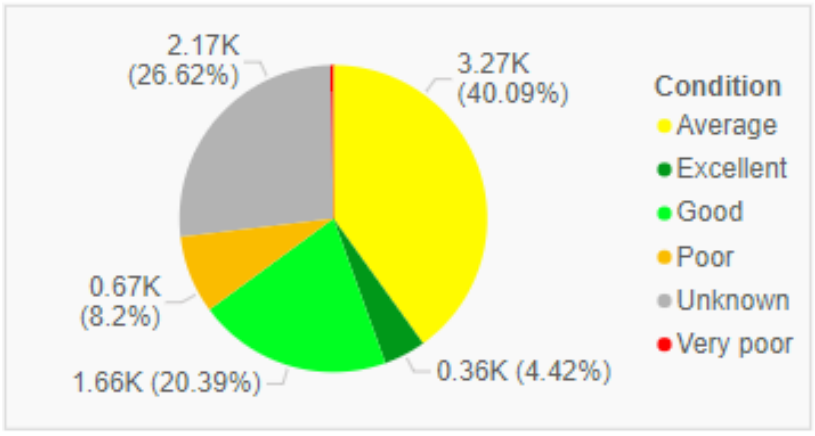


Figure 59: Condition of WDC culverts

5.6.2.2 Retaining Walls

Retaining walls is another area of concern. Waitaki has 6.8km of retaining walls in the region on the roading network and have had one retaining wall collapse on Beach Road in recent years due to a significant storm event where the loading behind the wall was too great (it has since been replaced).

Retaining walls serve a critical function in stabilising slopes and protecting infrastructure from collapse. A comprehensive 30-year strategy for retaining walls is needed to ensure their proper

maintenance and prevent potential catastrophic consequences, especially for substantial walls reaching heights of 5-6m.

WDC will implement a field survey to assess and record condition.

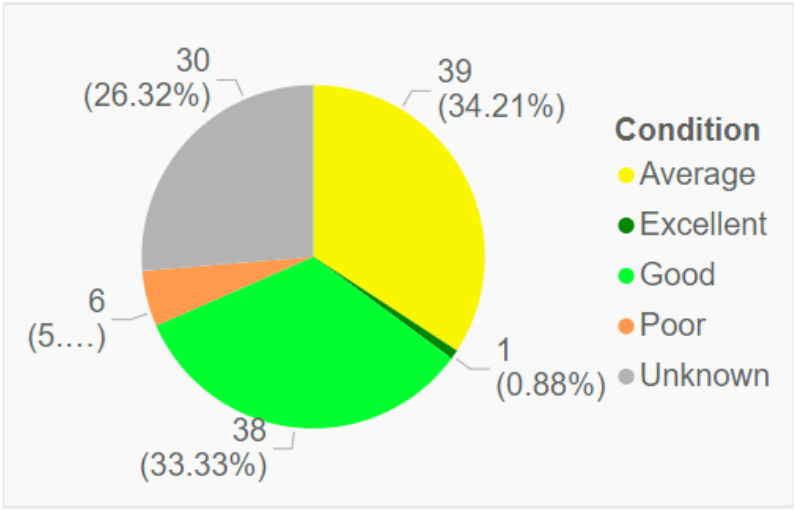


Figure 60: Condition of WDC Retaining Walls

5.6.2.3 The effects of climate change on roads adjacent to water

The changing climate is having a notable impact on the Waitaki District, affecting weather patterns, river flows, and runoff. Consequently, the resilience of the Council's network is being increasingly challenged. Coastal routes, in particular, are facing heightened coastal erosion problems due to rising sea levels.

Figure 61 shows the now closed section of Beach Road. While the photo is historical, there are other sections of Beach Road that are under threat unless continued investment is approved.

Figure 61: The closed section of Beach Road

According to GIS mapping data, approximately 94.5km of Waitaki's road network runs alongside rivers or streams, with the road situated within a 30-meter proximity to these water bodies. These road sections are particularly vulnerable to roadside slips/impacts caused by the amplified river flows resulting from storm events. Figure 62 utilises data from ORC, Environment Canterbury, WDC's RAMM Database, and WDC known flooding areas.

Length of road less than 30m of LINZ River

5.7km

Length of road within Flood Hazard Zone (Otago/Canterbury Regions)

94.5km

Length of road within Waitaki River Flood Plain

151.9km

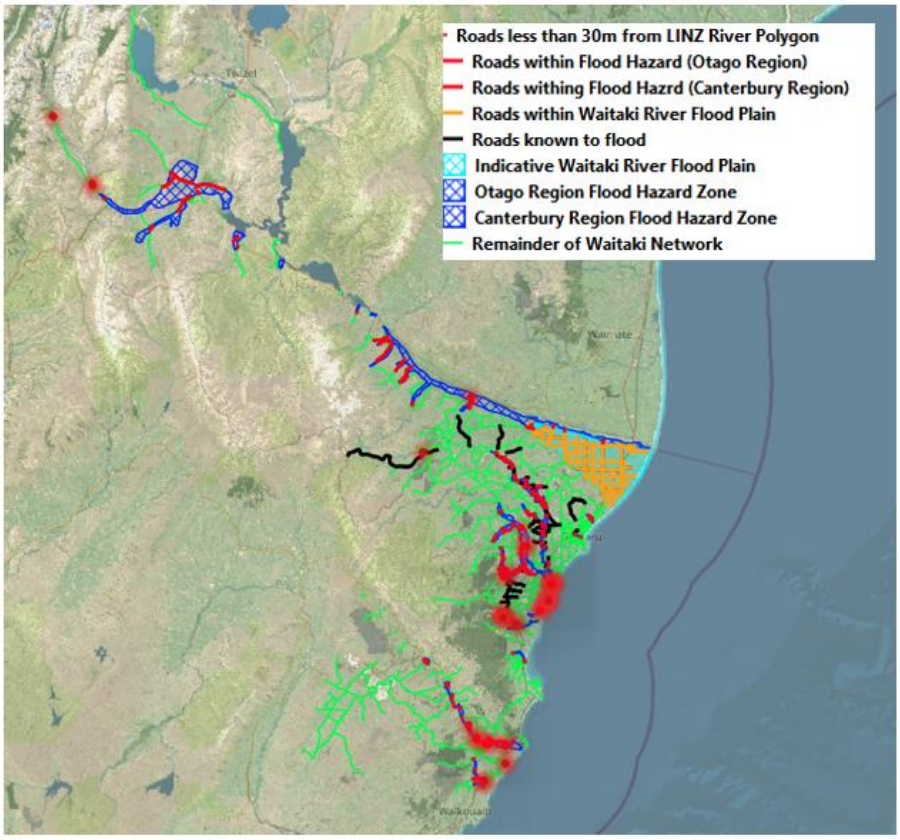


*Figure 62: Roads under threat from flooding (Source: ORC, Environment Canterbury, WDC RAMM Database, WDC known flooding areas *please note this figure is indicative only)*

5.6.3 Consequence of not investing

Consequences of not investing to meet our investment objectives are detailed in Table 25.

Table 25: Consequences of not investing in Resilience Responses.

Consequence	Description	0-3 Years	3-10 years	10+ years
Isolated communities experience reduced accessibility to essential services	The wellbeing and connectivity Waitaki communities are at stake. Not investing will have a significant impact on community connectivity and overall welfare.	Limited access impact	Reduced connectivity and access	Reduced connectivity and access
Rising instances of network disruptions due to storms events resulting in escalated repair expenses	An inadequate road network that lacks resilience to intensifying rainfall poses potential risks to road users, exposes the infrastructure to preventable damage, and diminishes service levels during storm events.	Increases in emergency works costs	Increases in emergency works costs	Increases in emergency works costs
Impact on strategic issues	The potential decline of our rural network and key urban roads poses a significant risk to the region's economic growth and productivity. These roadways are highly			

Consequence	Description	0-3 Years	3-10 years	10+ years
	crucial to both regional and local strategies such as "The Best Place to Be" and "Prosperous District". Without resilience, it becomes unlikely for landowners to invest in additional development and diversification of land, thereby reducing the region's economic potential.	Static Productivity/Land Development	Limited Change	Decreased Productivity/Land Development

5.6.4 Benefit of Investing

We want to include the following Investment Objectives (Table 26) that we will achieve. We acknowledge the content in Table 26 was included earlier in Table 28. However it has been included here again with only the investment objectives relevant to Resilience.

Table 26: Benefit of Investing in Resilience

Investment Objective	Benefits of Investing	Performance Measures
Enhance resilience in the face of climate change impacts	**Benefit 4.1: Reduced impact on system vulnerabilities and redundancies** Reducing the risk of communities not being able to access social and economic opportunities due to unexpected outages.	• BF 4.1.1: Availability of a viable alternative to high-risk and high-impact route • BF 4.1.2: Level of service and risk • (Benchmarking through ONF Unplanned Road Closures Transport Outcome)

5.6.5 Strategic Response

To make the right investment decisions to improve the resilience of our key routes on our network, our strategic response to this problem is shown below in Table 27. We acknowledge the content in Table 27 was included earlier in Table 11. However it has been included here again with only the Strategic Responses relevant to Resilience.

Table 27: Resilience Strategic Responses

Problem Statement	Strategic Responses: Stabilise key routes	Priority
 A degrading & inadequate transport network is not fit for current and emerging requirements, leading to	• **PROGRAMME ADJUSTMENT: STABILISE KEY ROUTES.** Invest to improve resilience of critical assets. Proactive drainage maintenance & renewals; Retaining wall condition assessments & renewals in vulnerable areas; Bridge strengthening; Riverbank stabilisation on key routes; Coastal erosion protection.	H
	• **PROGRAMME ADJUSTMENT: IMPROVE UNSEALED ROADS.** Invest to improve resilience of unsealed roads. Increased remetalling and strengthening; Performance grading.	M

Problem Statement	Strategic Responses: Stabilise key routes	Priority
reduced confidence to respond to events and community needs.	• **POLICY APPROACH**: Embed proactive management practices by initiating periodic condition rating of culverts and Inspections of active hazard sites (coastal erosion, slips, vulnerable flooding areas). Review of resilience hazards (pre-planning) & early warning criteria as result of changing climate to align inspection and maintenance programmes.	H
	• **RISK ADJUSTMENT**: Further develop an incident and emergency preparedness & response plan & incorporate within contracts.	L

5.7 Benefits of investing

5.7.1 Measuring the benefit of investing

Key performance measures help WDC to measure investment performance. The table below identifies the investment benefits and performance measures using Waka Kotahi's Investment Benefits Framework.

Table 28: Investment Benefits and Performance Measures

Problem Statement	Our Investment Objectives	Strategic Response	Benefits of Investing	Performance Measures
 Historical planning, lack of flexibility, & misaligned LoS has reduced opportunities for access across the network & increased emissions	 Support the growth of the region in a sustainable manner while ensuring we include all members of the community	 **Improve condition of our roads** • Implement ONF and embed dLoS and prioritisation framework within the road maintenance operations. • Improve the condition of our roads targeting higher ONF category routes. • Integrated network planning is necessary to respond to growth in Waitaki and changing economic base.  **Promote multi-modal transport for sustainable growth.** • Improve the condition of our footpaths. • Direct savings from streetlight LED conversion to support additional investment in transport planning & urban mobility. • Consider how WDC can support EV use. • Pursue the commencement of public transport option in Waitaki (such as Myway my Metro). • Continue to collaborate with hauliers to use suitable roads & routes to confine investment need. Working with relocating traffic generators to optimise use of existing network. Linking Roading Strategy with District Plan review and consenting processes.	**Benefit 3.2: Reduced impact of air emissions on health.** Land transport air emissions that impact on human health	• BF 3.2.2: Ambient air quality – PM10
			Benefit 8.1: Reduced impact on greenhouse gas emissions. Land transport air emissions that impact the environment.	• BF 8.1.1: CO2 emissions • BF 8.1.2 Mode shift from single occupancy private vehicle
			Benefit 10.1: Improved user experience of the transport system. How all people experience the transport system, including people with disabilities, school children, and the elderly, and how different modes are experienced.	• BF 10.1.5, 10.1.4 Network Condition • (Benchmarking through ONF Peak Roughness Transport Outcome) • (Benchmarking through ONF Smooth Travel Exposure Transport Outcome) DIA PM4: Network condition - footpaths
			Benefit 5.2: Improved network productivity and utilisation. Network productivity and utilisation is about efficient use of	• BF 5.2.1: Spatial coverage - freight

Problem Statement	Our Investment Objectives	Strategic Response	Benefits of Investing	Performance Measures
		• Enhance Customer Service Focus. Improving customer outcomes is not simply an end-result from executing the roading programme.	the land transport network. Optimising our part of the broader economic/social system to allow broader benefits to be gained.	
 Deficient transport systems & user behaviors results in reduced resilience, poor health, harm, serious injury, and deaths.	 A transport network that supports safer travel.	 **Network safety planning & targeted improvements** • Implement the response strategy in the current WDC Road Safety Action Plan. Prioritise infrastructure investment on Urban Connectors and Activity Streets; Specifically, intersection standards, shoulder maintenance/widening, guardrail, signage (route strategies to support isolated improvements), & road marking frequency. • Absorb some good network condition on rural pavements and bridges by reducing renewal expenditure in these areas to offset increase in network safety and access improvements made to higher ONF category roads. • Increase of Safety Auditing on Connector Roads, and Activity Streets. Ensure that roads are in contest both in day and night conditions. Ensure all works are conducted considering ONF category prioritisation. • Review speed with respect to the Setting of Speed Limit Rule 2022 and ONF. Integration of the Speed Management Plans into the network.	**Benefit 1.1: Reduced social cost of deaths and serious injuries.** The impact of reducing the number of DSIs on all land transport modes and their social costs.	• BF 1.1.1: Collective Risk (Benchmarking through ONF Personal/Collective Risk Outcome) • BF 1.1.2: Crashes by severity • BF 1.1.3: Deaths and serious injuries (Benchmarking through ONF Transport Outcome) • BF1.1.4: Personal risk (Benchmarking through ONF Personal/Collective Risk Outcome)

Problem Statement	Our Investment Objectives	Strategic Response	Benefits of Investing	Performance Measures
 A degrading & inadequate transport network is not fit for current and emerging requirements, leading to reduced confidence to respond to events and community needs.	 Enhance resilience in the face of climate change impacts	**Stabilise key routes.** • Invest to improve resilience of critical assets. Proactive drainage maintenance & renewals; Retaining wall condition assessments & renewals in vulnerable areas; Bridge strengthening; Riverbank stabilisation on key routes; Coastal erosion protection. • Embed proactive management practices by initiating periodic condition rating of culverts and Inspections of active hazard sites (coastal erosion, slips, vulnerable flooding areas). Review of resilience hazards (pre-planning) & early warning criteria as result of changing climate to align inspection and maintenance programmes. • Further develop an incident and emergency preparedness & response plan & incorporate within contracts. Invest to improve resilience of unsealed roads. Increased metalling and strengthening renewals as well as performance grading.	**Benefit 4.1: Reduced impact on system vulnerabilities and redundancies.** Reducing the risk of communities not being able to access social and economic opportunities due to unexpected outages.	• BF 4.1.1: Availability of a viable alternative to high-risk and high-impact route • BF 4.1.2: Level of service and risk • (Benchmarking through ONF Unplanned Road Closures Transport Outcome)

5.8 Strategic Assessment Conclusion

In conclusion, this section marks the culmination of the strategic assessment, and the earlier sections outline the three problem statements and their corresponding strategic responses.

The following summarises the main point/findings from the strategic case. This is further expanded upon in subsequent sections of the TAMP.

Table 29: Summary of Strategic Case


The strategic response to address this problem involves embedding the ONF and prioritisation strategy in road maintenance operations. The renewal of key routes/intersections will enhance access and safety, aligning with growth strategies and promoting sustainable multi-modal transport. This approach safeguards the community's well-being while reducing air emissions and greenhouse gases. Efficient resource allocation, supported by ONF benchmarks, will ensure optimum network condition and improved user experiences.

WDC recognises the urgency of tackling road safety challenges to protect lives and enhance collective safety. Implementation of the Road to Zero program, intersection treatments, LCLR, and targeted seal widening contribute to reducing crashes and fatalities. By focusing on driver behaviour, intersection improvements, and speed management, WDC aims to achieve safer roadways and to bring down the rates of serious crashes.

The impacts of climate change require WDC to protect its infrastructure against extreme weather events. The strategic response includes proactive drainage maintenance, retaining wall assessments, and bridge strengthening. WDC plans to stabilise key routes to prevent isolated communities from facing reduced accessibility during events. This resilience-centric approach mitigates the risks of storm damage, enabling continued access to essential services and safeguarding economic growth.

As the Strategic Assessment concludes, it is important to emphasise that this section serves as a transition point towards the next phase—the Programme Business Case. The Strategic Reponses have laid the groundwork for further analysis, planning, and implementation. The TAMP will now proceed with the Programme Business Case, building upon the strategies outlined here to delve into the specific projects, budgets, timelines, and resource allocations required to address the identified challenges.

By recognising the importance of sustainable growth, road safety, and resilience, we are taking strides towards a transportation system that fosters inclusivity, protects lives, and ensures a robust network for the present and future. The Programme Business Case develops these strategic responses into actionable plans that will shape the future of our transportation infrastructure.

6 Programme Business Case Introduction

This part of the TAMP outlines the proposed investment for the 2024-2034 period, providing a clear connection between the investment and desired service outcomes. It builds upon the strategic responses identified in the Strategic Assessment, addressing key challenges and experienced Levels of Service. The Programme Business Case presents a comprehensive plan that details what will be done and how it will be accomplished.

By analysing evidence and considering the experienced Levels of Service, the Programme Business Case identifies specific projects to improve road conditions, promote sustainable multi-modal transport, enhance network safety, and stabilise key routes. This document serves as a strategic framework, outlining timelines, resource allocations, and budgets required for successful project execution. It provides a robust justification for investments aligned with our goals of sustainable inclusive growth, road safety, and resilience.

7 Current State

Supporting evidence for the programme business case is contained in the separate document titled "Part B: Detailed Business Case/Asset Management Plan". The Part B document contains important information supporting the Programme Business Case commentary on the Levels of Service (Section 8), Options Analysis (Section 0), and the Preferred Programme (Section 11).

Part B: Detailed Business Case/Asset Management Plan contains but is not limited items such as:

- Life Cycle Management Plans containing
  - Asset Descriptions
  - AM Processes and Practices
  - Data Quality
  - Maintenance/Renewal Strategies/Programmes
  - Development Plans
  - Alternative Options
  - Consequences of Reduced Investment
  - Procurement and Delivery detail
  - Risks, Issues and Opportunities
- Capital Improvement Programme detail
- Valuation Summary
- Asset Management Policy, System, and Tools
- Risk Management
- Monitoring, Review, Continual Improvement & Innovation

8 Levels of Service

8.1 LoS Overview

Levels of Service (LoS) are an explicit expression of the internal, external and customer requirements for the service being provided. LoS is simply a measure of the quality or service our community can expect around the provision of an element of infrastructure, for example, the quality of an unsealed road or the frequency of flooding. Defining levels of service and understanding the assets, activities and costs required to deliver them are fundamental to delivering good asset management practice.

Our LoS statements in this section describe how Council intends to deliver the Transportation activity to the customer. Each LoS statement is linked to specific performance measures with targets that we report on annually to demonstrate achievement or otherwise.

A key objective of AM planning is to set service levels that meet the needs, expectations and priorities of customers, as well as the organisation's strategic objectives and statutory requirements. This requires a clear understanding of customers' needs and preferences balanced against the Council's ability to fund those needs. Performance indicators and measures have also been developed by government and industry best practice to assess performance against service levels and standards.

WDC has adopted the Te Ringa Maimoa LoS performance framework shown in Figure 63 and Figure 64. It is expanded upon further in subsequent sections.

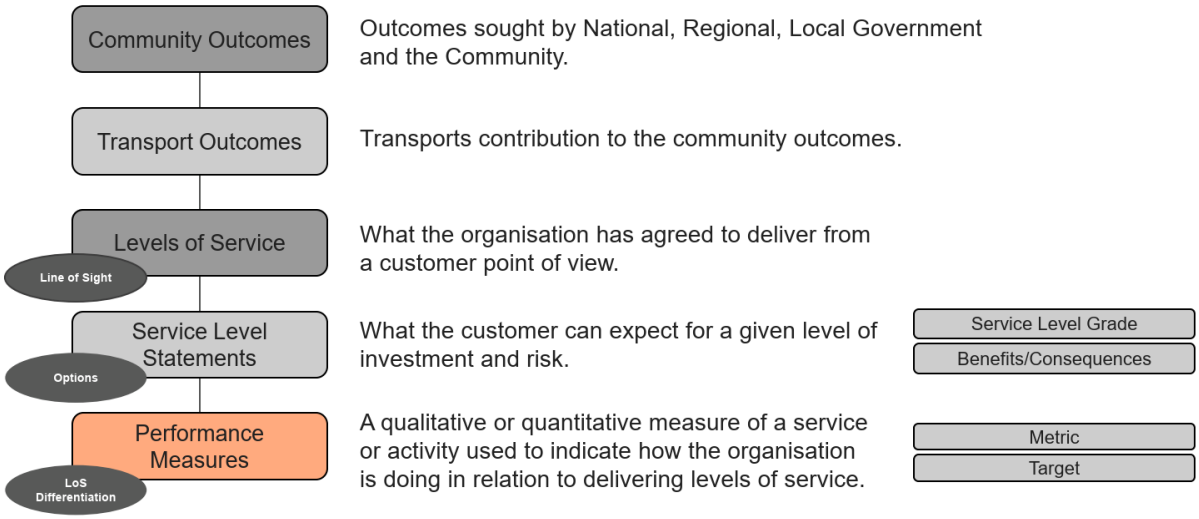


Figure 63: Te Ringa Maimoa Level of Service Framework

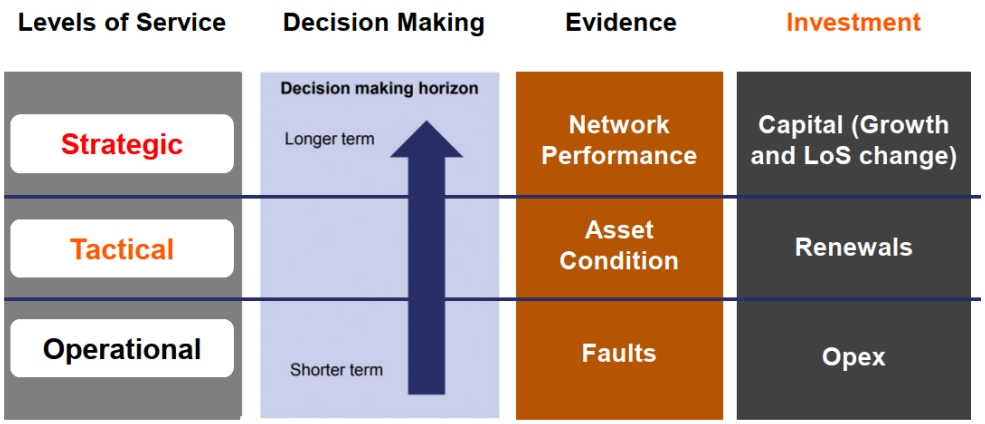


Figure 64: Te Ringa Maimoa Levels of Service Matrix

8.2 Legislative Requirements

Under the Local Government Act 2002 (LGA), WDC is obligated to engage with the community and stakeholders to determine the desired outcomes for the district's economic, social, cultural, and environmental well-being, both presently and in the future. This process aligns with WDC's Significance and Engagement Policy (2023).

The main legislation Council operates under in relation to land transport is:

- LGA 2002 and 2014 amendment
- Transit New Zealand Act 1989
- Resource Management Act 1991 (RMA)
- Climate Change Response Act
- Building Act 1991
- Land Transport Management Act 2003
- Land Transport (Road Safety and Other Matters) Amendment Act 2011
- Health and Safety at Work Act 2015
- Civil Defence Emergency Management Act 2002
- Traffic Regulations Act 1976
- Public Works Act 1981
- Utilities Access Act 2010

The TAMP recognizes that the Council has a duty to adhere to legal obligations that influence the goals and objectives related to the upkeep and expansion of WDC's transportation assets. Complying with statutory requirements is essential for maintaining the Council's integrity and ensuring continued access to government funding. Therefore, having a thorough understanding and implementation of legislative requirements is fundamental to the Council's operations.

Various legislation requires the Council to engage in consultations with Tangata Whenua and consider the principles of the Treaty of Waitangi when managing transportation assets.

8.3 Understanding our Customers

8.3.1 Customer Expectations

Expectations in the community are very important in determining future LoS and in assessing how well Council is performing with respect to current LoS.

The Council’s knowledge of customer expectations and preferences is based on:

- Public meetings
- Feedback from elected members, advisory groups and working parties
- Analysis of customer service requests and complaints
- Annual community surveys
- Consultation via the 10-year LTP and each year through the Annual Plan process

WDC maintains a Customer Request Management System (CRM) database of customer comments and requests. The CRM system and district surveys provide useful information on customer satisfaction, expectations, and preferences relating to land transport services.

The most focused consultation is when Council discusses a proposal to provide new projects such as seal extension, major safety, urban reconstruction or roading policies. The community involved is consulted prior to adoption of Policies and Strategies by Council. In the case of construction, Council consults directly with affected parties and pro-actively ensures the public are informed through media releases. This consultation includes those landowners directly affected by fence or access relocations.

8.3.2 Customer Consultation

Key ongoing communication and consultation tasks that contribute to this TAMP include:

- Investigating and resolving public enquiries related to activity planning, investigation, design and delivery.
- Promotion and information activities which influence transport choices that contribute to the effectiveness and efficiency of the network.
- Servicing democracy, including providing customer/ratepayer interface.
- Consulting with affected parties.

Council has consulted with the community about a range of specific roading issues. This provided a focussed opportunity for the community to discuss its priorities for the land transport activity. Recent significant consultation for the roading activity includes:

- The network hierarchy change to ONF
- Review of Roading Policies in 2020/21
- Development contributions updated for the 2021/31 LTP
- Interim Speed Management Plans
- Consultation of Roading Improvements in 2017 for inclusion in the 2018-21 RLTP
- Seal widths and seal extensions policy revised and adopted by WDC in 2008 and reaffirmed in 2018
- The extent of the network policy; revised and adopted by WDC in 2012

In the coming period WDC will consult on the following;

- Land Transportation Strategy
- Coastal Roads Strategy
- Full Speed Management Plan

The legal requirements for consultation and a list of stakeholders are detailed in the LGA.

8.3.3 Customer Satisfaction Surveys

Each year WDC surveys residents through its customer satisfaction survey. These surveys provide insight into the current customer expectations regarding the delivery of the land transport activity. As shown in Figure 65, the level of dissatisfaction for sealed and unsealed roading networks in increasing.

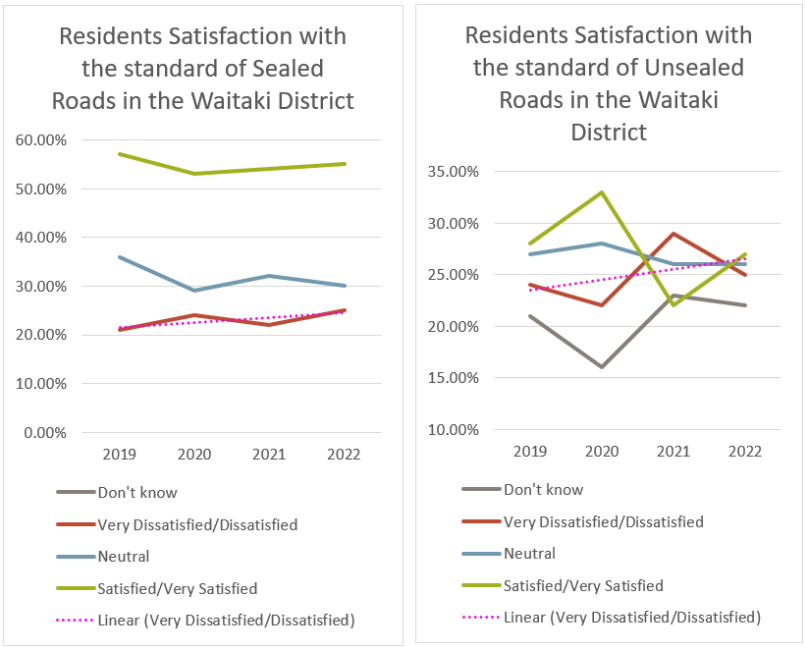


Figure 65: WDC Customer Satisfaction Survey Results

As well as an increasing trend in dissatisfaction, there is also increasing satisfaction. This indicates a polarisation within the community on how the roading network is performing. This is likely due to the impact of implementing the ONF framework for prioritising works. Higher categories are likely to draw satisfaction while lower categories are not as likely to receive treatment potentially drawing dissatisfaction from residents. More investigation in this logic is required. Some of the main issues highlighted for land transport in the latest 2022 Customer Satisfaction Survey are shown in Figure 66 below.

Figure 66: Main Roading Issues from Customer Feedback

This consultation provides good insight into the priorities of the community which need to be considered when implementing appropriate LoS. However, as WDC is faced with funding constraints, it must balance the needs of the community with its ability to pay for those needs. The focus must be on maximising Value For Money whilst ensuring that the adopted LoS are appropriate and achievable given the reduced funding environment.

8.4 Current Levels of Service

8.4.1 Local Government Mandatory Performance Measures

In 2010, the Local Government Act 2002 was amended to require the Secretary for Local Government to make rules specifying non-financial performance measures for local authorities to use when reporting to their communities. The objective was to facilitate public involvement in discussions regarding future service levels and enhance participation in decision-making processes at the local authority level. Local authorities were obligated to incorporate these performance measures into the formulation of their long-term plans for the period of 2015-2025.

The performance measures for roads and footpaths mandated by the Department of Internal Affairs (DIA) aim to assess the primary aspects of service performance in these areas and are reported in Council's Annual Report. They encompass the following key aspects of service delivery:

1. How safe are the local roads?
2. What is the overall condition of sealed roads in the local road network?
3. Is the sealed roads network being maintained adequately?
4. Are the footpaths that form part of the local road network being maintained adequately?
5. Does the local authority responsible for the service provide a timely response if there is a problem?

WDC's current performance measures have been aligned with these Department of Internal Affairs (DIA) measures. Table 29 indicates the transport LoS and performance measures included in the LTP with respect to the Department of DIA measures. These performance targets have been set by Council to meaningfully assess the achievement of LoS. There are 2 additional LoS included in the LTP that are not included in Table 29 as they are not related to the DIA measures. The 2 LTP LoS measures that are not included in Table 29 specify a target of 60% customer satisfaction with the condition of sealed roads and 50% satisfaction with the condition of unsealed roads. The sealed road satisfaction target has been met for the last 3 years; however the unsealed road satisfaction target has not been met for the last 3 years.

With respect to Table 29, the highlighted red, purple and green cells indicate where Council has performed worse or better than target. Red = worse, purple = on/close to target, green = better.

Table 30: DIA Performance Measures & Results

Customer Outcomes	Asset	Performance Measure	Target	2019/20	2020/21	2021/22	2022/23	Comments
Safety	Network	***DIA mandatory measure, Road Safety:** 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	Change is less than or equal to 0	+1	-1	-1	-3	
Reliability / Quality	Footpaths	***DIA mandatory measure, Condition of footpaths:** The percentage of footpaths in average condition or better (measured against WDC condition standards)	≥ 96%	Not measured	98%	Not measured	Not measured	Full network survey completed in 2020/21
	Sealed Roads	***DIA mandatory measure, Average quality of ride on a sealed local road network**: measured by smooth travel exposure (average for total sealed roading network)	≥ 90%	Access Roads and Low Volume Roads were <90%. The rest of ONRC Categories were > 90%	Urban Connectors, Activity Streets, Local Streets and Civic Spaces were <90%. The rest of ONF Categories were > 90%	Urban Connectors, Activity Streets, Local Streets and Stopping Places were <90%. The rest of ONF Categories were > 90%	Stopping Places, Rural Connectors and Rural Roads were >90%. The rest of the ONF Categories were <90%	Reported with respect to ONRC in 19/20, and ONF in 20/21, 21/22, 22/23
Financial sustainability	Sealed Roads	***DIA mandatory measure, Condition of sealed road network:** The percentage of the sealed local road network that is resurfaced annually (by area).	As programmed – 5% per year	4.6%	7.7%	3.9%	5.5%	Numbers shown are calendar year rather than financial year.
	Network	***DIA mandatory measure, Response to service requests:** Percentage of customer service requests responded to within 2 days	≥ 90%	88% of 2022	88% of 3122	84% of 2894	86% of 5971	

8.4.2 Waka Kotahi Mandatory Performance Measures

To enable consistent and accurate reporting on activities and programmes within the NLTP, Waka Kotahi have identified strategic measures to be used for the 2024-27 NLTP.

The measures are representative of all five areas of the transport outcomes framework and align to critical areas of investment both in the current and future NLTPs ensuring these measures will be enduring across NLTP periods.

For the 2024-27 NLTP there is one compulsory measure "8.1.3 Vehicle kilometres travelled (light vehicles)". This measure will need to be reported for all activities and programmes in TIO. The measure has been selected as a compulsory measure to ensure we can meet emission reduction plan and future GPS reporting requirements.

In addition, there are industry developed measures in the Te Ringa Maimoa Transport Insights tool. The results are presented in **Error! Reference source n ot found.**and Table 32. In this transition phase between ONRC and ONF, some of the measures are able to be reported with respect to ONF, and some are still reported against with respect to ONRC.

Table 31: Current Te Ringa Maimoa performance measures reported with respect to ONF (green indicates improving trend, red indicates worsening trend)

Transport outcomes framework	Benefit	Measure	Current Performance with respect to ONF (21/22)									Comments
			Urban					Rural				
			Urban Connectors	Local Streets	Activity Streets	Main Streets	Civic Spaces	Rural Connectors	Rural Roads	Peri-Urban Roads	Stopping Places	
Healthy and safe people	1.3 Impact on social cost of deaths and serious injuries 1.4 Impact on a safe system	Safe Travel -Collective Risk (crash density)	49	4	89	0	0	13	2	6	0	
		Safe Travel -Personal risk (crash rate)	5	3	19	0	0	9	9	8	0	
		Safe Travel - Deaths and Serious Injuries	0	2 →	1	3	0	2	0	0	0	
		Safe Travel – Crashes at Night	0	1	0	0	0	1	0	0	0	
		Safe Travel - Crashes at Intersections	0	0	1	1	0	0	0	0	0	
		Safe Travel – Vulnerable User Crashes	0	0	0	1	0	0	0	0	0	
Environmental sustainability	8.1 Impact on greenhouse gas emissions	CO2 emissions	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	
		Vehicle kilometres travelled (M VKT)	14.6	16.4	2.6	1	0.1→	29.2	35.9	2.6	0.3	
Inclusive access	10.1 Impact on user experience of the transport system	Smooth Travel Exposure (%)	84	69	66	98	92	97	94	91	85	
		Peak Roughness (75th %ile)	117	156	163	64	153	85	104	118	90	

Transport outcomes framework	Benefit	Measure	Current Performance with respect to ONF (21/22)									Comments
			Urban					Rural				
			Urban Connectors	Local Streets	Activity Streets	Main Streets	Civic Spaces	Rural Connectors	Rural Roads	Peri-Urban Roads	Stopping Places	
		Peak Roughness (85th %ile)	134	174	174	65	159	96	118	130	106	
		Peak Roughness (95th %ile)	161	207	217	77	166	120	146	153	134	
Economic prosperity	5.2 Impact on network productivity and utilisation	Chipseal resurfacing cost ($)	-	587,634	-	-	-	244,980	840,696	153,578	-	

Table 32: Current Te Ringa Maimoa performance measures reported with respect to ONRC (green indicates improving trend, red indicates worsening trend)

Transport outcomes framework	Benefit	Measure	Current Performance with respect to ONRC (21/22)												Comments
			Urban				Rural				Total				
			PC	SC	Ac	LV	PC	SC	Ac	LV	PC	SC	Ac	LV	
Resilience and security	4.1 Impact on system vulnerabilities and redundancies	4.1.1 Availability of a viable alternative to high-risk and high impact route	Need to develop	Need to develop	Need to develop	Need to develop	Need to develop	Need to develop	Need to develop	Need to develop	Need to develop	Need to develop	Need to develop	Need to develop	
Economic prosperity	5.1 Impact on system reliability	Unplanned Road Closures	No U/R split	No U/R split	No U/R split	No U/R split	No U/R split	No U/R split	No U/R split	No U/R split	0	3	5	5	
	5.2 Impact on network productivity and utilisation	Chipseal Average Life Achieved	31.3	14.9	15.2	17	18.2	12.7	16.2	13.9	19.8	13.2	15.8	15.9	Green = lives increasing in trend Red – lives decreasing in trend

8.4.3 Current Performance Measures

In addition to the mandatory measures, our current Levels of Service have been developed to align with our Community Outcomes and are consistent with the WDC Long Term Plan (LTP) and the ONF. Alignment between our LoS and National, Regional and Local Objectives is shown in Table 26.

The measures by which we assess performance against these Levels of Service are based on:

- Legislative requirements
- DIA/WK mandatory performance measures
- ONF/ONRC Customer Levels of Service and associated performance measures
- Other performance measures to show how our transport service contributes to community outcomes

Performance measures are monitored and reported on annually. Those measures reported on through the Long Term and Annual Planning process are marked with an (*).

Where possible target levels are set for each performance measure. This is often a comparative analysis against a Peer Group of similar local authorities available via Te Ringa Maimoa's Transport Insights service. Any non-achievement of these targets, while not favourable, gives Council the ability to focus on specific issues for resourcing improvements where necessary.

Note that Urban Connectors, Rural Connectors and Local Streets make up only 19% of the network by length but carry 58% of the vehicle journeys in the district. Rural roads on the other hand make up 79% of the network but only carries 35% of the vehicle journeys carried.

Table 33: Strategic Alignment of LoS

National Transport Outcome	Waitaki Community Outcome	Customer Outcome	Benefit	Level of Service Statement	Asset	Source Ref	Performance Measure	Target
Healthy & Safe People Protecting people from transport related injuries and harmful pollution, and making active travel and attractive option	**Strong Communities** Enabling safe, healthy communities	Safe Travel	1.3 Impact on social cost of deaths and serious injuries 1.4 Impact on a safe system	The land transport network is designed and maintained to be safe and we will actively work towards achieving a system where no-one is killed or seriously injured	Network	ONF	*Number of Deaths & Serious Injuries (DSI's) on the network	Less than or equal to WDC peer group average
					Network	DIA Mandatory Measure	*The change from the previous financial year in the number of fatalities and serious injury crashes on the local road network	Reducing 5-year trend
					Network	ONF	DSI Crashes at Night	Reducing 5-year trend
					Network	ONF	DSI Crashes at intersections	Reducing 5-year trend
					Network	ONF	Vulnerable user DSI crashes	Reducing 5-year trend
					Network	ONF	Collective Risk (DSI rate per kilometre)	Less than or equal to WDC peer group average
					Network	ONF	Personal risk (DSI rate per kilometre)	Less than or equal to WDC peer group average
					Signs	AMP	Percentage of signs condition rated Poor or worse	Less than 10%
Inclusive Access Enabling all people to participate in society through access to social and economic opportunities	**Strong Communities** Connected, inclusive communities **Prosperous district** Fostering a diverse & resilient economy	Connected & accessible network	10.1 Impact on user experience of the transport system	Road users will experience a fair ride quality on a well-maintained and managed road network that provides better choices for people across the district to access social and economic opportunities	Sealed Roads	DIA Mandatory Measure	*Condition of sealed road network: The average quality of ride on a sealed local road network, measured by % of travel on roads smoother than the threshold	≥ 90% of travel on sealed network smoother than specified threshold
					Sealed Roads	ONF	Peak Roughness (75th & 95th %ile)	Less than or equal to WDC peer group average
					Footpaths	DIA Mandatory Measure	*Condition of footpaths: The percentage of footpaths in average condition or better (measured against WDC condition standards)	≥ 95%
					Network	DIA Mandatory Measure	*Response to service requests: Percentage of	≥ 90%

National Transport Outcome	Waitaki Community Outcome	Customer Outcome	Benefit	Level of Service Statement	Asset	Source Ref	Performance Measure	Target
							customer service requests responded to within 5 days	
					Network	DIA Mandatory Measure	*Road users (% survey respondents) that are “neutral”, “satisfied”, or “very satisfied” with the condition of sealed and unsealed roads	≥ 75%
Economic Prosperity Supporting economic activity via local, regional & international connections, with efficient movement of people and products	**Prosperous district** Fostering a diverse & resilient economy **Quality Services** Robust core infrastructure and services	Financial Sustainability	Cost Efficiency	Road assets are managed prudently to ensure long-term financial sustainability for current and future generations	Sealed Roads	ONF	Renewal (RHAB, chipseal & asphalt resurfacing) resurfacing cost ($) / L.km	Less than or equal to WDC peer group average
					Unsealed Roads	ONF	Unsealed road metalling and RHAB cost ($) / L.km	Less than or equal to WDC peer group average
					Network	ONF	Sealed and unsealed Road maintenance costs ($) / L.km	Less than or equal to WDC peer group average
		Rural Productivity	5.2 Impact on network productivity & utilisation	The land transport network is managed in a manner that assists the economic development of the district and allows efficient and effective freight connections	Sealed Roads	ONF	Chipseal and asphalt average life achieved	Less than or equal to WDC peer group average
					Sealed Roads	DIA Mandatory Measure	*Condition of sealed road network: % of the sealed local road network that is resurfaced annually (by area).	≥ 6%
					Bridges	ONF	Overall percentage of the network that is available to Class 1, 50MAX and HPMV class of heavy vehicle	≥ 95%
Resilience & Security Minimizing and managing the risks from natural and human made hazards, anticipating, and adapting to emerging threats and recovering from disruptive events	**Quality Services** Robust core infrastructure and services **Valued Environment** Meeting environmental and climate change challenges	Reliable journey times	5.1 Impact on system reliability	Council quickly restores access on key routes after natural event	Network	ONF	Unplanned Road Closures: estimated % of journeys affected by unplanned road closures annually	Decreasing 5-year trend
		Resilient and available Network		The land transport network is managed in a manner that makes it more resilient to hazards and minimizes the risk of sudden failure	Culverts & Lined Channels	AMP	Condition of Drainage Systems: The percentage of drainage assets in average condition or better (measured against WDC condition standards)	≥ 95%

National Transport Outcome	Waitaki Community Outcome	Customer Outcome	Benefit	Level of Service Statement	Asset	Source Ref	Performance Measure	Target
					Sealed Roads	AMP	Condition of drainage systems: % of unlined roadside drainage that is reformed annually (by length).	≥ 5%
					Bridges	AMP	Condition of Bridges: value of “Medium”, “High” and “Very High” priority items on the annual routine & structural maintenance schedules.	Less than 150% of the annual bridge maintenance expenditure
Environmental Sustainability Transitioning to net zero carbon emissions and maintaining or improving biodiversity, water quality and air quality	**Valued Environment** Meeting environmental and climate change challenges	Mode shift & Active Travel	8.1 Impact on greenhouse gas emissions	We will actively respond to climate change by reducing emissions	Network	WK Mandatory Measure	*Annual (light) vehicle kilometers travelled	Decreasing trend on previous year
					Network	AMP	Measure and reduce construction (embodied) and operational emissions in network management activities & infrastructure projects	Decreasing trend on previous year
	Valued Environment Protecting our diverse landscape and water bodies	Rural productivity	7.1 Impact on water	Effects on the natural environment are minimised	Network	AMP	Environmental responsibility: Number of consent condition non-conformances	Decreasing trend on previous year

8.5 Managing LoS within a Constrained Budget

LoS is the mechanism we use to relate organisation objectives to technical and financial decisions and plans and thereby balance the Service, Cost and Risk relationships - high LoS usually improves customer experience and reduces risk but costs more. Understanding that there are options and choices that can be made in relation to service, cost and risk is a critical aspect of delivering a service within a constrained budget.

Local road funding has a co-investment approach with two approval processes to go through - Local Council and Waka Kotahi NZ Transport Agency. These funding conversations happen concurrently and can mean that changes need to be made multiple times to reach the final agreed programme of work and funding allocations.

Having LoS options developed ahead of these conversations means the consequences of these funding decisions can be communicated, rather than having to be recalculated as changes are made to funding levels.

Investment options considered in this business case are presented in the format indicated in the table below considering outcomes across the four parameters of Cost, Service, Risk and Emissions.

Option	Cost	Service Grade	Risk	Emissions
A				
B				
Etc.				

Figure: Te Ringa Maimoa Options Framework

8.5.1 Differential Levels of Service

The Differential Levels of Service (DLoS) project is a Te Ringa Maimoa foundation initiative that responds to one of the original Road Maintenance Task Force recommendations to develop a risk-based approach to managing assets within constrained budgets and aims to provide:

- better evidence for transport investment decision makers
- streamlined optioneering and consistent differentiation using ONF
- a robust connection between service, cost and risk

Waitaki District Council are committed to adopting the DLos principles and are actively working with Te Ringa Maimoa to do this.

8.5.1.1 Differentiation of Service Levels

Service levels are differentiated by:

- Service Grade: a grading from A+ (excellent) to E (very poor) that allows the LoS outcome to be rated on a score card.
- The One Network Framework (ONF): the road network hierarchy that determines a road's category by considering both movement of multiple modes of traffic, and the place function of the road space.

Decision makers can use a combination of the above target different LoS grades across different aspects of performance and parts of the transport network in terms of movement, place and time (e.g. urban vs rural and combinations of movement and place input factors).

8.5.2 Levels of Service Grades

Differential levels of service are defined across 3-tiers of performance measure:

- **Strategic**: Strategic service levels are closely tied to the amount or capacity of infrastructure needed to achieve strategic goals for the community. Addressing these challenges through strategic levels of service often necessitates substantial capital investment.
- **Tactical**: Tactical LoS to prioritise the maintenance and enhancement of our current transportation infrastructure, specifically focusing on renewal programs. These tactical initiatives are directly associated with our investment in asset renewal.
- **Operational**: Operational LoS primarily focus on managing and maintaining transportation operations. This includes promptly addressing customer requests and resolving faults. Operational LoS is directly associated with our operational expenditure.

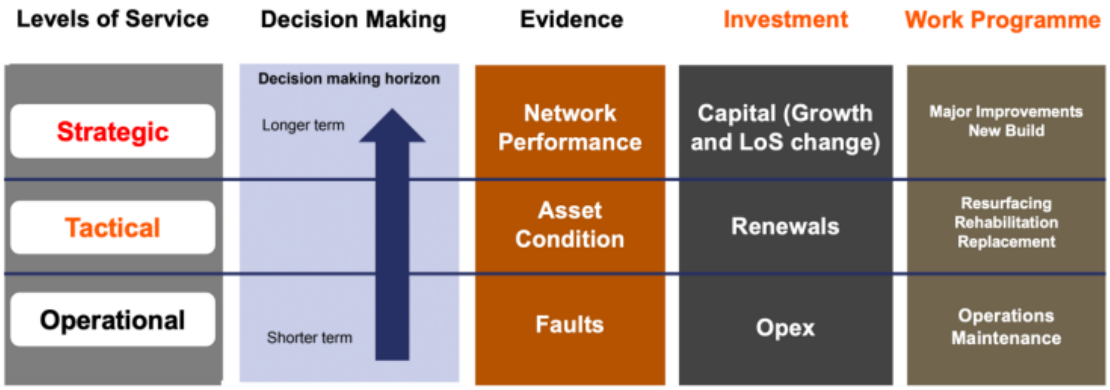


Figure 67: Te Ringa Maimoa DLoS Framework

	LoS ref	Customer Outcome	Level of Service	Performance Metric	LoS Outcome Description					
					Grade E	Grade D	Grade C	Grade B	Grade A	Grade A+
STRATEGIC LoS	S01	Safe Travel	Safe Travel	No of DSI reductions	Rapidly deteriorating assets and few safety improvements implemented. Will not meet the DIA Mandatory target of 1 DSI saved per year	Deteriorating assets and few safety improvements implemented. Unlikely to meet the DIA Mandatory target of 1 DSI saved per year	Slowly deteriorating assets but some safety improvements implemented. May not meet the DIA Mandatory target of 1 DSI saved per year	Asset condition maintained and balanced programme of safety improvements implemented. Should meet the DIA Mandatory target of 1 DSI saved per year	Improving asset condition and enhanced programme of safety improvements implemented. Should exceed the DIA Mandatory target of 1 DSI saved per year	Significant programme of safety improvements implemented. Likely to exceed the DIA Mandatory target of 1 DSI saved per year
	S02	Mode Shift & Active Travel	Mode shift & Active Travel	% of active & PT journeys	Rapidly deteriorating assets and few travel choice improvements implemented. Will not meet RLTP targets.	Deteriorating assets and few travel choice improvements implemented. Unlikely to meet RLTP targets	Slowly deteriorating assets but some travel choice improvements implemented. Minor progress towards meeting RLTP targets	Asset condition maintained and balanced programme of travel choice improvements implemented. Slow progress towards meeting RLPT targets.	Improving asset condition and enhanced programme of travel choice improvements implemented. Meaningful progress towards RLTP targets	High quality facilities and significant programme of travel choice improvements implemented. Likely to deliver RLPT targets.
	S03	Connected & Accessible Network	Connected Network	% network connected	Rapidly deteriorating assets and few improvements implemented. Network likely to become significantly less connected and accessible.	Deteriorating assets and few improvements implemented. Network likely to become less connected and accessible.	Slowly deteriorating assets but some improvements implemented. Network may become slightly less connected and accessible	Asset condition maintained and balanced programme of improvements implemented. Current network connectivity and accessibility maintained.	Improving asset condition and enhanced programme of improvements implemented. Network becomes more connected and accessible.	Significant programme of improvements implemented. Optimal connectivity and accessibility achieved.
	S04	Rural Productivity	Heavy Vehicle Access	% network unsealed	Rapidly deteriorating roads & structures & few improvements implemented. Growing unsealed length & restrictions for HCV access around the network.	Deteriorating roads & structures and few improvements implemented. Growing unsealed length & restrictions for HCV access around the network.	Slowly deteriorating roads & structures but some targeted improvements implemented. No new significant restrictions for HCV access around the network.	Condition of roads & structures maintained, and some improvements implemented. Existing HCV access around the network maintained.	Improving roads & structures and balanced programme of improvements implemented. Reducing restrictions for HCV access around the network.	Significantly improved roads & structures and major improvements implemented. Rapidly reducing restrictions for HCV access around the network.
	S05	Resilient & Available Network	Resilient Network	% network vulnerable to weather events	Rapidly deteriorating assets and few improvements implemented. Network much less resilient and vulnerable to climate change.	Deteriorating assets and few improvements implemented. Network is somewhat less resilient and vulnerable to climate change.	Slowly deteriorating assets but some improvements implemented. Resilience of critical assets maintained but some areas may become more vulnerable.	Asset condition maintained and balanced programme of improvements implemented. Short-term resilience maintained but may not keep up with climate change.	Improving asset condition and enhanced programme of improvements implemented. Current resilience maintained with lower range climate change forecasts.	Significant programme of resilience improvements implemented. Likely to maintain current resilience with mid-range climate change forecasts.
	S06	Reliable Journey Times	Travel Time Reliability	% network with reliable travel times	Rapidly deteriorating assets. Reverse mode shift and asset failures significantly reduce journey time reliability.	Deteriorating assets. Reverse mode shift and asset failures reduce journey time reliability.	Slowly deteriorating assets. Traffic growth and some asset failures slightly reduce journey time reliability.	Urban traffic growth offset by mode shift, and no significant change in disruption means current journey time reliability is maintained.	Improving assets and reduced disruption. Mode shift contributes to reduced urban congestion. Journey time reliability improving slowly.	Optimal maintenance and minimal asset failures. Significant changes to travel patterns. High journey time reliability at all times.

Table 34: Tactical LoS Grades

	LoS ref	Customer Outcome	Level of Service	Performance Metric	LoS Outcome Description					
					Grade E	Grade D	Grade C	Grade B	Grade A	Grade A+
TACTICAL LoS	T01	Reliable Journey Times	Road Surface Condition	% Fair, Good or Very Good	Rapidly deteriorating road surface condition. Escalating maintenance and lifecycle costs. Some speed restrictions and roads reverting to unsealed.	Deteriorating road surface condition. Escalating maintenance and lifecycle costs. Increasing disruption, restrictions and user discomfort.	Slowly deteriorating road surface condition and increase in maintenance costs. Slight deterioration in user experience.	Road Surface condition maintained. Asset consumption & maintenance cost is stabilised. User experience unchanged.	Road Surface condition slowly improving, and maintenance is stable. Near optimal lifecycle costs and user experience improving.	Road Surface condition noticeably improving, and maintenance is reducing. High quality user experience.
	T02	Resilient & Available Network	Pavement Condition	% Fair, Good or Very Good	Rapidly deteriorating pavement condition. Escalating maintenance and lifecycle costs. Some load restrictions and road closures to through traffic.	Deteriorating pavement condition. Short life treatments and escalating lifecycle costs. Increasing disruption and access restrictions for HCVs.	Slowly deteriorating pavement condition and some short life treatments. Slight deterioration in HCV access.	Pavement condition maintained. Mostly long-life treatments. User experience unchanged.	Pavement condition slowly improving and maintenance is stable. Near optimal lifecycle costs and HCV access improving.	Pavement condition noticeably improving and maintenance is reducing. No HCV restrictions.
	T03	Connected & Accessible Network	Footpath Condition	% Fair, Good or Very Good	Rapidly deteriorating footpath condition. Escalating maintenance and lifecycle costs.	Deteriorating footpath condition. Escalating maintenance and lifecycle costs. Increasing disruption, restrictions and user discomfort.	Slowly deteriorating footpath condition and increase in maintenance costs. Slight deterioration in user experience.	Footpath condition maintained. Asset consumption & maintenance cost is stabilised. User experience unchanged.	Footpath condition slowly improving and maintenance is stable. Near optimal lifecycle costs and user experience improving.	Footpath condition noticeably improving and maintenance is reducing. High quality user experience.
	T04	Resilient & Available Network	Drainage Condition	% Fair, Good or Very Good	Drainage condition deteriorating, renewal backlog growing fast, and risk of unexpected failure/culvert collapses.	Drainage condition deteriorating, renewal backlog growing, and network increasingly vulnerable to heavy rain.	Drainage condition deteriorating, renewal backlog growing slowly, and network will become increasingly vulnerable to heavy rain.	Drainage condition is maintained and backlog is stable but existing vulnerabilities to heavy rain remain.	Drainage condition is improved and renewal backlog is reduced. Resilience may keep up with climate change.	Drainage condition is improved and renewal backlog is reduced. Resilience to heavy rain improving.
	T05	Rural Productivity	Structures Condition	% Fair, Good or Very Good	Structures condition deteriorates and backlog increases. Growing number of restrictions for Class I, 50MAX and HPMV access as vulnerable structures not strengthened or replaced.	Structures condition deteriorates and backlog increases. Growing number of restrictions for Class I, 50MAX and HPMV access as vulnerable structures not strengthened or replaced.	Structures condition deteriorates & backlog increasing slowly. May require more restrictions for Class I, 50MAX and HPMV access due to delayed strengthening / replacement.	Structures condition is maintained and existing Class I, 50MAX and HPMV access to the road network maintained.	Structures condition is improved, and some increase in Class I, 50MAX and HPMV access is possible.	Bridge condition noticeably improving and maintenance is reducing. Rapidly reducing Class I, 50MAX and HPMV restrictions.
	T06	Rural Productivity	Unsealed Roads Condition	% Fair, Good or Very Good	Rapidly deteriorating unsealed rd condition. Escalating maintenance and lifecycle costs. Some load restrictions and road closures to through traffic.	Deteriorating unsealed rd condition. Short life treatments and escalating lifecycle costs. Increasing disruption and access restrictions for HCVs.	Slowly deteriorating unsealed rd condition and some short life treatments. Slight deterioration in HCV access.	Unsealed rd condition maintained. Mostly long-life treatments. User experience unchanged.	Unsealed rd condition slowly improving and maintenance is stable. Near optimal lifecycle costs and HCV access improving.	Unsealed rd condition noticeably improving and maintenance is reducing. No HCV restrictions.
	T07	Safe Travel	Traffic Services Condition	% Fair, Good or Very Good	Rapidly deteriorating sign and streetlighting condition. Escalating risk of related crashes and column failures.	Deteriorating sign and streetlighting condition. Escalating risk of related crashes and column failures.	Slowly deteriorating sign and streetlighting condition. Possible risk of related crashes and column failures.	Existing sign and streetlighting condition maintained. No change to risk of related crashes and column failures.	Sign and streetlight condition slowly improving and maintenance is stable. Near optimal lifecycle costs and related crash risk is reducing.	Sign condition noticeably improving and maintenance is reducing. High quality user experience.
	T08	Mode Shift & Active Travel	Cycleway Condition	% Fair, Good or Very Good	Rapidly deteriorating cycle path condition. Escalating lifecycle costs. likely to create reverse mode-shift.	Deteriorating cycle path condition. Escalating lifecycle costs. Increasing disruption, restrictions and user discomfort. May create reverse mode-shift.	Slowly deteriorating cycle path condition. Slight deterioration in user experience. Unlikely to encourage mode shift.	Cycle path condition maintained. Asset consumption stabilised & user experience unchanged. Passively supports mode shift programmes.	Cycle path condition slowly improving. Near optimal lifecycle costs & user experience improving. Strongly supports mode shift programmes.	Cycle path condition noticeably improving and maintenance is reducing. High quality user experience. Strongly supports mode shift programmes.
	T09	Rural Productivity	Environmental Asset Condition	% Fair, Good or Very Good	Environmental assets neglected and deteriorating rapidly. Condition of network amenities strongly discourages tourism growth.	Environmental assets neglected and deteriorating. Condition of network amenities discourages tourism growth.	Environmental assets slowly deteriorating and condition of network amenities does not support tourism growth.	Current condition of environmental assets and network amenities is maintained. No change in user experience.	Environmental Asset condition is improved, and effective asset stewardship is applied. Network amenities support tourism growth.	Environmental Asset condition is improved, and effective asset stewardship is applied. Network amenities strongly support tourism growth.

	LoS ref	Customer Outcome	Level of Service	Performance Metric	Grade E					
					Grade E	Grade D	Grade C	Grade B	Grade A	Grade A+
OPERATIONAL LoS	Op01	Safe Travel	Sealed Pavement Maintenance	% Faults responded to in time	Delayed response to road faults; 80% of maintenance is reactive. Priorities governed by complaints	Delayed response to road faults; 60% of maintenance is reactive. Priorities influenced by complaints	Timely response to road faults; 50% of maintenance is reactive. No preventative maintenance leads to some limitation on HCV access.	Timely response to road faults; 40% of maintenance is reactive. Limited preventative maintenance which may occasionally limit HCV access	Timely response to road faults; 30% of maintenance is reactive. Some preventative maintenance which may infrequently limit HCV access	Timely response to road faults; 20% of maintenance is reactive. High % of preventative maintenance minimises limitations for HCV access
	Op02	Reliable Journey Times	Unsealed Pavement Maintenance	% Faults responded to in time	Grading only completed in response to complaints	Grading in response to complaints only for lower volume roads.	Frequency of grading cycles reduced. Many complaints.	Frequency of grading cycles retained. Some complaints.	Grading frequencies increased. Minimal complaints	Proactive grading. No complaints.
	Op03	Safe Travel	Footpath Maintenance	% Faults responded to in time	Delayed response to FP faults; 80% of maintenance is reactive. Priorities governed by complaints	Delayed response to FP faults; 60% of maintenance is reactive. Safety complaints are common.	Timely response to FP faults; 50% of maintenance is reactive. No preventative maintenance. Some safety complaints.	Timely response to FP faults; 40% of maintenance is reactive. Limited preventative maintenance but few safety faults.	Timely response to FP faults; 30% of maintenance is reactive. Some preventative maintenance and few complaints.	Timely response to FP faults; 20% of maintenance is reactive. High % of preventative maintenance minimises complaints
	Op04	Resilient & Available Network	Routine Drainage Maintenance	% Faults responded to in time	Drainage maintenance reactive only. Frequently unsafe conditions & escalating pavement maintenance.	Drainage faults not responded to in a timely manner, proactive maintenance not done leading to increased pavement maintenance	Drainage faults sometimes responded to in a timely manner, proactive maintenance is partially enabled leading to stable maintenance	Drainage faults mostly responded to in a timely manner, proactive maintenance is partially enabled leading to stable maintenance	Timely response to drainage faults leading to low flooding risk and reduced pavement maintenance expenditure	Preventative drainage maintenance. No flooding of roads except during area flooding.
	Op05	Rural Productivity	Structures Maintenance	% Faults responded to in time	Only critical bridge faults attended to. No proactive maintenance will risk HCV capacity	Delayed response to structures faults. Minimal proactive maintenance may risk HCV capacity	Timely response to most structures faults. Minimal proactive maintenance may risk HCV capacity	Timely response to most structures faults. Increased proactive maintenance reducing risk HCV capacity	Timely response to all structures faults. Programme of proactive maintenance minimises risk to HCV capacity	Timely response to all structures faults. Programme of proactive maintenance minimises risk to HCV capacity
	Op06	Connected & Accessible Network	Emergency Response	% Damage remedied	Emergency events responded to within 48hrs to make safe. Access and LoS may not be fully restored.	Emergency events responded to within 48hrs to make safe. Access and Full LoS restored as resources allow.	Emergency events responded to within 48hrs to restore access. Full LoS restored as resources allow.	Emergency events responded to within 24hrs restore access. Full LoS restored as resources allow.	Emergency events responded to proactively and reinstatement of road network is actioned promptly to restore LOS as quickly as possible	Emergency events responded to proactively and reinstatement of road network is actioned promptly to restore LOS as quickly as possible
	Op07	Safe Travel	Network Services & Operations	% Faults responded to in time	Slow response to road marking & lighting faults could contribute to increased DSI; 80% of maintenance is reactive and priorities driven by incidents.	Delayed response to road marking & lighting faults could contribute to increased DSI; 60% of maintenance is reactive and priorities influenced by incidents.	Delayed response to road marking & lighting faults; 50% of maintenance reactive & unlikely to contribute to reduced DSI. Priorities influenced by incidents.	Timely response to road marking & lighting faults should help maintain stable DSI rate; 40% of maintenance reactive. Priorities led by proactive assessment.	Timely response to road marking & lighting faults; 30% of maintenance is reactive. Proactive maintenance may contribute to reduced DSI.	Rapid response to road marking & lighting faults; 20% of maintenance is reactive. Proactive maintenance may contribute to reduced DSI.
	Op08	Mode Shift & Active Travel	Cycle Path Maintenance	% Faults responded to in time	Delayed response to cycle path faults likely to create reverse mode-shift. Priorities governed by complaints	Delayed response to cycle path faults may create reverse mode-shift. Priorities influenced by complaints	Timely response to cycle path faults; 50% of maintenance is reactive. Unlikely to encourage mode shift.	Timely response to cycle path faults; 40% of maintenance is reactive. Passively supports mode shift programmes.	Timely response to cycle path faults; 40% of maintenance is reactive. Strongly supports mode shift programmes.	Timely response to cyclepath faults; minimal reactive maintenance and supports aggressive mode shift initiatives.
	Op09	Connected & Accessible Network	Environmental Maintenance	% Faults responded to in time	Unsightly network due to build up of graffiti, weeds, vegetation & detritus. Winter ice, falling trees and vegetation blocking sightlines likely to cause crashes.	Unsightly network due to build up of graffiti, weeds, vegetation & detritus. Winter ice, falling trees and vegetation blocking sightlines may cause crashes.	Timely response to vegetation complaints; 50% of maintenance is reactive. Network unsightly at times due to detritus.	Timely response to most Environmental faults. Programme mostly proactive leading to safe and tidy conditions 80% of the time.	Timely response to Environmental faults. Programme mostly proactive leading to safe all-season driving conditions.	Proactive environmental maintenance programmes leading to very few faults. Optimal safety conditions maintained in all seasons.
	Op10	Reliable Journey Times	Network and asset Management	% Faults responded to in time	Activity planning is short sighted and reactive. Slow to respond to complaints. Poor stakeholder relations. Unable to ensure value for money.	Activity planning is medium term and mostly reactive. Slow to respond to complaints. Difficult stakeholder relations.	Activity planning is medium term and mostly proactive. Timely response to complaints. Sound stakeholder relations.	Good quality activity planning delivers value for money. Stable forward work programmes. Timely response to complaints. Sound stakeholder relations.	High quality activity planning with some strategic focus and stable forward work programmes. Timely response to complaints. Good stakeholder relations.	Strategic activity planning. Optimised programmes representing excellent value for money. Trusted relationship with stakeholders.

8.5.3 Programme Linkage to Customer Outcomes

Our dLoS framework uses the following strategy settings to create linkages between cost scenarios and levels of service:

Table 35: Programme Linkage to Customer Outcomes

Activity Class	Work Category		CUSTOMER OUTCOME					
			Safe Travel	Mode Shift & Active Travel	Connected & Accessible Network	Rural Productivity	Resilient & Available Network	Reliable Journey Times
Maintenance	111	Sealed pavement maintenance	Significantly contributes	Does not contribute	Moderately contributes	Significantly contributes	Significantly contributes	Significantly contributes
Maintenance	112	Unsealed pavement maintenance	Moderately contributes	Does not contribute	Moderately contributes	Significantly contributes	Moderately contributes	Significantly contributes
Maintenance	113	Routine drainage maintenance	Slightly contributes	Does not contribute	Slightly contributes	Slightly contributes	Significantly contributes	Significantly contributes
Maintenance	114	Structures (bridge) maintenance	Moderately contributes	Does not contribute	Slightly contributes	Moderately contributes	Moderately contributes	Significantly contributes
Maintenance	121	Environmental maintenance	Moderately contributes	Slightly contributes	Does not contribute	Slightly contributes	Slightly contributes	Significantly contributes
Maintenance	122	Traffic services maintenance	Significantly contributes	Does not contribute	Does not contribute	Does not contribute	Does not contribute	Moderately contributes
Maintenance	123	Network Operations	Slightly contributes	Does not contribute	Does not contribute	Does not contribute	Does not contribute	Significantly contributes
Maintenance	124	Cycle path maintenance	Slightly contributes	Significantly contributes	Moderately contributes	Does not contribute	Does not contribute	Significantly contributes
Maintenance	125	Footpath maintenance	Moderately contributes	Significantly contributes	Moderately contributes	Does not contribute	Does not contribute	Significantly contributes
Maintenance	131	Level crossing warning devices	Moderately contributes	Does not contribute	Does not contribute	Does not contribute	Does not contribute	Moderately contributes
Maintenance	141	Minor Events	Slightly contributes	Does not contribute	Does not contribute	Moderately contributes	Significantly contributes	Significantly contributes
Maintenance	151	Network & asset management	Moderately contributes	Moderately contributes	Moderately contributes	Moderately contributes	Moderately contributes	Moderately contributes
Renewals	225	Footpath Renewals	Slightly contributes	Significantly contributes	Moderately contributes	Does not contribute	Does not contribute	Moderately contributes
Renewals	211	Unsealed road metalling	Slightly contributes	Does not contribute	Significantly contributes	Significantly contributes	Significantly contributes	Moderately contributes
Renewals	212	Sealed road resurfacing	Slightly contributes	Does not contribute	Moderately contributes	Significantly contributes	Significantly contributes	Slightly contributes
Renewals	213	Drainage renewals	Does not contribute	Does not contribute	Slightly contributes	Slightly contributes	Significantly contributes	Slightly contributes
Renewals	214	Pavement rehabilitation	Slightly contributes	Does not contribute	Moderately contributes	Significantly contributes	Significantly contributes	Slightly contributes
Renewals	215	Structures component replacements	Slightly contributes	Does not contribute	Significantly contributes	Significantly contributes	Significantly contributes	Does not contribute
Renewals	216	Bridge renewals	Does not contribute	Does not contribute	Significantly contributes	Significantly contributes	Significantly contributes	Slightly contributes
Renewals	221	Environmental renewals	Does not contribute	Slightly contributes	Slightly contributes	Does not contribute	Moderately contributes	Does not contribute
Renewals	222	Traffic services renewals	Significantly contributes	Does not contribute	Does not contribute	Slightly contributes	Does not contribute	Does not contribute
Renewals	223	Cycle Path renewals	Slightly contributes	Significantly contributes	Moderately contributes	Does not contribute	Does not contribute	Moderately contributes
Improvements	324	Bridge replacements	Does not contribute	Does not contribute	Significantly contributes	Significantly contributes	Significantly contributes	Slightly contributes
Improvements	341s	LCLR_Safety Improvements	Significantly contributes	Significantly contributes	Moderately contributes	Moderately contributes	Does not contribute	Moderately contributes
Improvements	341r	LCLR_Resilience Improvements	Moderately contributes	Does not contribute	Does not contribute	Moderately contributes	Significantly contributes	Moderately contributes
Improvements	341a	LCLR_Associated Improvements	Significantly contributes	Slightly contributes	Slightly contributes	Moderately contributes	Significantly contributes	Does not contribute
Improvements	421	Travel Demand Management	Slightly contributes	Significantly contributes	Does not contribute	Does not contribute	Does not contribute	Moderately contributes
Improvements	432	Promotion, Education & Advertising	Moderately contributes	Significantly contributes	Does not contribute	Does not contribute	Does not contribute	Does not contribute

Activity Class	Work Category		CUSTOMER OUTCOME					
			Safe Travel	Mode Shift & Active Travel	Connected & Accessible Network	Rural Productivity	Resilient & Available Network	Reliable Journey Times
Improvements	451	Walking Facilities	Moderately contributes	Significantly contributes	Moderately contributes	Does not contribute	Does not contribute	Slightly contributes
Improvements	452	Cycling Facilities	Moderately contributes	Significantly contributes	Moderately contributes	Does not contribute	Does not contribute	Slightly contributes
Investment Management	003	Transport planning	Slightly contributes	Moderately contributes	Significantly contributes	Moderately contributes	Moderately contributes	Moderately contributes
Unsubsidised	US111	Sealed pavement maintenance	Significantly contributes	Does not contribute	Moderately contributes	Significantly contributes	Significantly contributes	Significantly contributes
Unsubsidised	US114	Structures (bridge) maintenance	Moderately contributes	Does not contribute	Slightly contributes	Moderately contributes	Moderately contributes	Significantly contributes
Unsubsidised	US121	Environmental maintenance	Moderately contributes	Slightly contributes	Does not contribute	Slightly contributes	Slightly contributes	Significantly contributes
Unsubsidised	US151	Network & asset management	Moderately contributes	Moderately contributes	Moderately contributes	Moderately contributes	Moderately contributes	Moderately contributes
Unsubsidised	US201	Carpark renewals	Does not contribute	Does not contribute	Does not contribute	Does not contribute	Does not contribute	Does not contribute
Unsubsidised	US301	Seal extensions	Slightly contributes	Does not contribute	Does not contribute	Significantly contributes	Moderately contributes	Slightly contributes
Unsubsidised	US302	Area Developments & Upgrades	Does not contribute	Significantly contributes	Significantly contributes	Does not contribute	Does not contribute	Does not contribute
Unsubsidised	US303	Amenity Activities	Does not contribute	Slightly contributes	Slightly contributes	Does not contribute	Does not contribute	Does not contribute
Unsubsidised	US304	Township Improvements	Does not contribute	Moderately contributes	Moderately contributes	Moderately contributes	Does not contribute	Does not contribute

9 Gap Assessment Approach

Issues/Gaps identified in LoS and Performance assessment (Section 3) were evaluated (High; Medium; Low) on the basis of importance and urgency using ONF Transport Outcomes. Each criterion was weighted using a pairwise analysis, and then each issue/gap was scored across each of the performance criteria.

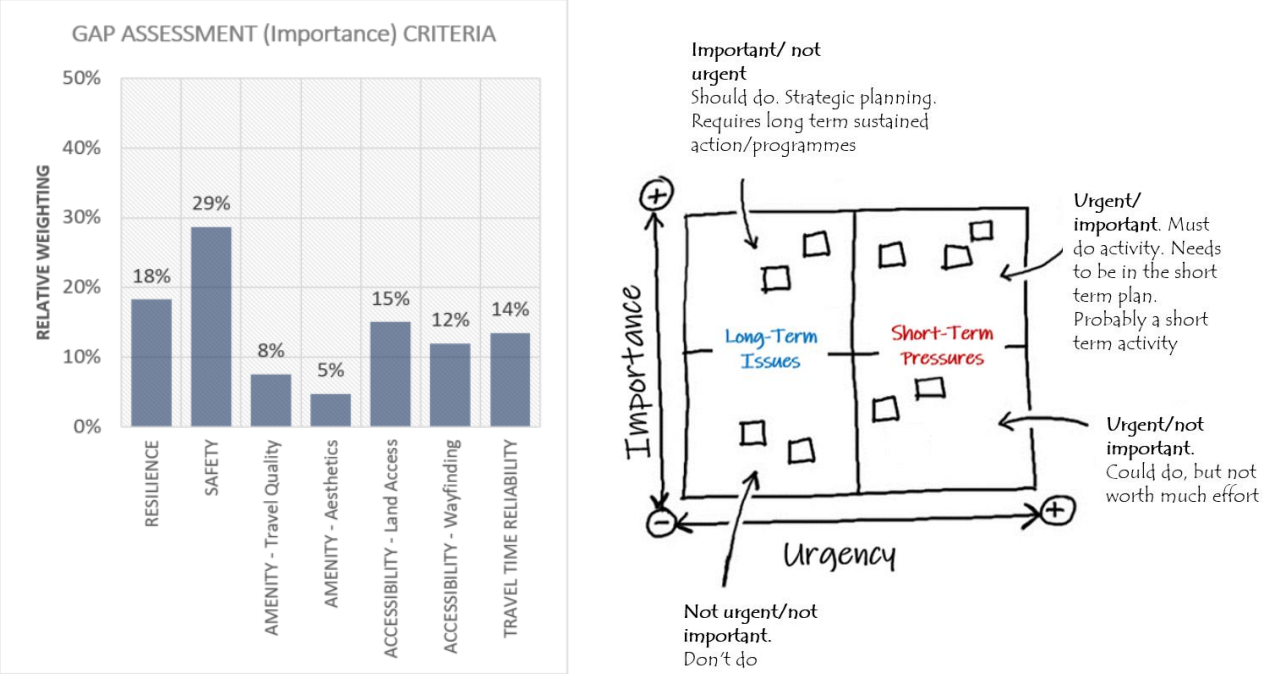


Figure: Transportation Level of Service Gap Assessment Criteria

Gaps assessed as medium or high importance are presented in the following sections. As mentioned in previous sections: at the time of writing this TAMP the 2024 GPS had not been released.

9.1 Gap Appraisal Summary Table

For each of the Gaps we considered the content in the introduction of this section and also used a simplified criteria assessment shown in Table 36. This is applicable to the remaining tables in the Gap Assessment Approach section of this TAMP.

Table 36: Gap Criteria Used

High [H]	Medium [M]	Low [L]
H	M	L
Gap is considered of high importance/urgent to address during the NLTP period (i.e. will address Gaps over the short term).	Gap is considered of high importance/urgent to address during the NLTP period (i.e. will address Gaps over the medium term).	Limited or no improvement expected on these Gaps during the NLTP period.

9.2 Transport Outcomes

Gaps against national transport outcomes are summarised in the following table:

Table 37: Transportation Level of Service Gap Assessment Results

Government Policy Statement	Key Gaps [Importance / Urgency]		Programme Response
Sustainable Urban Development People in urban areas have better choices to access economic and social opportunities.	Approximately 2.8 km's of our footpath around our network is in poor or very poor condition which is not good enough for our ageing population.		Prioritisation of works and further development on district transportation plan /work with developers through engagement and consent conditions to ensure good mode-neutral access & connectivity.
	H	H	
	At present, WDC does not have a public transport system. The potential for a ride share system in Waitaki (such as MyWay by Metro) is currently being considered by ORC.		Proceed with discussions regarding potential public transport system in Oamaru.
	M	M	
Maintaining and Operating the System The existing system is maintained at a level that meets current and future needs.	Roughness of Activity Street, Local Streets, and Civic Spaces is increasing. Several Street categories also show higher peak roughness values than regional/national normal values.		Ensure ONF targeted maintenance and renewals programmes to ensure work is done in the right places at the right time.
	H	H	
	Resident surveys show notable level of dissatisfaction among respondents regarding road maintenance standards, on both sealed and unsealed roads		Stakeholder Engagement: to understand customers' desired LoS and allow for better understanding of cost-of-service vs level of service.
	M	H	

Government Policy Statement	Key Gaps [Importance / Urgency]		Programme Response
Integrated Freight System Efficient and effective freight connections	Key routes related to future expansion of dairy, forestry and irrigation are potentially not open for HPMV access. Limits economic opportunity.		Further Bridge Inspections & Data Collection: implement Bridge Inspection Policy to collect condition data. Further Bridge strengthening based on capacity assessment outcomes.
	H	H	
Safety A land transport system where no-one is killed or seriously injured.	Increase of deaths and serios injuries on Urban Connectors and Rural Connector roads.		Safety Improvements: Focus on safety along Urban Connectors and Rural Connector roads. Targeted programmes of safety LoS improvements
	H	H	
	WDC was ranked as the 11th highest out of 71 councils for personal risk at Urban Intersections.		Maintenance and renewals: Invest in targeted maintenance and renewals and improvements to crossing facilities. Target areas accessing schools, residential care homes & community shopping areas.
	H	H	
Resilience Managing the risks from natural and human-made hazards	Lack of alternative routes available. Criticality is well understood though.		Further Road Closure Data Collection combined with targeting areas prone to flood.
	M	M	
	Kakanui Bridge provides important to resilience to SH1S but is vulnerable to flooding and closure.		Bridge Replacement already in the pipeline. Needs to be completed.
	H	M	
	Coastal erosion threatening some routes and communities.		Continue implementation of coastal erosion strategy.
	M	H	
	Lack of 30-year strategy for retaining walls.		Development of a 30-year strategy for retaining walls.
	H	M	

9.3 Changes to Meet ONF Function

Based on outputs from the strategic assessment, future demand analysis and ONF, there are currently two routes which will require a change in LoS to meet demand and ONF functional requirements. These are detailed in

below.

Table 38: ONF Function Gap Assessment Results

Strategic Case Problem	ONF Gap [Importance / Urgency]		Programme Response
 Historical planning, lack of flexibility, & misaligned LoS has reduced opportunities for access across the network & increased emissions	THIS HAS NOW BEEN COMPLETED. GAP CLOSED. Kakanui Valley Road (Southern section is Rural Connector) - Maheno Iron Bridge requires upgrading for HPMV traffic to maximise economic potential of this route. Strengthening has been completed which allows up to 56 ton over the bridge This is a critical access to the state highway network (SH1) from a large agricultural area in the NOIC and is key for realising potential economic productivity from the scheme.		Completed.
	H	H	
	THIS HAS NOW BEEN COMPLETED. GAP CLOSED. Dunback Domain Road (Rural Road however ONF to be reconsidered) – Dunback Domain Bridge requires upgrading for HPMV traffic to maximise economic potential of this route. It provides the only suitable HCV access to the state highway (SH83) for an agricultural area and limestone quarry (Graymont) at the end of Limekiln Road. Alternate access points are only suitable for light vehicles due to width and visibility constraints. The bridge strength has been reassessed using non-destructive methods, and the bridge is now cleared for HPMV.		Bridge Assessment using non invasive methods has been completed and the bridge is approved for HPMV use.
	M	M	

The ONF gap assessment has been very limited to date and it is possible that further gaps exist, particularly around the main urban centres where rural residential and retirement developments are ongoing. Further analysis should be done in conjunction with the WDC 30-year Infrastructure Strategy and its demand forecast model.

9.4 Transport Planning

Key gaps have been identified in the following areas (Table 39) in terms of demand management:

Table 39: Demand Management & Transport Planning Gap Assessment Results

Strategic Case Problem	Demand Gap [Importance / Urgency]		Programme Response
 Historical planning, lack of flexibility, & misaligned LoS has reduced	Need to better understand future development patterns and transport options to adequately support travel choice and low carbon options.		Further Stakeholder Engagement: particularly with development companies, but also other landowners wanting to maximise productivity through transportation.
	H	M	

Strategic Case Problem	Demand Gap [Importance / Urgency]		Programme Response
opportunities for access across the network & increased emissions			

9.5 Peer Group ONF Performance Gaps

From the review of ONF Transport Outcomes compared to other rural districts, the significant areas where Council are under-performing compared to other rural districts are detailed in Table 40. This indicates that the LoS may not be provided to the appropriate level in these areas. These generally align with past under-performance against WDC's own LoS.

Table 40: Peer Group ONF Performance Gap Assessment Results

ONF Transport Outcome Group	ONF Transport Outcomes	Waitaki Result	Peer Group Comparison [Importance / Urgency]		Programme Response
Inclusive Access Enhancing inclusive transport experiences, community, and culture.	Smooth Travel Exposure	Deterioration across most classes of roads. Of particular concern is Activity Streets.	Worse than other rural networks on Urban Connectors, Peri-urban Roads, Activity, and Local Streets, but better on other categories. Historically, pre ONRC, low volume roads were targeted for renewal. This change is slow in the statistics but quite evident when looking at the long term trend.		Focus maintenance and renewal efforts on areas with high levels of roughness.
			H	M	
	Peak Roughness	Deterioration on Activity Streets, Local Streets and Civic Spaces	Worse than other rural networks on all classes of road.		
			H	M	
Economic Prosperity Enhanced travel experience, efficient network, economic benefits.	Unplanned Road Closures	WDC Data Not Available	WDC Data Not Available		WDC to start using the Road Closures and Restrictions UDT option in RAMM so this measure can be reported on. Council does have a system in place to update the website however more assessment is needed.
			M	L	
	Heavy Vehicle Accessibility	WDC Data Not Available	WDC Data Not Available		WDC to start using the Road Closures and Restrictions UDT option in RAMM so this measure can be reported on. Council does have a system in place to update the website however more assessment is needed.
			M	M	
	Maintenance Costs	Pavement Costs per lane km increasing on Activity Streets, Local Streets, Civic Spaces, and Peri-Urban Roads.	Better than other rural networks across all road classes.		New Maintenance contract rates not included in the statistics reported to date. The new contract has significantly higher rates than previous contracts so
			M	L	

ONF Transport Outcome Group	ONF Transport Outcomes	Waitaki Result	Peer Group Comparison [Importance / Urgency]		Programme Response
					we expect costs per lane km to increase.
	Sealed Road Rehabilitation and Resurfacing	Results in Transport Insights are not conclusive enough as ONF has only been implemented for 2 years. Please see Part B: Detailed Business Case/Asset Management Plan	See comments in cell to the left.		Results in Transport Insights are not conclusive enough as ONF has only been implemented for 2 years. Please see Part B: Detailed Business Case/Asset Management Plan.
			-	-	
Health and Safety People Advancing safer, healthier transport: fewer accidents, improved perception, reduced emissions.	Safe Travel - Deaths and Serious Injuries (DSI's)	Increasing DSI's on Urban Connectors and Rural Connectors.	Larger percentage change (more DSI's) in DSI's on WDC network compared to other rural networks.		Review Urban Connectors and Rural Connectors for safety LoS improvements including significant investment into Road to Zero LCLR Improvements.
			H	H	
	Safe Travel - Personal/Collective Risk	Increasing trend of personal risk on Activity Streets, Local Streets and Peri-Urban Roads.	Personal and Collective Risk higher than other rural networks for Urban Connectors, and Activity Streets. Rural roads are also higher than other rural networks for personal risk.		Increased investment into crossing points at intersections. Increased investment into Safety Improvements on the road classifications that exhibit high risk. Includes significant investment into Road to Zero LCLR Improvements.
			H	H	
	Safe Travel - Wet Roads / Night / Intersections	Night crashes due to loss of control increasing on Local Streets and Rural Connectors. Intersection crashes increasing on Urban Connectors and Activity Streets.	Activity Streets worse than other rural districts for intersection crashes. Local Streets and Rural Connectors worse than other rural networks for loss of control at night.		
			H	H	
	Safe Travel - Vulnerable Users	Static trend on Urban Connector. Improving on Local Streets and Rural Roads.	Better than other rural networks in general. However risk remains high as indicated in the Safe Travel - Personal/Collective Risk outcome.		
			H	H	
	Safe Travel - Infrastructure Risk Rating	Transport Insights does not show sufficient data to compare with peer groups.	Transport Insights does not show sufficient data to compare with peer groups.		Transport Insights does not show sufficient data to compare with peer groups.
			-	-	

9.6 Asset Lifecycle Management Gaps

The significant gaps relating to the optimised lifecycle management (operations, maintenance and renewal) of the roading asset groups are as follows:

Table 41: Gaps Relating to the Optimised Lifecycle Management

Asset Type	Key Lifecycle Management Issues [Importance / Urgency]		Programme Response
Sealed Pavements	Decreasing surfacing and pavement renewal achievement quantities due to cost escalations, accompanied by a significant increase in recorded maintenance.		Continue reseal programme to waterproof pavements and to cater for more expensive urban pavement renewals. Increase resurfacing rates on higher classification roads to ensure asset integrity is maintained and lives are not stretched too far.
	H	M	
Unsealed Pavements	Drainage/resilience of unsealed roads - High grading frequency to meet LoS expectations. Customer satisfaction is low.		Manage remetalling quantities to improve road structure and resilience/durability. Introduce enhanced crown to achieve better drainage and resilience.
	M	L	
Drainage	Limited understanding of drainage asset condition and risk which means there is uncertainty around drainage asset sustainability.		Condition rating and risk assessment of drainage assets to be undertaken.
	H	M	
Streetlighting	Compliance with lighting standards is variable due to historical spacing of power poles.		Infill lighting will reduce the spacing and enhance standards on higher ONF category roads with priority on intersections.
	M	L	
Footpath & Cycleways	Overall footpath condition has continued to decline year on year, and the percentage of very poor / unsafe footpaths is also increasing.		Proactively manage footpath utilising full footpath surveys to recover service level and contribute to mode neutral outcomes, including a lower carbon system.
	H	H	
Bridges & Structures	Ageing timber bridges are nearing the end of their life. This impacts network resilience and unrestricted access to productive rural areas.		Use of cost-effective repairs. Use of alternatives such as fords for heavy vehicles where available/applicable.
	H	H	
Network & Asset Management	Staffing levels – supervision/ auditing of maintenance contract & asset management (including data). Some gaps in condition data.		Increase resources/knowledge transfer to staff to enable succession. Optimise condition rating strategies and decision models/ processes.
	H	H	

9.7 Data Quality Gaps

WDC uses RAMM as its asset register for the recording and storage of its roading asset data. RAMM is continually updated as the inventory items change on the physical asset. This process is managed in house, and also through a professional services contract where information is received from WDC and updated in RAMM.

The Te Ringa Maimoa Data Quality Reports outline the quality of RAMM data though transport insights. The metrics help us to understand data completeness, accuracy and timeliness. WDC has placed significant emphasis over the last several years on data quality and we are maintaining a strong upward trend.

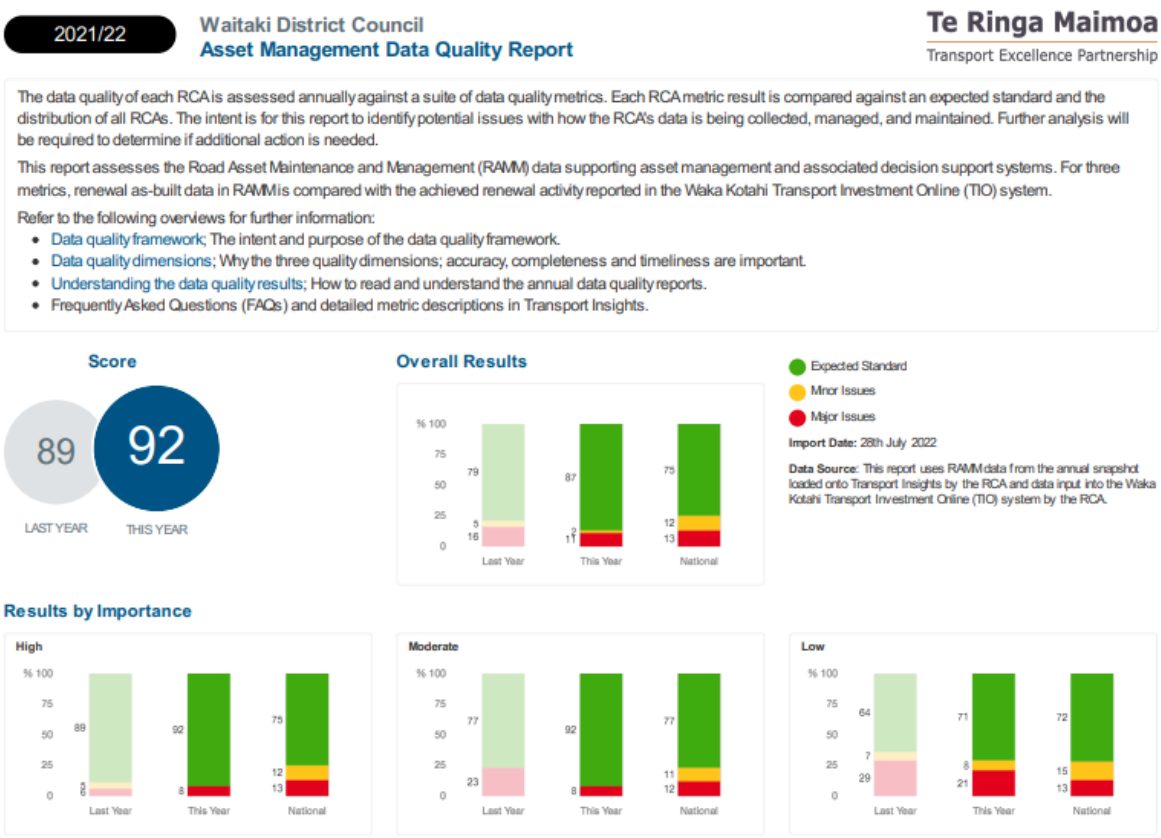


Figure 68: Te Ringa Maimoa Data Quality Dashboard – Waitaki RAMM Data

There are however still a number of important data gaps and quality issues that impact on investment decision making (some of which may not be covered by the Te Ringa Maimoa Data Quality Dashboard). The significant data quality gaps are summarised below.

Table 42: Data Quality Gap Assessment Results

Strategic Case Problem	Data Gap [Importance / Urgency]		Tactical Response
 Historical planning, lack of flexibility, & misaligned LoS has reduced opportunities for access across the network & increased emissions	Te Ringa Maimoa metric Foot3 suggests that the footpath data has some major issues with respect to validity of the data.		Generally, WDC have invested well in footpath data in the last 3 years with the first full footpath network condition survey. The FOOT3 checks for dimension, construction dates and condition. WDC's survey data sits in separate UDT's in RAMM. So WDC need to tidy up the data in the footpath table to ensure the Te Ringa Maimoa data metric is satisfied.
	L	L	
	Te Ringa Maimoa Street Light Metrics indicate that there is room for improvement in the St Light asset register.		With the WDC LED upgrade in the last 3 years, WDC have a good understanding on the lighting activity on the network. However, more work is needed to ensure that the asset register is maintained in line with Te Ringa Maimoa data quality metrics.
	M	L	

Strategic Case Problem	Data Gap [Importance / Urgency]		Tactical Response
 Deficient transport systems & user behaviors results in reduced resilience, poor health, harm, serious injury, and deaths.	Condition and Asset Data for railings and signs is out of date, or not of sufficient quality. This poses obvious safety risks on the network.		Further enhance routine maintenance contracts to ensure they collect and maintain asset condition data. Significant amount of signage inventory has been updated to improve accuracy but not fully complete. Separate exercise required to update the railing data.
	H	H	
	Safety – non-reported crashes not in CAS so accident causes not well understood.		Further enhance routine maintenance contracts to ensure that crash reporting of non-reported accidents included as a requirement for maintenance contractors so areas of the network that have safety deficiencies can be better identified. Council's Safety Deficiency Database to e setup in RAMM to allow this to occur.
	H	M	
	Pedestrian and cycle count data is patchy & out of date. Continued focus & updating required.		Ensure regular and targeted pedestrian & cycle counts are completed. This will allow Council to track where pedestrian demand is high and where demand is increasing.
	M	L	
 A degrading & inadequate transport network is not fit for current and emerging requirements, leading to reduced confidence to respond to events and community needs.	Culvert data shows minor issues, however there are major issues regarding the validity of the data that WDC do have on culverts.		The validity of the culvert information will become more important with the effects of climate change and increased storm events. Data should be checked. Full assessment and inventory verification has been identified to address this issue.
	H	M	
	Retaining wall data is deemed to have major issues regarding the validity. In addition, approximately 25% of the walls do not have a condition recorded in RAMM.		A separate exercise should be undertaken to increase the validity of the asset data and to collect the missing condition data. This should be part of the wider effort to develop a 30-year Strategy for retaining walls.
	H	H	
	There is no surface water channel condition survey at present resulting in major gaps in SWC condition data. This could be problematic in storm events.		A SWC condition assessment should be carried out, along with some more proactive asset management principles regarding the SWC's.
	M	M	

10 Options Analysis

10.1 Investment Options

This TAMP aims to demonstrate that WDC has a robust plan to deliver the community's desired LoS at a price the community and third-party investors are willing to pay.

The TAMP is primarily concerned with presenting how WDC plans to maintain, and in some cases improve, levels of service (the benefits derived from investment). We achieve this through a mix of continuous programmes of activity, (e.g. routine maintenance, network operations and planned periodic renewals) and capital improvement projects.

Our baseline strategies are summarised in Section 10.3 and detailed in the asset lifecycle management strategies contained in Part B. From this a long list of alternative options or solutions has been developed to address the gaps identified in Section 6 and this options assessment considers specific enhancements and improvements to targeted areas of the continuous programmes of activity.

The long list of options are based on the following approaches:

1. **Baseline Strategy**: These solutions tend to be focussed on a more reactive operations and maintenance approach. It ensures that critical work is completed to meet minimum compliance standards.
2. **Adjust Timing**: These solutions change the intervention response timing, either bringing work forward or pushing out to future years.
3. **Adjust Levels of Service**: These solutions adjust the level of service (either increasing or decreasing it) to align with gaps or over-delivery identified.
4. **Risk Based Approach**: These solutions use a risk-based approach to focus investment on high-risk aspects of the network i.e., by ONF, asset criticality.
5. **Adjust Programme**: These solutions adjust between proactive and reactive strategies.
6. **Policy Approach**: These solutions review management processes and improve them to enhance our asset knowledge and improve guidance for decision making.
7. **Demand Management**: These solutions help to better understand demand and manage the use of existing to ensure service delivery meets expectation.
8. **Procurement**: These solutions involve revising procurement options to ensure value for money.

Each solution will be reviewed using our multi-criteria assessment process. Based on the outcomes of the assessment of our long list of options, a conclusion is drawn about the preferred primary option.

10.2 Investment Decision Making Criteria

Making sure we achieve value for money, while achieving the key outcomes required from our land transport, is a critical focus for us. Given that the Land Transport activity is heavily funded by Waka Kotahi, we have aligned our options assessment with Waka Kotahi's Investment Prioritisation Method and the Te Ringa Maimoa guidelines.

We have also developed our own Draft Investment Decision Making criteria for use within the WDC, to ensure consistent investment prioritisation of capital expenditure across all service areas. Our options analysis takes both of these approaches into account.

Achievability/ Feasibility; Potential affordability; Potential value for money; Supplier capacity and capability; and Urgency.

10.2.1 Waka Kotahi Investment Decision Making Framework

Waka Kotahi's Investment Decision Making Framework (IDMF) sets out an options refinement approach to assess alternatives and options to from a long list to a shortlist and then to a preferred option.

Appropriate criteria for analysis can be selected on a case-by-case basis, but investment objectives and critical success factors need to be included as part of all assessments:

1. **Investment Objective and Relevant Transport Outcome:** Aligned with national Transport Outcomes, including the GPS on Land Transport, which sets out the government's priorities for expenditure over a 10-year period.
2. **Critical Success Factors:** Practical considerations that will dictate whether a project can be successfully implemented, including:
    - Achievability/ Feasibility
    - Potential affordability
    - Potential value for money
    - Supplier capacity and capability
    - Urgency
3. **Opportunities and Impacts:** these can include:
    - Environmental effects
    - Social and cultural effects
    - Climate change mitigation or adaption
    - Cumulative impacts
    - Impacts on Te Ao Māori
    - Property Impacts
4. **Economic Assessment:** Benefit–cost ratio (BCR) or end-of-life net present value (NPV)

10.2.2 Options Assessment

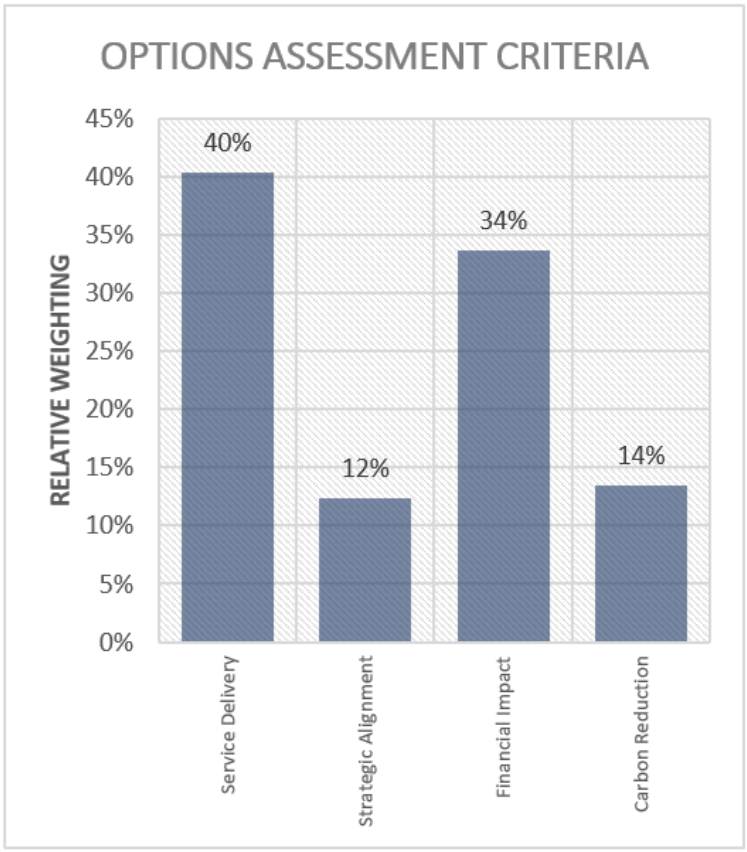
In response to the strategic assessment findings, the WDC roading unit completed an option scoping workshop to develop a broad range of possible asset responses. We have used the following four-step process to identify and prioritise options:

1. **Identify Issues from the LoS and performance assessment:** Refer to Section 4.
2. **Rank and Filter Issues/Gaps based on alignment with ONRC Performance Criteria gaps:** Refer to Section 4.
3. **Identify Long List of Programme Options:** A list of alternative options or solutions to address the gaps identified in Section 4 was drawn from the Part B: Detailed Business Case/Asset Management Plan for evaluation. These solutions include are based on the following approaches (*Source: Te Ringa Maimoa F2 Workshops*):
    a) Baseline Strategy: These solutions tend to be focussed on a more reactive operations and maintenance approach. It ensures that critical work is completed to meet minimum compliance standards.
    b) Adjust Timing: These solutions change the intervention response timing, either bringing work forward or pushing out to future years.

c) Adjust Levels of Service: These solutions adjust the LoS (either increasing or decreasing it) to align with gaps or over-delivery identified.
d) Risk-Based Approach: These solutions use a risk-based approach to focus investment on high-risk aspects of the network i.e. by ONRC/ONF, asset criticality
e) Adjust Programme: These solutions adjust between proactive and reactive strategies.
f) Policy Approach: These solutions review management processes and improve them to enhance our asset knowledge and improve guidance for decision making.
g) Demand Management: These solutions help us to better understand demand and manage use of the assets we already have to ensure service delivery meets expectation.
h) Procurement: These solutions involve revising procurement options to ensure value for money.

4. **Filter and rank Options based on a Selected Range of Assessment Criteria:** Options assessment criteria were developed through a stakeholder workshop and weighted using a pairwise analysis. The impacts of the shortlisted options were assessed against these weighted criteria (refer to the Part B: Detailed Business Case/Asset Management Plan):

Criteria	Description	Factors Assessed
Service Delivery	Does the project or programme meaningfully address current community concerns & challenges? How important is it in contributing to the delivery of Council's core activities and services? Will it contribute to service resilience and meeting service level expectations - what is the risk to safety and service reliability if the project is not done?	• Compliance • Safety • Reliability • Availability • Sustainable management • Asset Condition • Asset Criticality • Urgency
Financial Impact	Is the project or programme cost efficient and affordable? What is the return on Investment or financial benefit? Does the work provide value for money?	Financial Efficiency (BCR; NPV) Debt Levels Rating Impact
Strategic Alignment	How strongly does this project or programme align with Council's vision, community outcomes and/or strategic goals (where applicable)? Does it advance achievement of WDC IS & Problem statements? Does it target GPS Criteria & National Transport Priorities and the ORTS objectives?	Quadruple bottom line: • Ōhanga – Economic wellbeing • Oranga – Social wellbeing • Ahurea – Cultural wellbeing • Taiao – Environmental wellbeing
Carbon Reduction	Does the project or programme reduce reliance on cars and support people to walk, cycle and use public transport including. Will it improve the reach, frequency and quality of public transport? Will it support rapid adoption of low emission vehicles? Will it support decarbonisation of freight?	• VKT Reduction • Mode Share Impact • Embodied Carbon



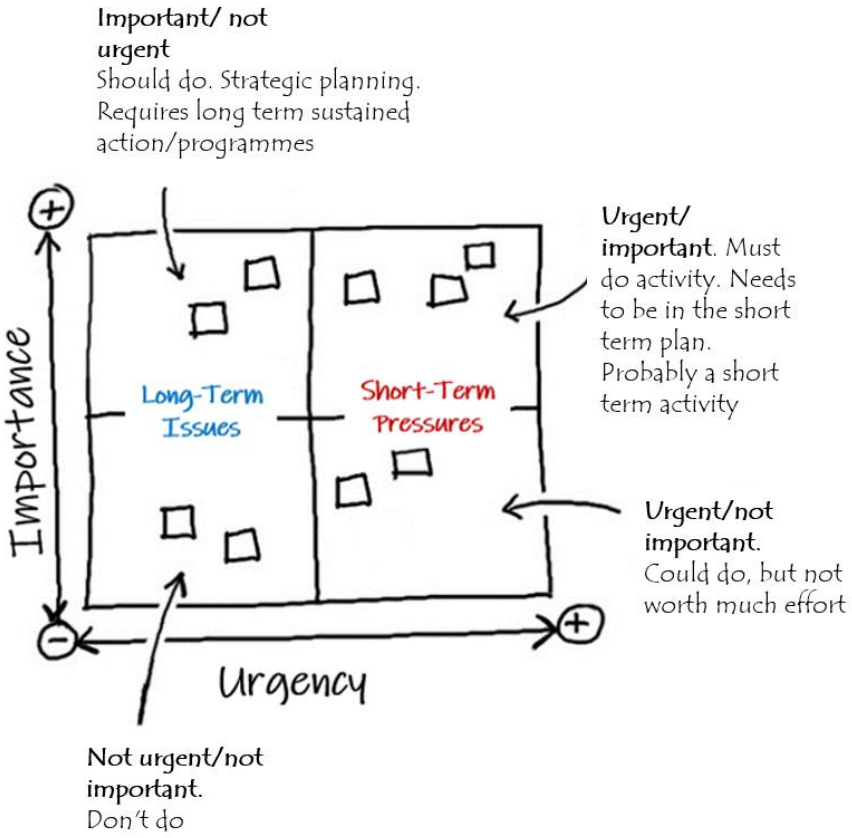


Figure 69: Investment Options Assessment criteria

10.3 Investment Options Overview

The four primary options considered for this plan are shown below. Option 3 was the preferred option.

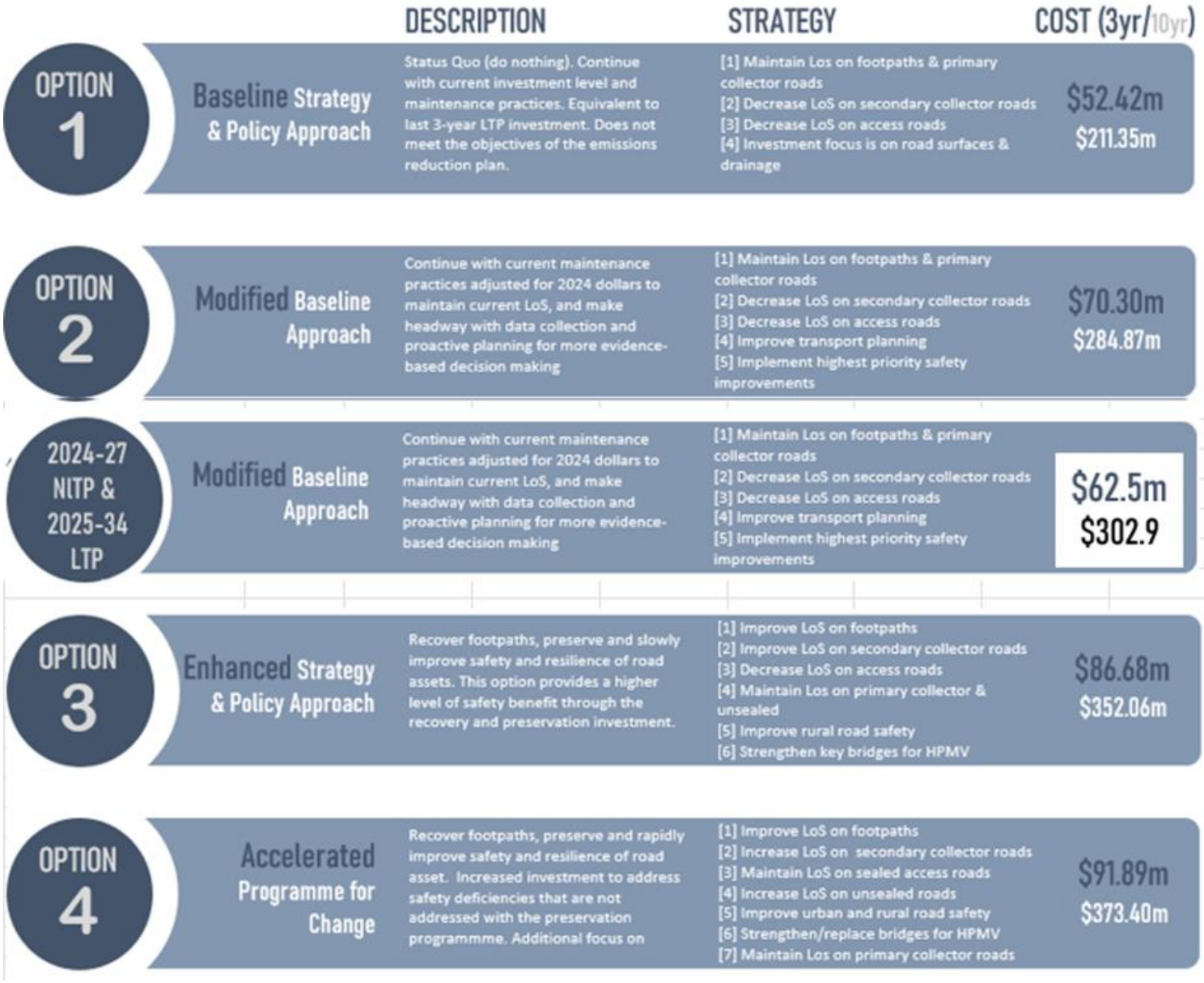
The 2024-27 NLTP and 2025-34 LTP have been added showing what has been approved by NZTA, what has been approved by Council for the 2024/25 Annual Plan and what is being applied for in the 2025-34 LTP.

Appendix 1 of this Activity Management Plan shows the 10 year budgets in detail.

The table below shows a summary of Financially and Non Financially Assisted Budgets approved for the 3 years of the 2024-27 NLTP, 2024/25 of Council's Annual Plan with the balance included in the 2025-34 LTP

Activity Financially Assisted		2024/25	2025/26	2026/27	2027/28	2028/2029	2029/30	2030/31	2031/32	2032/33	2033/34	10 year Total
Maintenance & Operations		7,786,460	7,929,183	8,071,909	9,845,600	10,465,873	11,198,484	12,183,950	12,841,884	13,278,508	13,729,977	107,331,828
Renewals		10,034,877	10,218,816	10,402,754	9,002,030	9,569,158	10,238,999	11,140,031	11,741,593	12,140,807	12,553,594	107,042,660
Total Improvements & Education		2,136,333	86,333	86,334	7,246,305	7,702,823	8,242,020	8,967,318	9,451,553	9,772,906	10,105,185	63,797,110
Total		19,957,670	18,234,332	18,560,997	26,093,936	27,737,854	29,679,503	32,291,300	34,035,030	35,192,221	36,388,756	278,171,598
Activity Non - Financially Assisted		2024/25	2025/26	2026/27	2027/28	2028/2029	2029/30	2030/31	2031/32	2032/33	2033/34	10 year Total
Maintenance, Operations, new & renewal capital		1,925,140	1,876,430	1,936,475	2,002,316	2,128,462	2,277,454	2,477,870	2,611,675	2,700,472	2,792,288	22,728,580
Total		1,925,140	1,876,430	1,936,475	2,002,316	2,128,462	2,277,454	2,477,870	2,611,675	2,700,472	2,792,288	22,728,580

Figure 70: Investment Options


DESCRIPTION
STRATEGY
COST (3yr/10yr)
OPTION 1
Baseline Strategy & Policy Approach
Status Quo (do nothing). Continue with current investment level and maintenance practices. Equivalent to last 3-year LTP investment. Does not meet the objectives of the emissions reduction plan.
[1] Maintain Los on footpaths & primary collector roads
[2] Decrease LoS on secondary collector roads
[3] Decrease LoS on access roads
[4] Investment focus is on road surfaces & drainage
$52.42m
$211.35m
OPTION 2
Modified Baseline Approach
Continue with current maintenance practices adjusted for 2024 dollars to maintain current LoS, and make headway with data collection and proactive planning for more evidence-based decision making
[1] Maintain Los on footpaths & primary collector roads
[2] Decrease LoS on secondary collector roads
[3] Decrease LoS on access roads
[4] Improve transport planning
[5] Implement highest priority safety improvements
$70.30m
$284.87m
2024-27 NLTP & 2025-34 LTP
Modified Baseline Approach
Continue with current maintenance practices adjusted for 2024 dollars to maintain current LoS, and make headway with data collection and proactive planning for more evidence-based decision making
[1] Maintain Los on footpaths & primary collector roads
[2] Decrease LoS on secondary collector roads
[3] Decrease LoS on access roads
[4] Improve transport planning
[5] Implement highest priority safety improvements
$62.5m
$302.9
OPTION 3
Enhanced Strategy & Policy Approach
Recover footpaths, preserve and slowly improve safety and resilience of road assets. This option provides a higher level of safety benefit through the recovery and preservation investment.
[1] Improve LoS on footpaths
[2] Improve LoS on secondary collector roads
[3] Decrease LoS on access roads
[4] Maintain Los on primary collector & unsealed
[5] Improve rural road safety
[6] Strengthen key bridges for HPMV
$86.68m
$352.06m
OPTION 4
Accelerated Programme for Change
Recover footpaths, preserve and rapidly improve safety and resilience of road asset. Increased investment to address safety deficiencies that are not addressed with the preservation programmme. Additional focus on
[1] Improve LoS on footpaths
[2] Increase LoS on secondary collector roads
[3] Maintain LoS on sealed access roads
[4] Increase LoS on unsealed roads
[5] Improve urban and rural road safety
[6] Strengthen/replace bridges for HPMV
[7] Maintain Los on primary collector roads
$91.89m
$373.40m

DIFFERENTIAL LEVELS of SERVICE DASHBOARD

PREFERRED OPTION
OPTION 3

Option Comparisons

Budget Scenarios

Note: "Refresh All" after changing selections to update charts [Data/Refresh All]

Include Asset Growth - ☑ Check Box 9 YES
Emissions in $ - ☐ Check Box tCO2e

		0%	Current Level	+100%		Year 1 Variance	
OPTION 1	Overall Programme Cost:	<		>	+0%	-	Austere
OPTION 2	Overall Programme Cost:	<		>	+20%	+$3,500,000	Constrained
OPTION 3	Overall Programme Cost:	<		>	+50%	+$8,700,000	Balanced
OPTION 4	Overall Programme Cost:	<		>	+60%	+$10,400,000	Enhanced

OPTION 1

TOTAL Cost ($m)	Base Cost ($m)	Asset Growth ($m)	Escalations ($m)	Risk ($m)	Emissions (tCO2e)
211.35	168.76	0.68	41.91	194.07	36,018

OPTION 2

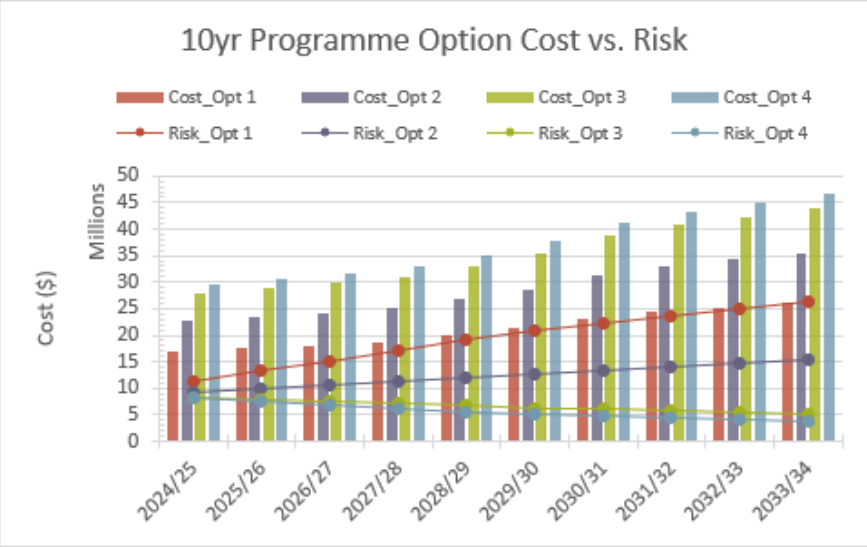
TOTAL Cost ($m)	Base Cost ($m)	Asset Growth ($m)	Escalations ($m)	Risk ($m)	Emissions (tCO2e)
284.87	226.01	2.40	56.46	123.08	29,014

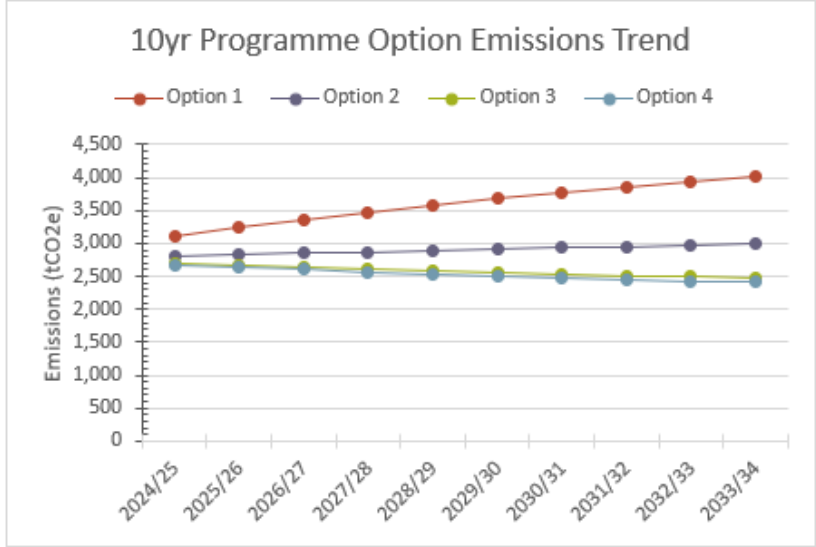
OPTION 3

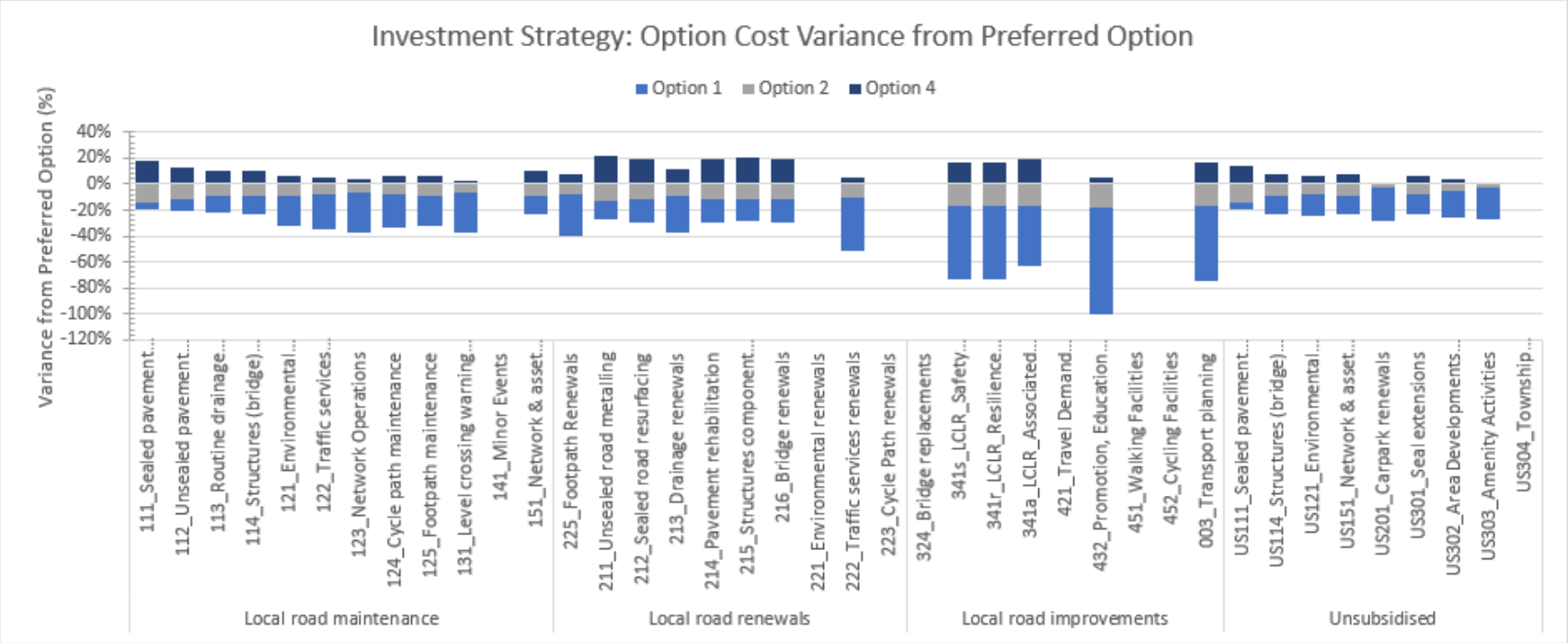
TOTAL Cost ($m)	Base Cost ($m)	Asset Growth ($m)	Escalations ($m)	Risk ($m)	Emissions (tCO2e)
352.06	278.48	3.82	69.76	66.20	25,775

OPTION 4

TOTAL Cost ($m)	Base Cost ($m)	Asset Growth ($m)	Escalations ($m)	Risk ($m)	Emissions (tCO2e)
373.40	295.18	4.24	73.98	56.59	25,274


10yr Programme Option Cost vs. Risk
Cost_Opt 1
Cost_Opt 2
Cost_Opt 3
Cost_Opt 4
Risk_Opt 1
Risk_Opt 2
Risk_Opt 3
Risk_Opt 4
Cost ($)
Millions
50
45
40
35
30
25
20
15
10
5
0
2024/25
2025/26
2026/27
2027/28
2028/29
2029/30
2030/31
2031/32
2032/33
2033/34


10yr Programme Option Emissions Trend
Option 1
Option 2
Option 3
Option 4
Emissions (tCO2e)
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
2024/25
2025/26
2026/27
2027/28
2028/29
2029/30
2030/31
2031/32
2032/33
2033/34


Investment Strategy: Option Cost Variance from Preferred Option
Option 1
Option 2
Option 4
Variance from Preferred Option (%)
40%
20%
0%
-20%
-40%
-60%
-80%
-100%
-120%
111_Sealed pavement...
112_Unsealed pavement...
113_Routine drainage...
114_Structures (bridge)...
121_Environmental...
122_Traffic services...
123_Network Operations
124_Cycle path maintenance
125_Footpath maintenance
131_Level crossing warning...
141_Minor Events
151_Network & asset...
225_Footpath Renewals
211_Unsealed road metalling
212_Sealed road resurfacing
213_Drainage renewals
214_Pavement rehabilitation
215_Structures component...
216_Bridge renewals
221_Environmental renewals
222_Traffic services renewals
223_Cycle Path renewals
324_Bridge replacements
341s_LCLR_Safety...
341r_LCLR_Resilience...
341a_LCLR_Associated...
421_Travel Demand...
432_Promotion, Education...
451_Walking Facilities
452_Cycling Facilities
003_Transport planning
US111_Sealed pavement...
US114_Structures (bridge)...
US121_Environmental...
US151_Network & asset...
US201_Carpark renewals
US301_Seal extensions
US302_Area Developments...
US303_Amenity Activities
US304_Township...
Local road maintenance
Local road renewals
Local road improvements
Unsubsidised

Risk & LoS Outcomes

Top 5 Risks

	OPTION 1		OPTION 2		OPTION 3		OPTION 4	
1	Extreme	Sealed Surfaces_Accumulation of deferred renewals leading to reduced safety and escalating maintenance	High	Sealed Surfaces_Accumulation of deferred renewals leading to reduced safety and escalating maintenance	Moderate	Resilience_Network disruption and reinstatement cost due to climate change impacts	Moderate	Sealed Surfaces_Contractor resources unable to deliver resurfacing programme results in reduced quality and increased costs
2	Extreme	Drainage_Road damage and closures from flooding due to culvert and channel failures. Worsened by increasing rainfall intensity.	Moderate	Bridges_Accumulation of deferred renewals leading to risk of sudden failures, reduced safety and escalating maintenance	Low	Drainage_Road damage and closures from flooding due to culvert and channel failures. Worsened by increasing rainfall intensity.	Moderate	Sealed Roads_Contractor resources unable to deliver RHAB programme results in reduced quality and increased costs
3	Extreme	Resilience_Network disruption and reinstatement cost due to climate change impacts	Moderate	Drainage_Road damage and closures from flooding due to culvert and channel failures. Worsened by increasing rainfall intensity.	Low	Sealed Surfaces_Contractor resources unable to deliver resurfacing programme results in reduced quality and increased costs	Low	Resilience_Network disruption and reinstatement cost due to climate change impacts
4	High	Bridges_Accumulation of deferred renewals leading to risk of sudden failures, reduced safety and escalating maintenance	Moderate	Resilience_Network disruption and reinstatement cost due to climate change impacts	Low	Sealed Surfaces_Accumulation of deferred renewals leading to reduced safety and escalating maintenance	Low	Mode Shift_Failure to meet target mode shift and associated decarbonisation
5	High	Safe Travel_Failure to meet target road safety outcomes and DSI reduction targets due to level of investment in safety improvements	Moderate	Sealed Roads_High maintenance costs due to temporary repairs and lack of resources	Low	Bridges_Accumulation of deferred renewals leading to risk of sudden failures, reduced safety and escalating maintenance	Low	Resilience_Deferred bridge replacements leading to risk of sudden failures, reduced safety and escalating maintenance

Differential Levels of Service:

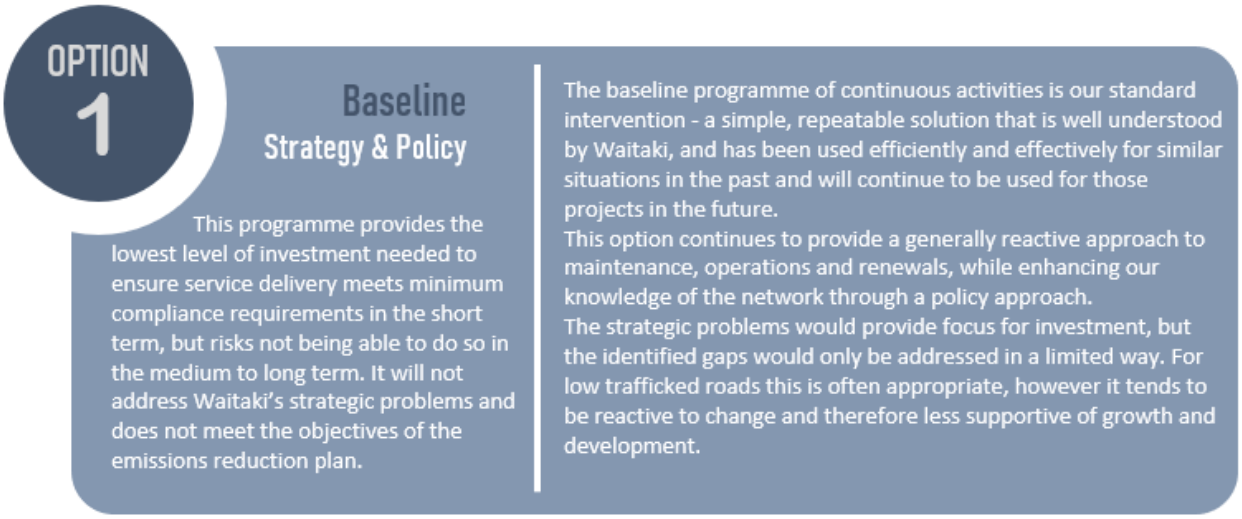
		Option 1	Option 2	Option 3	Option 4
Safe Travel					
	Grade	Option 1	Option 2	Option 3	Option 4
	Grade E	S01_Rapidly deteriorating assets and few safety improvements implemented. Will not meet the DIA Mandatory target of 1 DSI saved per year	S01_Deteriorating assets and few safety improvements implemented. Unlikely to meet the DIA Mandatory target of 1 DSI saved per year	S01_Improving asset condition and enhanced programme of safety improvements implemented. Should exceed the DIA Mandatory target of 1 DSI saved per year	S01_Improving asset condition and enhanced programme of safety improvements implemented. Should exceed the DIA Mandatory target of 1 DSI saved per year
	Grade E	T07_Rapidly deteriorating sign and streetlighting condition. Escalating risk of related crashes and column failures.	T07_Deteriorating sign and streetlighting condition. Escalating risk of related crashes and column failures.	T07_Sign and streetlight condition slowly improving and maintenance is stable. Near optimal lifecycle costs and related crash risk is reducing.	T07_Sign and streetlight condition slowly improving and maintenance is stable. Near optimal lifecycle costs and related crash risk is reducing.
	Grade E	Op01_Delayed response to road faults; 80% of maintenance is reactive. Priorities governed by complaints	Op01_Delayed response to road faults; 60% of maintenance is reactive. Priorities influenced by complaints	Op01_Timely response to road faults; 30% of maintenance is reactive. Some preventative maintenance which may infrequently limit HCV access	Op01_Timely response to road faults; 30% of maintenance is reactive. Some preventative maintenance which may infrequently limit HCV access
	Grade E	Op03_Delayed response to FP faults; 80% of maintenance is reactive. Priorities governed by complaints	Op03_Delayed response to FP faults; 60% of maintenance is reactive. Safety complaints are common.	Op03_Timely response to FP faults; 30% of maintenance is reactive. Some preventative maintenance and few complaints.	Op03_Timely response to FP faults; 30% of maintenance is reactive. Some preventative maintenance and few complaints.
	Grade E	Op07_Slow response to road marking & lighting faults could contribute to increased DSI; 80% of maintenance is reactive and priorities driven by incidents.	Op07_Delayed response to road marking & lighting faults could contribute to increased DSI; 60% of maintenance is reactive and priorities influenced by incidents.	Op07_Timely response to road marking & lighting faults; 30% of maintenance is reactive. Proactive maintenance may contribute to reduced DSI.	Op07_Timely response to road marking & lighting faults; 30% of maintenance is reactive. Proactive maintenance may contribute to reduced DSI.

Mode Shift & Active Travel	Grade E	S02_Rapidly deteriorating assets and few travel choice improvements implemented. Will not meet RLTP targets.	Grade D	S02_Deteriorating assets and few travel choice improvements implemented. Unlikely to meet RLTP targets	Grade B	S02_Asset condition maintained and balanced programme of travel choice improvements implemented. Slow progress towards meeting RLPT targets.	Grade A	S02_Improving asset condition and enhanced programme of travel choice improvements implemented. Meaningful progress towards RLTP targets
	Grade E	T08_Rapidly deteriorating cycle path condition. Escalating lifecycle costs. likely to create reverse mode-shift.	Grade D	T08_Deteriorating cycle path condition. Escalating lifecycle costs. Increasing disruption, restrictions and user discomfort. May create reverse mode-shift.	Grade B	T08_Cycle path condition maintained. Asset consumption stabilised & user experience unchanged. Passively supports mode shift programmes.	Grade A	T08_Cycle path condition slowly improving. Near optimal lifecycle costs & user experience improving. Strongly supports mode shift programmes.
	Grade E	Op08_Delayed response to cycle path faults likely to create reverse mode-shift. Priorities governed by complaints	Grade D	Op08_Delayed response to cycle path faults may create reverse mode-shift. Priorities influenced by complaints	Grade B	Op08_Timely response to cycle path faults; 40% of maintenance is reactive. Passively supports mode shift programmes.	Grade A	Op08_Timely response to cycle path faults; 40% of maintenance is reactive. Strongly supports mode shift programmes.
Connected & Accessible Network	Grade E	S03_Rapidly deteriorating assets and few improvements implemented. Network likely to become significantly less connected and accessible.	Grade D	S03_Deteriorating assets and few improvements implemented. Network likely to become less connected and accessible.	Grade B	S03_Asset condition maintained and balanced programme of improvements implemented. Current network connectivity and accessibility maintained.	Grade A	S03_Improving asset condition and enhanced programme of improvements implemented. Network becomes more connected and accessible.
	Grade E	T03_Rapidly deteriorating footpath condition. Escalating maintenance and lifecycle costs.	Grade D	T03_Deteriorating footpath condition. Escalating maintenance and lifecycle costs. Increasing disruption, restrictions and user discomfort.	Grade B	T03_Footpath condition maintained. Asset consumption & maintenance cost is stabilised. User experience unchanged.	Grade A	T03_Footpath condition slowly improving and maintenance is stable. Near optimal lifecycle costs and user experience improving.
	Grade E	Op06_Emergency events responded to within 48hrs to make safe. Access and LoS may not be fully restored.	Grade D	Op06_Emergency events responded to within 48hrs to make safe. Access and Full LoS restored as resources allow.	Grade B	Op06_Emergency events responded to within 24hrs restore access. Full LoS restored as resources allow.	Grade A	Op06_Emergency events responded to proactvely and reinstatement of road network is actioned promptly to restore LOS as quickly as possible
	Grade E	Op09_ Unsightly network due to build up of graffiti, weeds, vegetation & detritus. Winter ice, falling trees and vegetation blocking sightlines likely to cause crashes.	Grade D	Op09_ Unsightly network due to build up of graffiti, weeds, vegetation & detritus. Winter ice, falling trees and vegetation blocking sightlines may cause crashes.	Grade B	Op09_Timely response to most Environmental faults. Programme mostly proactive leading to safe and tidy conditions 80% of the time.	Grade A	Op09_Timely response to Environmental faults. Programme mostly proactive leading to safe all-season driving conditions.

Rural Productivity	Grade E	S04_Rapidly deteriorating roads & structures and few improvements implemented. Growing restrictions for HCV access around the network.	Grade D	S04_Deteriorating roads & structures and few improvements implemented. Growing restrictions for HCV access around the network.	Grade A	S04_Improving roads & structures and balanced programme of improvements implemented. Reducing restrictions for HCV access around the network.	Grade A	S04_Improving roads & structures and balanced programme of improvements implemented. Reducing restrictions for HCV access around the network.
	Grade E	T05_Structures condition deteriorates and backlog increases. Growing number of restrictions for Class I, 50MAX and HPMV access as vulnerable structures not strengthened or	Grade D	T05_Structures condition deteriorates and backlog increases. Growing number of restrictions for Class I, 50MAX and HPMV access as vulnerable structures not strengthened or	Grade A	T05_Structures condition is improved, and some increase in Class I, 50MAX and HPMV access is possible.	Grade A	T05_Structures condition is improved, and some increase in Class I, 50MAX and HPMV access is possible.
	Grade E	T06_Rapidly deteriorating unsealed rd condition. Escalating maintenance and lifecycle costs. Some load restrictions and road closures to through traffic.	Grade D	T06_Deteriorating unsealed rd condition. Short life treatments and escalating lifecycle costs. Increasing disruption and access restrictions for HCVs.	Grade A	T06_Unsealed rd condition slowly improving and maintenance is stable. Near optimal lifecycle costs and HCV access improving.	Grade A	T06_Unsealed rd condition slowly improving and maintenance is stable. Near optimal lifecycle costs and HCV access improving.
	Grade E	T09_Environmental assets neglected and deteriorating rapidly. Condition of network amenities strongly discourages tourism growth.	Grade D	T09_Environmental assets neglected and deteriorating. Condition of network amenities discourages tourism growth.	Grade A	T09_Environmental Asset condition is improved, and effective asset stewardship is applied. Network amenities support tourism growth.	Grade A	T09_Environmental Asset condition is improved, and effective asset stewardship is applied. Network amenities support tourism growth.
	Grade E	Op05_Only critical bridge faults attended to. No proactive maintenance will risk HCV capacity	Grade D	Op05_Delayed response to structures faults. Minimal proactive maintenance may risk HCV capacity	Grade A	Op05_Timely response to all structures faults. Programme of proactive maintenance minimises risk to HCV capacity	Grade A	Op05_Timely response to all structures faults. Programme of proactive maintenance minimises risk to HCV capacity
Resilient & Available Network	Grade E	S05_Rapidly deteriorating assets and few improvements implemented. Network much less resilient and vulnerable to climate change.	Grade C	S05_Slowly deteriorating assets but some improvements implemented. Resilience of critical assets maintained but some areas may become more vulnerable.	Grade A	S05_Improving asset condition and enhanced programme of improvements implemented. Current resilience maintained with lower range climate change forecasts	Grade A+	S05_Significant programme of resilience improvements implemented. Likely to maintain current resilience with mid-range climate change forecasts.
	Grade E	T02_Rapidly deteriorating pavement condition. Escalating maintenance and lifecycle costs. Some load restrictions and road closures to through traffic.	Grade C	T02_Slowly deteriorating pavement condition and some short life treatments. Slight deterioration in HCV access.	Grade A	T02_Pavement condition slowly improving and maintenance is stable. Near optimal lifecycle costs and HCV access improving.	Grade A+	T02_Pavement condition noticeably improving and maintenance is reducing. No HCV restrictions.
	Grade E	T04_Drainage condition deteriorating, renewal backlog growing fast, and risk of unexpected failure/culvert collapses.	Grade C	T04_Drainage condition deteriorating, renewal backlog growing slowly, and network will become increasingly vulnerable to heavy rain.	Grade A	T04_Drainage condition is improved and renewal backlog is reduced. Resilience may keep up with climate change.	Grade A+	T04_Drainage condition is improved and renewal backlog is reduced. Resilience to heavy rain improving.
	Grade E	Op04_Drainage maintenance reactive only. Frequently unsafe conditions & escalating pavement maintenance.	Grade C	Op04_Drainage faults sometimes responded to in a timely manner, proactive maintenance is partially enabled leading to stable maintenance	Grade A	Op04_Timely response to drainage faults leading to low flooding risk and reduced pavement maintenance expenditure	Grade A+	Op04_Preventative drainage maintenance. No flooding of roads except during area flooding.

Reliable Journey Times	Grade E	S06_Rapidly deteriorating assets. Reverse mode shift and asset failures significantly reduce journey time reliability.	Grade D	S06_Deteriorating assets. Reverse mode shift and asset failures reduce journey time reliability.	Grade B	S06_Urban traffic growth offset by mode shift, and no significant change in disruption means current journey time reliability is maintained.	Grade A	S06_Improving assets and reduced disruption. Mode shift contributes to reduced urban congestion. Journey time reliability improving slowly.
	Grade E	T01_Rapidly deteriorating road surface condition. Escalating maintenance and lifecycle costs. Some speed restrictions and roads reverting to unsealed.	Grade D	T01_Deteriorating road surface condition. Escalating maintenance and lifecycle costs. Increasing disruption, restrictions and user discomfort.	Grade B	T01_Road Surface condition maintained. Asset consumption & maintenance cost is stabilised. User experience unchanged.	Grade A	T01_Road Surface condition slowly improving and maintenance is stable. Near optimal lifecycle costs and user experience improving.
	Grade E	Op02_Grading only completed in response to complaints	Grade D	Op02_Grading in response to complaints only for lower volume roads.	Grade B	Op02_Frequency of grading cycles retained. Some complaints.	Grade A	Op02_Grading frequencies increased. Minimal complaints
	Grade E	Op10_Activity planning is short sighted and reactive. Slow to respond to complaints. Poor stakeholder relations. Unable to ensure value for money.	Grade D	Op10_Activity planning is medium term and mostly reactive. Slow to respond to complaints. Difficult stakeholder relations.	Grade B	Op10_Good quality activity planning delivers value for money. Stable forward work programmes. Timely response to complaints. Sound stakeholder relations.	Grade A	Op10_High quality activity planning with some strategic focus and stable forward work programmes. Timely response to complaints. Good stakeholder relations.

10.4 Option 1: Baseline Strategy & Policy Approach



The current baseline strategy for WDC's sealed road network is aligned with 'maximising the life of the asset' approach i.e. targeted spending and investment. This approach has been adopted by many road controlling authorities in response to reduced levels of funding. This approach promotes a low level of renewals but comes with the risk of overall long-term network deterioration.

Having consumed asset condition over the last six years and seeing increasing levels of maintenance need and risk to asset condition, WDC will manage this investment level by allowing a reduction in LoS on Connector lower-class roads, while maintaining LoS on Activity Streets and higher-class roads.

The option does not allow for increased costs for work associated with escalation and other cost pressures from factors such as temporary traffic management reform. It will allow the continued deterioration of safety, customer experience, resiliency and increase overall lifecycle costs. Therefore, the baseline strategy and policy (do-nothing) option will continue to allow overall deterioration of the network.

Table 43: Option 1 Detailed Description

Activity/Asset Group	How Desired Outcomes will be Delivered	Residual Risks
Network & Asset Management	**Baseline Strategy:** Maintain current network and asset management practices.	Reduced ability to procure external support and expert advice. Workload on team will increase reducing focus on strategic context and ability to plan proactively.
Sealed Roads	**Baseline Strategy:** Pavement rehabilitation work will continue at current levels. Risk-based approach based on ONRC (i.e. higher risk approach on Access & LV roads), where applicable. **Procurement**: Smart buying through packaging work at the re-tendering of maintenance contracts.	Pavements of access and low volume roads are unlikely be renewed in the short term as primary and secondary collectors are the priority.
Unsealed Roads	**Baseline Strategy:** Maintenance and renewals similar to previous years, with risk-based approach based on ONRC (i.e. higher risk approach on Access & LV roads), where applicable. **Procurement**: Smart buying through packaging work at the re-tendering of maintenance contracts.	Low levels of customer satisfaction.
Drainage	**Baseline Strategy**: Reactive maintenance and renewals. Continuous programme of find and fix maintenance and renewal to	Overall asset condition not known. Constrained budget may not provide a big enough boost to improve drainage significantly and

Activity/Asset Group	How Desired Outcomes will be Delivered	Residual Risks
	maintain asset integrity to ensure pavements remain dry and road surface free of water; and to respond to weather events. **Policy Approach**: Review of drainage capacity to determine future capacity improvement needs.	may rely on LCLR Improvements to assist.
Footpaths	**Baseline Strategy**: Reactive maintenance and renewals. The existing renewals strategy of improving the worst condition paths, identified through condition rating will continue. Maintenance of existing footpaths is included within the network maintenance contract.	Footpath maintenance renewals are not completed fast enough to cope with the demand for extra mobility e.g. shared walking/cycling. Unsafe environment for some vulnerable users.
Streetlighting	**Baseline Strategy**: Reactive maintenance and renewals. LED upgrade has been completed with Central Management System implemented in 2020/21.	Pole condition largely unknown, pole condition project planned. Streetlight network is based on historical lighting supplied by electricity network provider and improvements will be required to comply with lighting standards.
Signs and Markings	**Baseline Strategy**: Reactive maintenance and renewals.	Traffic services budgets constrained to deliver existing markings and signs only with reliance on LCLR Improvements to assist.
Bridges & other Structures	**Baseline Strategy:** Bridge renewals are programmed based on based on superficial inspections and predicted demand from haulier engagement for HPMV Vehicles. Focus of addressing 50MAX and HPMV preclusions as a priority where achievable without compromising safety aspects of other priority bridges. Lower use bridges replaced with low-cost solutions where appropriate. Targeted maintenance and renewals of other structures in vulnerable areas. **Policy Approach**: Focussed condition and capacity assessments, seismic screening and HPMV permitting.	NOIC investment benefits not fully realised due to bridge restrictions. Council depreciation allows for renewal of bridges based on ONRC and priority. Risk is that renewals are not completed fast enough e.g. Kakanui Point Bridge which is 120 years old (residual risk is not fully funded). Lack of resilience results in increasingly costly disruptions due to climate change.
Environmental	**Baseline Strategy**: Reactive maintenance and renewals. Cyclic vegetation control programmes.	Critical sight lines not fully protected. Corridor not effectively managed as a vector for noxious weeds may damage agricultural sector. Hazardous trees not proactively managed resulting in crash or serious injury.
LCLR Improvements	**Baseline Strategy**: Targeted safety improvement opportunities are incorporated within renewal and maintenance activities as well as individual projects based on ONRC and priorities. Road Safety Promotion is co-ordinated in-house with education programmes provided by an external service provider. Localised coastal erosion protection and service restoration.	LCLR Improvements budget reduces due to reprioritisation towards reactive maintenance due to overall budget erosion. Safety improvements are not completed fast enough to give good effect to Road to Zero Strategy.
Emergency Response	**Baseline Strategy:** Reactive response to events. The road maintenance contractor provides good initial response with reinstatement of roading network to follow.	Risk is that the roading network does not recover sufficiently between events leading to poorer LoS.

10.5 Option 2: Modified Baseline Strategy & Policy Approach

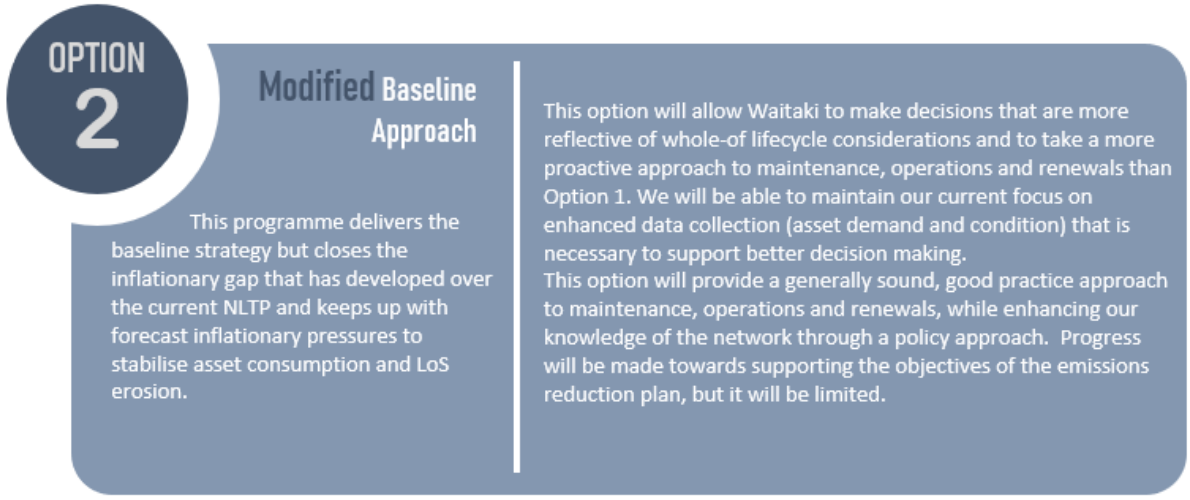


Table 44: Option 2 Detailed Description

Activity/Asset Group	How Desired Outcomes will be Delivered	Residual Risks
Network & Asset Management	**Baseline Strategy:** Maintain current network and asset management practices. **Policy Approach**: Increased focus on data collection (where there are gaps) and management processes. Strategic focus on planning for safety improvement through network wide safety audits and speed management review.	Progress towards optimal decision making is slow and short-term planning horizons continue to dominate decision making. Significant data gaps for informed decision making may continue to exist.
Sealed Roads	**Baseline Strategy:** Pavement rehabilitation work will continue at current levels with a slight expected increase in maintenance as a result of an increasing average pavement age and associated deterioration. Risk-based approach based on ONRC (i.e. higher risk approach on Access & LV roads), where applicable. **Procurement**: Smart buying through packaging work at the re-tendering of maintenance contracts.	Pavements of access and low volume roads are unlikely be renewed in the short term as primary and secondary collectors are the priority.
Unsealed Roads	**Baseline Strategy:** Maintenance and renewals similar to previous years, with risk-based approach based on ONRC (i.e. higher risk approach on Access & LV roads), where applicable. **Procurement**: Smart buying through packaging work at the re-tendering of maintenance contracts.	Low levels of customer satisfaction.
Drainage	**Baseline Strategy**: Reactive maintenance and renewals. Continuous programme of find and fix maintenance and renewal to maintain asset integrity to ensure pavements remain dry and road surface free of water; and to respond to weather events. **Policy Approach**: Review of drainage capacity to determine future capacity improvement needs.	Overall asset condition not known. Constrained budget may not provide a big enough boost to improve drainage significantly and may rely on LCLR Improvements to assist.
Footpaths	**Baseline Strategy**: Reactive maintenance and renewals. The existing renewals strategy of improving the worst condition paths, identified through condition rating will continue. Maintenance of existing footpaths is included within the network maintenance contract.	Footpath maintenance renewals are not completed fast enough to cope with the demand for extra mobility e.g. shared walking/cycling. Unsafe environment for some vulnerable users.
Streetlighting	**Baseline Strategy**: Reactive maintenance and renewals. LED upgrade has been completed with Central Management System implemented in 2020/21.	Pole condition largely unknown, pole condition project planned. Streetlight network is based on historical lighting supplied by electricity network provider and

Activity/Asset Group	How Desired Outcomes will be Delivered	Residual Risks
		improvements will be required to comply with lighting standards.
Signs and Markings	**Baseline Strategy**: Reactive maintenance and renewals. Upgrade signs to retro-reflective as they are replaced. Increased pavement marking for high wear areas.	Traffic services budgets constrained to deliver existing markings and signs only with reliance on LCLR Improvements to assist.
Bridges & other Structures	**Baseline Strategy:** Bridge renewals are programmed based on based on superficial inspections and predicted demand from haulier engagement for HPMV Vehicles. Focus of addressing 50MAX and HPMV preclusions as a priority where achievable without compromising safety aspects of other priority bridges. Lower use bridges replaced with low-cost solutions where appropriate. Targeted maintenance and renewals of other structures in vulnerable areas. **Policy Approach**: Focussed condition and capacity assessments, seismic screening and HPMV permitting.	NOIC investment benefits not fully realised due to bridge restrictions. Council depreciation allows for renewal of bridges based on ONRC and priority. Risk is that renewals are not completed fast enough e.g. Kakanui Point Bridge which is 120 years old (residual risk is not fully funded). Lack of resilience results in increasingly costly disruptions due to climate change.
Environmental	**Baseline Strategy**: Reactive maintenance and renewals. Cyclic vegetation control programmes.	Critical sight lines not fully protected. Corridor not effectively managed as a vector for noxious weeds may damage agricultural sector. Hazardous trees not proactively managed resulting in crash or serious injury.
LCLR Improvements	**Baseline Strategy**: Targeted safety improvement opportunities are incorporated within renewal and maintenance activities as well as individual projects based on ONRC and priorities. Road Safety Promotion is co-ordinated in-house with education programmes provided by an external service provider. Localised coastal erosion protection and service restoration.	Speed of investment means that benefit realisation from improvement is slower than targeted in regional and district strategies.
Emergency Response	**Baseline Strategy:** Reactive response to events. The road maintenance contractor provides good initial response with reinstatement of roading network to follow.	Risk is that the roading network does not recover sufficiently between events leading to poorer LoS.

10.6 Option 3: Enhanced Strategy & Policy Approach

Option 3 includes the baseline strategy elements, adjusted and expanded to include high priority LoS improvements. In 2022 WDC had to re-tender the Maintenance Contract after the initial prices received from the market were unaffordable, resulting in downward adjustments to several levels of service. Option 3 addresses the historical funding gap and provides for a rebalance of investment that follows the ONRC/ONF – there is a focus on recovering the road condition on secondary collector and urban roads while preserving access and primary collector roads.

This option provides a higher level of safety benefit through additional recovery (footpaths) and preservation (resurfacing and drainage) and has added benefits of addressing some resiliency deficiencies (bridge condition & strength) and improving customer experience (noting some deterioration of lower-class roads) and lifecycle costs.

Table 45: Option 3 Detailed Description

Activity/Asset Group	How Desired Outcomes will be Delivered	Residual Risks
Network & Asset Management	**Policy Approach**: Develop and maintain District Transportation Plan to enable optimised network planning over the long term. **Procurement Approach**: increased resource to allow for managing delivery of enhanced programme; and additional AM processes **Programme Approach**: Optimise condition rating strategies and decision models/processes to make space for collection of HSD for optimised management of pavement and surfacing programmes. **Policy Approach**: Support increased support for TTM through TMC responsibilities and supplier requirements to align with CoPTTM changes. **Procurement Approach**: Enhance routine maintenance contracts to ensure that road maintenance contracts collect and maintain asset condition data. **Policy Approach**: Increased focus on data collection (where there are gaps) and management processes. Strategic focus on planning for safety improvement through network wide safety audit and speed management review. Continued focus on demand and risk management. **Policy Approach**: Proactive monitoring of high-risk slopes, coastal erosion and river scour sites.	Improving focus on strategic context and ability to plan proactively.
Sealed Roads	**Adjust Programme**: Increase reseal programme by 10% to ensure achievement of DIA base preservation levels & dTIMS recommendations. Increased focus on proactive renewals ahead of increased tourism and agricultural loading. Allows for recovery of lost condition on secondary collector roads. **Risk-Based Approach**: Add a smoothing programme to high volume urban roads to address deteriorating roughness trends and low customer satisfaction.	Ability of contractors to deliver enhanced programmes may be problematic.

Activity/Asset Group	How Desired Outcomes will be Delivered	Residual Risks
	Policy Approach: incorporate ONRC criteria and LoS in renewal of roading maintenance contract. **Adjust Timing**: Targeted renewals to address backlog and improve condition and safety issues over the medium term.	
Unsealed Roads	**Risk-Based Approach**: Introduce performance grading but maintain current LoS. **Adjust Programme**: Introduce an increased crown in conjunction with remetalling programme to achieve better drainage and resilience to damage from the effects of climate change.	Improving levels of customer satisfaction.
Drainage	**Policy Approach**: Introduce condition rating of drainage assets through the roading maintenance contract and use the data as the basis for the renewal programme. Proactive maintenance focussed on high-risk areas. **Adjust Programme**: More proactive drainage renewals, particularly on Lifeline routes.	Improving drainage condition.
Footpaths	**Adjust Programme**: Increased maintenance and renewals to arrest LoS decline. Limit cost though user of grinding and AC overlay programmes where possible.	Improving pedestrian environment encouraging mode shift.
Streetlighting	**Baseline strategy:** Reactive maintenance and renewals. LED upgrade has been completed in 2020/21 with Central Management System implemented in 2022/23. **Adjust Programme**: More proactive maintenance. Central Management System to identify faults more quickly with improved levels of service in responding.	Pole condition largely unknown, pole condition project planned. Streetlight network is based on historical lighting supplied by electricity network provider and improvements will be required to comply with lighting standards.
Signs and Markings	**Adjust Programme**: Improved safety through delineation including sight rails. Allow for extra high-wear re-mark and reduce lifecycle costs through use of high-performance markings at high-wear intersections.	Improving levels of customer satisfaction and reducing DSI.
Environmental	**Risk-Based Approach**: Move to performance mowing to offset increased control requirements due to climate change. Focus on intersection LoS to assist with tackling crash trends. **Policy Approach**: Increase frost gritting programme to manage safety with increased winter rainfall due to climate change **Policy Approach**: Responsible disposal of sump debris as a contaminated waste. **Adjust Programme**: Added costs for management of new stock effluent dumpsite in Omarama **Adjust Programme**: Hazardous tree removal programme to proactively limited road closures.	Improving levels of customer satisfaction and safety.
Bridges and other Structures	**Programme Adjustment**: Kakanui Bridge replacement added to programme to increase network resilience (including for SH1S). **Programme Adjustment**: Like for like bridge replacements moved from LCLR funding category **Policy Approach**: Focussed condition and capacity assessments, seismic screening, HPMV permitting, materials testing and painting screening.	Improving HCV access although risk remains that renewals are not completed fast enough e.g. Kakanui Point Bridge which is 120 years old (residual risk is not fully funded). Lack of resilience results in increasingly costly disruptions due to climate change.
Emergency Response	**Risk-Based Approach**: Increased focus on restoring service after minor events. **Adjust Programme: A**ll reinstatements identified completed.	Risk is that the roading network does not recover sufficiently between events leading to poorer LoS.
LCLR Improvements	**Programme Approach**: Safety - enhanced programme of intersection and mode neutral improvements **Programme Approach**: Resilience - enhanced programme of bridge strengthening upgrades and scour.	Improving levels of customer satisfaction and safety. Ability of contractors to deliver enhanced

Activity/Asset Group	How Desired Outcomes will be Delivered	Residual Risks
	Programme Approach: Efficiency - enhanced programme of seal widening programme (rural secondary collectors) and sealing of unsealed approaches (accessways, intersections and bridges). **Procurement Approach**: increased resource (1 FTE) to manage delivery of enhanced LCLR programme.	programmes may be problematic.

10.7 Option 4: Accelerated Programme for Change/Growth

Option 4 provides for an accelerated version of Option 3 (with a slow-down in years 6-10) to deliver earlier benefits that support WDC's strategic vision. It also includes an improvement in the LoS on unsealed roads through increased grading, remetalling and crown restoration work.

Table 46: Option 4 Detailed Description

Activity/Asset Group	How Desired Outcomes will be Delivered	Residual Risks
Network & Asset Management	**Baseline Strategy**: Network & asset management and procurement changes. **Policy Approach**: Increased focus on data collection (where there are gaps) and management processes. Strategic focus on planning for safety improvement through network wide safety audit and speed management review. Continued focus on demand and risk management. **Adjust levels of Service**: Cost of service analysis and engagement with community to develop a clear understanding of affordable levels of service.	Risks reducing significantly
Sealed Roads	**Risk Based Approach**: Proactive maintenance focussed on high-risk areas. **Adjust Timing**: Removal of renewals backlog over a 3-year period to improve capacity, condition and safety issues. **Procurement**: Smart buying through packaging work at the re-tendering of maintenance contracts.	Risks reducing significantly
Unsealed Roads	**Baseline Strategy**: Maintenance similar to previous years, with risk-based approach based on ONRC (i.e. higher risk approach on Access & LV roads), where applicable. **Adjust Programme**: More focus on proactive renewals ahead of increased forestry loading. **Procurement**: Smart buying through packaging work at the re-tendering of maintenance contracts.	Risks reducing significantly
Drainage	**Risk Based Approach**: Proactive maintenance focussed on high risk areas.	Risks reducing significantly

Activity/Asset Group	How Desired Outcomes will be Delivered	Residual Risks
	Adjust Programme: More proactive drainage renewals, particularly on Lifeline routes. **Policy Approach**: Review of drainage capacity to determine future capacity improvement needs.	
Footpaths	**Baseline Strategy**: Proactive maintenance and renewals.	Risks reducing significantly
Streetlighting	**Baseline Strategy:** Proactive maintenance and renewals. LED upgrade has been completed in 2020/21 with Central Management System implemented in 2022/23. **Adjust Programme**: Increased levels of service. Central Management System to identify faults more quickly with improved levels of service in responding. Identify streetlighting gaps in main streets and urban connectors.	Pole condition largely unknown, pole condition project planned. Streetlight network is based on historical lighting supplied by electricity network provider and improvements will be required to comply with lighting standards.
Signs and Markings	**Procurement**: Review packaging and bundling of work and options for shared delivery with neighbouring AOs.	Risks reducing significantly.
Environmental	**Baseline Strategy**: Reactive maintenance and renewals. Hazardous tree removal programme to proactively limited road closures.	Risks reducing significantly.
Bridges and other Structures	**Baseline Strategy**: Targeted maintenance and renewals based on superficial inspections and predicted demand from haulier engagement for HPMV Vehicles. **Policy Approach**: Focussed condition and capacity assessments, seismic screening, HPMV permitting, materials testing and painting screening.	Risks reducing significantly.
Emergency Response	**Risk Based Approach**: Increased focus on restoring Service after minor events with higher level of investment.	Risks reducing significantly.
LCLR Improvements	Accelerated programme.	Risks reducing significantly.

10.8 Appraisal Summary Table

For each of these three options we completed a simplified multi-criteria assessment. The key criteria assessed align with Council's Draft Investment Decision Making project prioritisation criteria and Waka Kotahi's IDMF. The criteria used are shown in Table 22.

Table 47: Criteria Used

Criteria	High [H]	Medium [M]	Low [L]
	H	M	L
Strategic Alignment	Strongly aligns / contributes to GPS and national Transport Outcomes. Significant improvement against the Problem Statements is expected during the NLTP period (i.e. will address problems over the short term).	Some alignment / contribution to GPS and national Transport Outcomes. Some improvement against the problem statements is expected during the NLTP period (i.e. will address problems over the medium term).	Limited alignment / contribution to GPS and national Transport Outcomes. Limited or no improvement expected against the problem statements during the NLTP period.
Financial Impact	Provides value for money solution, with significant opportunity to optimise long term costs and LoS. Limited impact on rates and debt.	Provides moderate value for money solution with some opportunity to optimise long term costs and LoS. Potential minor increase in rates or debt.	Significant financial impact that is not sustainable. Contributes to significant rates increase or increased debt levels.
Service Delivery	Improved LoS and risk level significantly reduces.	Maintains current LoS and risk level somewhat reduces.	Reduced LoS and risk level remains the same or increases.
Carbon Reduction	Expected to contribute to measurable mode shift and VKT reduction. Carbon footprint of programmes is reducing.	Mode share and VKT may reduce slightly Carbon footprint of programmes remains the same or reduces slightly.	Mode share and VKT remains the same or increases. Carbon footprint of programmes increases.

The table below shows overall strategic fit of each option based on the assessment criteria. The assessment result is that the preferred option is OPTION 3 – Enhanced Investment.

Table 48: Assessment Summary

Programme	Options 1 - Baseline Strategy & Policy Approach	Options 2 – Modified Baseline Strategy & Policy Approach	Option 3 – Enhanced Strategy & Policy Approach	Option 4 – Accelerated Programme for Change
Strategic Alignment	L Will limit resilience and low carbon outcomes, and may contribute to increased safety issues not meeting Road to Zero objectives.	M Will only partially address problems identified, over the long term. Will limit resilience and low carbon outcomes, and may contribute to increased safety issues not meeting Road to Zero objectives.	H Ensures maintenance of the network and contribute to improving the freight network & meeting Road to Zero objectives as well as positioning the district to mitigate climate change and reduce carbon footprint.	H Ensures maintenance of the network and contribute to improving the freight network & meeting Road to Zero objectives as well as positioning the district to mitigate climate change and reduce carbon footprint.
Financial Impact	L Affordable in the short term but is the most expensive option over 10 years. Programme is achievable.	H Programme is achievable and affordable. Represents good VFM over the short and medium term.	H Proactive approach will ensure value-for-money. Programme requires some additional resource to deliver but is achievable with focussed programming & monitoring.	M Will be challenging to achieve the full programme with current available resourcing (internal & external).
Service Delivery	L The Baseline Strategy has a reactive approach to planning. While it ensures that the network does not significantly deteriorate in the short term, it does not consider future demand impacts and a renewal backlog will develop quickly. Funding additional reactive costs and other risk occurrences is likely become unaffordable within 10 years.	M Will not address safety, accessibility, resilience & amenity (STE) likely to deteriorate Reactive approach may result in more costly repairs in the long term.	H LoS will improve in some areas. Safety, accessibility, resilience and amenity will be addressed over the medium term. The Policy approach improvements will allow for enhancement of asset knowledge and will contribute to better strategic planning in future.	H LoS will be improved in the areas required. This option ensures progress towards addressing the problem statements and provides enhanced risk mitigation. The strategic problems will be addressed over the short to medium term (up 4 to 6 years).
Carbon Reduction	L Highest carbon option over 10 years. Delivery of a highly reactive programme is inefficient and poor LoS outcomes may cause reverse mode-shift leading to increased vkt.	M Substantially lower carbon than option 1 due to effective risk mitigation, although mode shift and vkt reduction is minimal.	H Near optimal carbon outcome due to balance of work quantity, risk reduction and mode shift.	H Lowest carbon option over 10 years. Option involves delivery of a large quantity of work so has high embedded carbon, but low risk leads to low levels of reactive work and an effective change programme should lead to high mode-shift and vkt reduction.

11 Preferred Programme

11.1 Activity Programme Linkages

Table 49 shows how the problems identified will be addressed through the maintenance, operations and renewals funding Work Categories (WC), to produce appropriate customer outcomes in line with the GPS Strategic Priorities and ONF requirements.

An important aspect of implementing the maintenance, operations, and renewals programs is to prioritise and optimise these activities across various road classifications and key transport routes. This approach is instrumental in achieving cost savings by appropriately adjusting the Levels of Service for different ONF categories. To accomplish this, we are committed to:

- Prioritising funding requests based on the guidance of ONF where applicable.
- Determining the optimal timing for renewal treatments, which may involve maximsing the usage of assets on lower classification roads.
- Proactively managing risks and consequences on higher classification roads, while identifying opportunities to accept higher levels of risk and consequence on lower classification roads.

Table 49: Activity Programme Linkages

National		Local		Key Components of the Programme that Address these Problems		
Government Policy Statement	ONF Transport Service Outcomes	WDC Problem Statements	WDC Investment Objectives	Maintenance and Operations	Renewals	Improvements
Maintaining and Operating the System The existing system is maintained at a level that meets current and future needs.	**Inclusive Access** Enhancing inclusive transport experiences, community, and culture.	 *refer to earlier sections for further detail.	 Support the growth of the region in a sustainable manner while ensuring we include all members of the community	WC111 – Sealed pavement maintenance (C870) WC112 – Unsealed roads maintenance (C870) WC113 – Drainage maintenance (C870) WC122 – Traffic services maintenance Signs (C870) Streetlights (C818) Roadmarking (C753) WC151 – Network and Asset Management (Annual contracts)	WC211 – Unsealed road metaling (C870) WC212 – Sealed road resurfacing (C750) WC214 – Sealed road pavement rehabilitation (Annual contracts) WC 003 – Asset Management Planning (dTIMS and FWD/MSD surveys)	WC341 – LCLR Improvements (Annual contracts)
Sustainable Urban Development People in urban areas have better choices to access economic and social opportunities	**Environmental Sustainability** Mitigating land transport's environmental impact sustainably					
Integrated Freight System Efficient and effective freight connections	**Economic Prosperity** Enhanced travel experience, efficient network, economic benefits.					
Safety A land transport system where no-one is killed or seriously injured.	**Health and Safety People** Advancing safer, healthier transport: fewer accidents, improved perception, reduced emissions.	 *refer to earlier sections for further detail.	 A transport network that supports safer travel.	WC111 – Sealed pavement maintenance (C870) WC112 – Unsealed roads maintenance (C870) WC113 – Drainage maintenance (C870) WC122 – Traffic services maintenance Signs (C870) WC 432 – Road Safety Promotion	WC211 – Unsealed road metaling (C870) WC212 – Sealed road resurfacing (C750) WC214 – Sealed road pavement rehabilitation WC222 -Traffic Services Renewals Signs (C870) Streetlights (C818) Roadmarking (C753)	WC341 – LCLR Improvements (Annual contracts)
Resilience Managing the risks from natural and human-made hazards	**Resilience and Security** Minimizing disruptions to access social and economic opportunities.	 *refer to earlier sections for further detail.	 Enhance resilience in the face of climate change impacts	WC113 – Drainage Maintenance (C870) WC121 – Environmental Maintenance (C870) WC141 – Emergency works (C870) WC151 – Network and Asset Management WC114 – Structures Maintenance	WC213 – Drainage Renewals WC221 – Environmental renewals WC215 – Structures Component Replacement (Annual contracts) WC216 Bridge Renewals (Annual contracts)	WC341 – LCLR Improvements (Annual contracts)

11.2 Factors considered when developing programmes

WDC applies various techniques to build the programmes. An example of such inputs is the dTIMS modal that is run for the sealed pavements (Figure 71). In the 2024-27 period WDC will be moving from using dTIMS to using Juno Viewer to assisting in developing the programme for road surfaces. Please note that the below is not the forward work programme. Techniques such as dTIMS are used in developing the preferred programmes that are contained within the remainder of this section. The Options Analysis should be read in conjunction with the programmes contained within this remainder of this section.

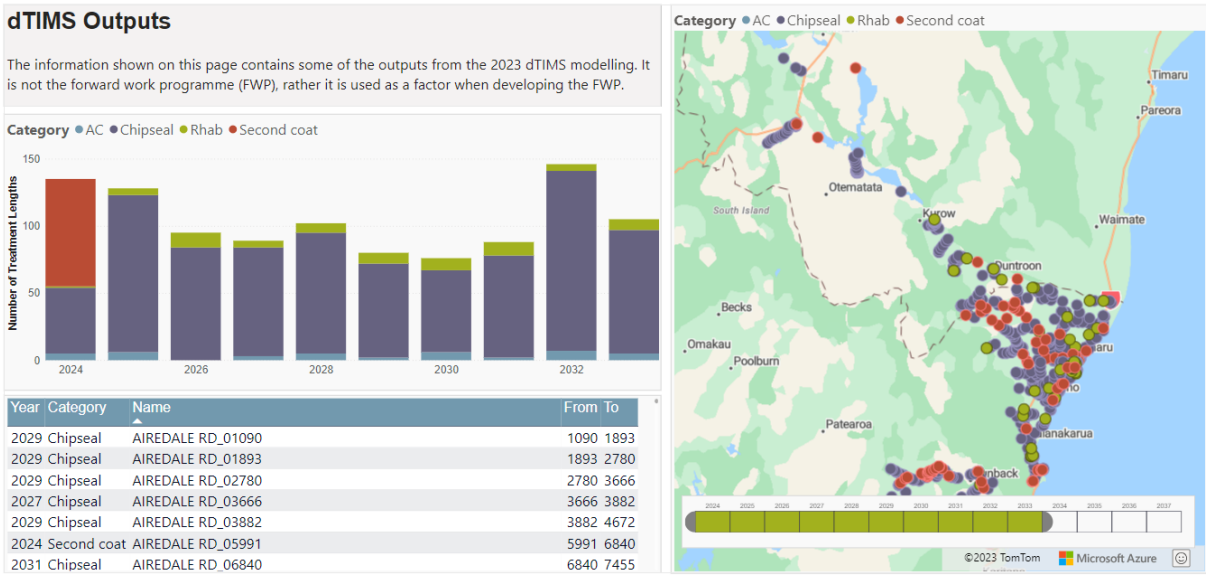


Figure 71: 2023 dTIMS Modelling Outputs

11.3 Operations, Maintenance, Renewal and Improvement Programmes

New infrastructure, renewals and maintenance works associated with the AMP are grouped into the following activity programmes:

- Programme 1: Sealed Pavements
- Programme 2: Unsealed Pavements
- Programme 3: Bridges & Other Structures
- Programme 4: Drainage
- Programme 5: Street Lighting
- Programme 6: Traffic management, signs & markings
- Programme 7: Environmental Maintenance
- Programme 8: Footpath and Cycle Paths
- Programme 9: Rail Level Crossings
- Programme 10: Low-Cost Low-Risk
- Programme 11: Emergency Works

The following single-page summaries of each programme provide a high-level description of the work to be undertaken, confirming:

1. A financial summary and planned changes to the investment level, including how the work will be funded
2. A brief overview of the programme.
3. An overview of the problems, response, benefits, and critical success factors for each programme.

4. An assessment of how well the preferred programme contributes to the above, and the expected LoS outcome
5. Any risks, dependencies and constraints.

Some of the minor programmes may not be included in the commentary in this section. A table containing all programmes irrespective of work category is included as Appendix A.

(Further additional supporting evidence included in Part B: Detailed Business Case/Asset Management Plan).

11.3.1 Programme 1: Sealed Pavements (WC111/212/214) budgets updated to reflect approved investment 2024-27 NLTP

Work Category ID	Work Category Name	2024/25	2025/26	2026/27	2027/28	2028/2029	2029/30	2030/31	2031/32	2032/33	2033/34	10 year Total
111	Sealed pavement maintenance	2,438,614	2,483,314	2,528,013	3,075,786	3,269,561	3,498,430	3,806,292	4,011,832	4,148,234	4,289,274	33,549,351
212	Sealed road resurfacing	2,618,646	2,666,646	2,714,645	3,164,755	3,364,134	3,599,623	3,916,390	4,127,875	4,268,223	4,413,343	34,854,281
214	Pavement rehabilitation	2,045,817	2,083,317	2,120,817	2,278,977	2,422,552	2,592,131	2,820,239	2,972,532	3,073,598	3,178,100	25,588,079

Programme Overview

The preferred programme to align with the problem statements and ILM is to increase renewal quantities and investment from current levels to mitigate the effect of recent escalation and other cost pressures and maintain current level of service.

Problems	Programme Responses
• Deteriorating pavement condition in Activity Streets, Local Streets, and Civic Spaces. • Decreasing pavement renewal quantities and increasing reactive maintenance costs.	• Prioritize renewals specifically for high vol. Rural Roads, Activity Streets & Civic Spaces. • Deliver targeted repairs, preventative maintenance, and data-driven decision-making to improve user experience, network productivity, and address aging assets, while managing budget constraints

Strategic Assessment

Strategic Responses	Programme Assessment
• Improve condition of our roads	Some Contribution
• Stabilise key routes	Doesn't Contribute
Benefits	
• Benefit 10.1: Improved user experience of the transport system.	Some Contribution
• Benefit 5.2: Improved network productivity and utilisation.	Contributes Strongly

Critical Success Factors (CSF)	Programme Assessment
• Potential achievability	CSF Achieved
• Potential value for money	CSF Partially Achieved

ONF Transport Outcomes

ONF Transport Outcomes	Preferred Programme Assessment
Health and Safety People	▶ Continuing level of service from previous period. Surface condition maintained.
Resilience & Security	▼ Decreasing level of service from previous period. Network subject to climate change.
Economic Prosperity	▲ Increased level of service from previous period. High ONF categories receiving increased focus.
Environmental Sustainability	▶ Continuing level of service from previous period. Surface condition maintained.
Inclusive Access	▼ Decreasing level of service from previous period. High ONF categories maintained/other categories allowed to decline.

Risks, Dependencies & Constraints

Risk	Dependency	Constraints
• Aging asset with reducing residual life.	• reliance on road condition data/modelling to inform treatment selection	• Budget constraints impacting the ability to increase reseal quantities, undertake pavement rehabilitation, and implement treatment

11.3.2 Programme 2: Unsealed Pavements (WC112/211) budgets updated to reflect approved investment 2024-27 NLTP

Work Category ID	Work Category Name	2024/25	2025/26	2026/27	2027/28	2028/2029	2029/30	2030/31	2031/32	2032/33	2033/34	10 year Total
112	Unsealed pavement maintenance	736,494	749,994	763,494	922,204	980,303	1,048,924	1,141,230	1,202,856	1,243,753	1,286,041	10,075,292
211	Unsealed road metalling	1,075,691	1,095,408	1,115,125	1,333,483	1,417,493	1,516,717	1,650,189	1,739,299	1,798,435	1,859,582	14,601,422

Programme Overview

The preferred programme to align with the problem statements and ILM is to increase maintenance, data analysis, and stakeholder collaboration on Unsealed Roads to mitigate the effect of recent escalation and other cost pressures and maintain current level of service.

Problems	Programme Responses
• Weather events affect the condition of unsealed pavements, leading to potential structural integrity and serviceability issues. • Customer satisfaction with unsealed roads reported only 28% satisfaction	• Develop and implement improved condition rating methodologies and accurate measurement techniques. • Strengthen maintenance and planning efforts.

Strategic Assessment

Strategic Responses	Programme Assessment
• Improve condition of our roads	Some Contribution
• Stabilise key routes	Doesn't Contribute
Benefits	
• Benefit 10.1: Improved user experience of the transport system.	Some Contribution
• Benefit 4.1: Reduced impact on system vulnerabilities and redundancies	Doesn't Contribute

Critical Success Factors (CSF)	Programme Assessment
• Potential achievability	CSF Achieved
• Potential value for money	CSF Achieved

ONF Transport Outcomes

ONF Transport Outcomes	Preferred Programme Assessment
Health and Safety People	▶ Continuing level of service from previous period. Unsealed Roads Maintained.
Resilience & Security	▼ Decreasing level of service from previous period. Network subject to climate change.
Economic Prosperity	▶ Continuing level of service from previous period. Other Higher ONF categories receiving increased focus.
Environmental Sustainability	▼ Decreasing level of service from previous period. Quarry availability an issue.
Inclusive Access	▶ Continuing level of service from previous period. LoS maintained on Unsealed Roads. Access Continued.

Risks, Dependencies & Constraints

Risk	Dependency	Constraints
• Unsealed pavements are disproportionately affected by weather events.	• The availability of suitable quarries with aggregate.	• Lack of new quarries available.

11.3.3 Programme 3: Drainage/Surface Water Channels (WC113/213) budgets updated to reflect approved investment 2024-27 NLTP

Work Category ID	Work Category Name	2024/25	2025/26	2026/27	2027/28	2028/2029	2029/30	2030/31	2031/32	2032/33	2033/34	10 year Total
113	Routine drainage maintenance	867,427	883,326	899,226	1,058,613	1,125,306	1,204,077	1,310,036	1,380,778	1,427,724	1,476,267	11,632,778
213	Drainage renewals	621,928	633,328	644,728	729,609	775,574	829,865	902,893	951,649	984,005	1,017,461	8,091,040

Programme Overview

The preferred Drainage/SWC programme to align with the problem statements and ILM is to maintain, renew, and improve assets, prioritize critical areas, ensure capacity for weather events, and address risks. This is in order to mitigate the effect of recent escalation and other cost pressures and maintain current level of service.

Problems	Programme Responses
• Insufficient capacity of drainage assets (Corriedale and Oamaru wards). • Inadequate maintenance/inspections, =reduced functionality/increased costs.	• Increase inspections/assessments to identify needs and prioritize based on risk assessment. • Focus investment to critical areas in preparation for large storm events.

Strategic Assessment

Strategic Responses	Programme Assessment
• Stabilise key routes	Some Contribution
• Improve the condition of our roads	Contributes Strongly
Benefits	
• Benefit 4.1: Reduced impact on system vulnerabilities and redundancies	Contributes Strongly
• Benefit 5.2: Improved network productivity and utilisation	Some Contribution

Critical Success Factors (CSF)	Programme Assessment
• Potential affordability	CSF Achieved
• Potential achievability	CSF Partially Achieved

ONF Transport Outcomes

ONF Transport Outcomes	Preferred Programme Assessment
Health and Safety People	▶ Continuing level of service from previous period.
Resilience & Security	▲ Increasing level of service from previous period. Improved drainage assessment and flood control.
Economic Prosperity	▲ Increasing level of service from previous period. Improved drainage resulting in less road damage.
Environmental Sustainability	▶ Continuing level of service from previous period.
Inclusive Access	▲ Increasing level of service from previous period. With improved drainage focus, communities have less outage.

Risks, Dependencies & Constraints

Risk	Dependency	Constraints
• Incomplete knowledge of drainage condition leading to unplanned failures.	• Inspections and assessments of culverts/SWC need to be included in the Network AM and Maintenance budget.	• Flat terrain makes it difficult to achieve adequate outfalls and discharges in certain areas. (Constraint on achieving optimal drainage infrastructure)

11.3.4 Programme 4: St Lighting (WC122/222) – budgets updated to reflect approved investment 2024-27 NLTP

Note that this portion of traffic services maintenance refers to street lights which are a portion of the costs shown here; traffic services maintenance includes streetlights, signs and roadmarking.

Work Category ID	Work Category Name	2024/25	2025/26	2026/27	2027/28	2028/2029	2029/30	2030/31	2031/32	2032/33	2033/34	10 year Total
122	Traffic services maintenance	572,811	583,310	593,810	710,927	755,715	808,615	879,773	927,281	958,809	991,408	7,782,459
222	Traffic services renewals	225,851	229,991	234,131	355,963	378,389	404,876	440,505	464,293	480,079	496,401	3,710,479

Programme Overview

The preferred Street Light programme to align with the problem statements and ILM is to maintain and improve the assets in the region. Implementing dimming at certain times (made possible with our CMS) to help mitigate the effect of recent escalation and other cost pressures and maintain current level of service.

Problems	Programme Responses
• Variable spacing resulting in measured lumens that do not always comply with lighting standards. • High costs and aesthetic issues with decorative lights that have been damaged by the saltwater environment.	• Conduct analysis on areas with most deviation from lighting standards. Prioritize the installation of infill lighting in those locations. • Explore LED lights that are more durable and resistant to the saltwater environment.

Strategic Assessment

Strategic Responses	Programme Assessment
• Promote multi-modal transport for sustainable growth	Contributes Strongly
• Network safety planning and targeted improvements.	Some Contribution
Benefits	
• Benefit 10.1: Improved user experience of the transport system	Some Contribution
• Benefit 1.1: Reduced social cost of deaths and serious injuries	Some Contribution

Critical Success Factors (CSF)	Programme Assessment
• Potential affordability	CSF Partially Achieved
• Potential achievability	CSF Achieved

ONF Transport Outcomes

ONF Transport Outcomes	Preferred Programme Assessment
Health and Safety People	▲ Increased level of service from previous period. In spacing is addressed, better lighting for all users.
Resilience & Security	▶ Continuing level of service from previous period.
Economic Prosperity	▶ Continuing level of service from previous period.
Environmental Sustainability	▲ Increased level of service from previous period. Dimming through the CMS will save power use.
Inclusive Access	▶ Continuing level of service from previous period.

Risks, Dependencies & Constraints

Risk	Dependency	Constraints
• Variable spacings of streetlights may result in non-compliance with lighting standards	• The implementation of the CMS and control units has been commissioned but is in the process of implemented.	• Financial cost to address the problems may force alternative solutions.

11.3.5 Programme 5: Traffic Services (WC122/123/131/222) - budgets updated to reflect approved investment 2024-27 NLTP

Note that this portion of traffic services maintenance refers to signs and road marking to avoid duplication with those in programme 4 above.

Work Category ID	Work Category Name	2024/25	2025/26	2026/27	2027/28	2028/2029	2029/30	2030/31	2031/32	2032/33	2033/34	10 year Total
122	Traffic services maintenance	572,811	583,310	593,810	710,927	755,715	808,615	879,773	927,281	958,809	991,408	7,782,459
123	Network Operations	29,459	29,999	30,539	33,133	35,220	37,686	41,002	43,216	44,686	46,205	371,146
131	Rail level crossing warning devices maintenance	43,039	43,828	44,617	46,798	49,747	53,229	57,913	61,040	63,116	65,262	528,588
222	Traffic services renewals	225,851	229,991	234,131	355,963	378,389	404,876	440,505	464,293	480,079	496,401	3,710,479

Programme Overview

The preferred programme to align with the problem statements and ILM involves maintaining the assets while directing efforts into understanding the asset inventory. This will help mitigate the effect of recent escalation and other cost pressures and maintain current level of service.

Problems	Programme Responses
• Inaccurate/incomplete inventory data for signs and markings in RAMM. • Insufficient budget allocation for signage /marking, posing a risk to safety and the ability to maintain current LoS.	• Continued data collection to ensure accurate and up-to-date inventory data for signs and markings in RAMM. • Consider analysis to assess the cost-benefit of current investment and safety/compliance with regulatory standards.

Strategic Assessment

Strategic Responses	Programme Assessment
• Promote multi-modal transport for sustainable growth	Doesn't Contribute
• Network safety planning and targeted improvements.	Some Contribution
Benefits	
• Benefit 10.1: Improved user experience of the transport system	Some Contribution
• Benefit 1.1: Reduced social cost of deaths and serious injuries	Some Contribution

Critical Success Factors (CSF)	Programme Assessment
• Potential affordability	CSF Partially Achieved
• Potential achievability	CSF Achieved

ONF Transport Outcomes

ONF Transport Outcomes	Preferred Programme Assessment
Health and Safety People	▶ Continuing level of service from previous period. Focus will be on assessing and maintaining LoS.
Resilience & Security	▶ Continuing level of service from previous period.
Economic Prosperity	▶ Continuing level of service from previous period.
Environmental Sustainability	▼ Decreased level of service from previous period. Asset Disposal is high, and high carbon required to maintain.
Inclusive Access	▶ Continuing level of service from previous period.

Risks, Dependencies & Constraints

Risk	Dependency	Constraints
• Inadequate signage/markings can lead to crashes/damage, posing a major risk.	• Improvement of RAMM inventory and accuracy of information is essential for effective decision-making and asset management.	• Insufficient budget allocation for the current signage and marking regime poses a high financial cost risk, potentially impacting the ability to maintain the required standards.

11.3.6 Programme 6: Footpath and Cycle Paths (WC124/125/223/225) - budgets updated to reflect approved investment 2024-27 NLTP

Work Category ID	Work Category Name	2024/25	2025/26	2026/27	2027/28	2028/2029	2029/30	2030/31	2031/32	2032/33	2033/34	10 year Total
124	Cycle path maintenance	4,714	4,800	4,886	19,865	21,117	22,595	24,583	25,911	26,792	27,703	182,966
125	Footpath maintenance	90,737	92,400	94,063	364,464	387,425	414,545	451,025	475,380	491,543	508,256	3,369,838
223	Cycle path renewals	6,835	6,960	7,085	27,611	29,350	31,405	34,169	36,014	37,238	38,504	255,171
225	Footpath renewals	192,315	195,840	199,365	777,540	826,525	884,382	962,208	1,014,167	1,048,649	1,084,303	7,185,293

Programme Overview

The preferred programme to align with the problem statements and ILM involves footpaths and cycle paths, address asset condition, improve mobility, consider climate adaptation and emissions reduction. The programme will help mitigate the effect of recent escalation and other cost pressures and maintain current level of service.

Problems	Programme Responses
• Declining Level of Service (LoS) and Asset Condition. • Insufficient Investment: Reduced investment in footpath maintenance and renewal may lead to further decline in LoS.	• Complete second full footpath network survey to start demonstrating trending of condition. • Consider business cases highlighting the economic, social, and environmental benefits of investing in footpath maintenance and renewal. Place focus on safety and multi-modal.

Strategic Assessment

Strategic Responses	Programme Assessment
• Promote multi-modal transport for sustainable growth	Contributes Strongly
• Network safety planning and targeted improvements.	Some Contribution
Benefits	
• Benefit 3.2: Reduced impact of air emissions on health	Contributes Strongly
• Reduced impact on greenhouse gas emissions	Contributes Strongly

Critical Success Factors (CSF)	Programme Assessment
• Potential achievability.	CSF Partially Achieved
• Potential value for money	CSF Achieved

ONF Transport Outcomes

ONF Transport Outcomes	Preferred Programme Assessment
Health and Safety People	▲ Increased level of service from previous period. Options of travel mode improve physical and mental health.
Resilience & Security	▶ Continuing level of service from previous period.
Economic Prosperity	▲ Increased level of service from previous period. Improved Efficiency, for example cross points to access services.
Environmental Sustainability	▲ Increased level of service from previous period. Multi modal transport reducing emissions.
Inclusive Access	▲ Increased level of service from previous period. Investment will give greater chance of mode choice.

Risks, Dependencies & Constraints

Risk	Dependency	Constraints
• Deterioration of footpath network resulting in a decline in the level of service and reduced urban mobility.	• The development of programs relies on the 2021 condition survey. Subsequent surveys will be necessary to keep the condition/candidate site list current.	• The current roading bylaw restricts cycling on footpaths, except for mobility scooters. This constraint limits the potential for shared paths and hinders the development of alternative modes of active transport in the district.

11.3.7 Programme 7: Bridges & Other Structures (WC114/215/216) - budgets updated to reflect approved investment 2024-27 NLTP

Note that this portion of structures maintenance, structures component replacements and bridge renewals refers to bridges and retaining walls

Work Category ID	Work Category Name	2024/25	2025/26	2026/27	2027/28	2028/2029	2029/30	2030/31	2031/32	2032/33	2033/34	10 year Total
114	Structures maintenance	310,954	316,654	322,354	363,759	386,676	413,743	450,152	474,461	490,592	507,272	4,036,617
215	Structures component replacements	180,026	183,326	186,626	201,560	214,258	229,256	249,430	262,900	271,838	281,081	2,260,300
216	Bridge renewals	3,067,768	3,124,000	3,180,232	132,532	140,882	150,744	164,009	172,866	178,743	184,820	10,496,596

Programme Overview

The preferred programme to align with the problem statements and ILM is to increase Bridge and Retaining Wall infrastructure Asset Management, replacing deteriorated assets, ensure resilience, and integrating climate adaptation measures. This is in order to mitigate the effect of recent escalation and other cost pressures and maintain current level of service.

Problems	Programme Responses
• Aging timber bridges: Council has 9 structural timber bridges nearing the end of their lives. • Lack of Comprehensive Strategy for Retaining Walls.	• Conduct feasibility studies to explore key bridge replacements. • Development of Retaining Wall 30-year strategy.

Strategic Assessment

Strategic Responses	Programme Assessment
• Stabilise key routes	Some Contribution
• Network safety planning & targeted improvements	Contributes Strongly
Benefits	
• Benefit 4.1: Reduced impact on system vulnerabilities and redundancies	Some Contribution
• Benefit 10.1: Improved user experience of the transport system	Some Contribution

Critical Success Factors (CSF)	Programme Assessment
• Potential affordability	CSF Partially Achieved
• Potential achievability	CSF Achieved

ONF Transport Outcomes

ONF Transport Outcomes	Preferred Programme Assessment
Health and Safety People	▲ Increased level of service from previous period. Lifted focus on retaining wall AM.
Resilience & Security	▼ Decreasing level of service from previous period. Key structures subject to climate change.
Economic Prosperity	▼ Decreasing level of service from previous period Key structures subject to climate change. Potential outages.
Environmental Sustainability	▶ Continuing level of service from previous period.
Inclusive Access	▼ Decreasing level of service from previous period Key structures subject to climate change. Potential outages.

Risks, Dependencies & Constraints

Risk	Dependency	Constraints
• The failure of bridges and retaining walls.	• Contractor availability for bridge and retaining wall maintenance and reconstruction.	• Historically, securing investment for bridges for example the Kakanui Point Bridge renewal was deferred for 8 years.

11.3.8 Programme 8: Guardrails and Barriers (WC114/215) - budgets updated to reflect approved investment 2024-27 NLTP

Note that this portion of structures maintenance and structures component replacements is for guard rails and barriers only.

Work Category ID	Work Category Name	2024/25	2025/26	2026/27	2027/28	2028/2029	2029/30	2030/31	2031/32	2032/33	2033/34	10 year Total
114	Structures maintenance	310,954	316,654	322,354	363,759	386,676	413,743	450,152	474,461	490,592	507,272	4,036,617
215	Structures component replacements	180,026	183,326	186,626	201,560	214,258	229,256	249,430	262,900	271,838	281,081	2,260,300

Programme Overview

Guardrails provide vital safety, preventing vehicles from leaving the road and safeguarding assets. Their condition will be assessed in 2024-27. Investment, prioritization, and adherence to standards are key factors for effective deployment and risk reduction.

Problems	Programme Responses
• Insufficient number of guardrails /barriers in the network, leading to increased risk/safety/liability concerns. • Outdated systems need addressing to the effectiveness and safety of guardrails and barriers.	• Invest in the installation of guardrails and barriers as part of the LCLR Improvements program to reduce the risk of accidents and asset damage. • Develop a plan for renewing outdated guardrail /barrier systems, ensuring compliance to enhance their effectiveness.

Strategic Assessment

Strategic Responses	Programme Assessment
• Network safety planning & targeted improvements	Contributes Strongly
• Improve Condition of our roads.	Some Contribution
Benefits	
• Benefit 1.1: Reduced social cost of deaths and serious injuries	Contributes Strongly
• Benefit 10.1: Improved user experience of the transport system	Some Contribution

Critical Success Factors (CSF)	Programme Assessment
• Potential Achievability.	CSF Achieved
• Potential Value for Money	CSF Achieved

ONF Transport Outcomes

ONF Transport Outcomes	Preferred Programme Assessment
Health and Safety People	▲ Increased LoS as WDC seek to improve understanding of their asset base and continue to install new guardrails. .
Resilience & Security	▶ Continuing level of service from previous period.
Economic Prosperity	▶ Continuing level of service from previous period.
Environmental Sustainability	▶ Continuing level of service from previous period..
Inclusive Access	▶ Continuing level of service from previous period.

Risks, Dependencies & Constraints

Risk	*Dependency*	*Constraints*
• Reduction in investment may lead to increasing accident risks and potential liabilities. road network's performance and safety.	• Availability of a well-maintained Safety Deficiency Database in RAMM for efficient prioritisation and implementation.	• Ongoing changes in standards may pose challenges in keeping the systems updated and compliant, causing potential delays and increased costs in renewing outdated assets.

11.3.9 Programme 9: Environmental Maintenance (WC121/221) - budgets updated to reflect approved investment 2024-27 NLTP

Work Category ID	Work Category Name	2024/25	2025/26	2026/27	2027/28	2028/2029	2029/30	2030/31	2031/32	2032/33	2033/34	10 year Total
121	Environmental maintenance	376,419	383,318	390,218	491,835	522,821	559,419	608,647	641,514	663,326	685,879	5,323,396
221	Enviromental renewals	0	0	0	0	0	0	0	0	0	0	0

Programme Overview

The preferred programme to align with the problem statements and ILM involves maintaining the assets through gritting, snow clearing, and vegetation control.

Problems	Programme Responses
• Inadequate monitoring and maintenance of grit and slippery surface signs. • Insufficient vegetation control along road boundaries, exacerbated by resistance from some landowners and lack of thorough completion by the maintenance contractor.	• Implement a comprehensive inspection and maintenance program for grit and slippery surface signs, ensuring regular monitoring, timely repairs, and accurate messaging to enhance road user safety. • Work with landowners, to encourage compliance in vegetation control, while ensuring the maintenance contractor performs.

Strategic Assessment

Strategic Responses	Programme Assessment
• Improve Condition of our roads.	Contributes Strongly
• Stabilise key routes	Some Contribution
Benefits	
• Benefit 10.1: Improved user experience of the transport system	Contributes Strongly
• Benefit 1.1: Reduced social cost of deaths and serious injuries	Some Contribution

Critical Success Factors (CSF)	Programme Assessment
• Potential Achievability.	CSF Achieved
• Potential Value for Money	CSF Achieved

ONF Transport Outcomes

ONF Transport Outcomes	Preferred Programme Assessment
Health and Safety People	▶ Continuing level of service from previous period. Focus will be on assessing and maintaining LoS.
Resilience & Security	▶ Continuing level of service from previous period.
Economic Prosperity	▶ Continuing level of service from previous period.
Environmental Sustainability	▼ Decreased level of service from previous period. Asset Disposal is high, and high carbon required to maintain.
Inclusive Access	▶ Continuing level of service from previous period.

Risks, Dependencies & Constraints

Risk	Dependency	Constraints
• Vegetation control encroaching into road envelope resulting in crashes.	• Effective Management of landowners and maintenance contractors.	• Performance of Environmental Maintenance is high however there are certain activities that are not thoroughly completed by the maintenance contractor, indicating a constraint in achieving desired outcomes.

11.3.10 Programme 10: Network and Asset Management (WC151/003) - budgets updated to reflect approved investment 2024-27 NLTP

Work Category ID	Work Category Name	2024/25	2025/26	2026/27	2027/28	2028/2029	2029/30	2030/31	2031/32	2032/33	2033/34	10 year Total
003	Transport Planning	-	-	-	92,773	98,617	105,521	114,806	121,006	125,120	129,374	787,217
151	Network & asset management	2,315,792	2,358,240	2,400,689	2,665,442	2,833,365	3,031,701	3,298,490	3,476,609	3,594,814	3,717,037	29,692,180

Programme Overview

Effective Asset Management activities within the WDC programme encompasses, staff challenges, resilience focus, climate adaptation, data optimization, periodic and improvement initiatives to maintain sustainable and resilient infrastructure.

Problems	Programme Responses
• Shortage of staff in supervision /auditing of the road maintenance contract/asset management, leading to inefficiencies and sub-optimal maintenance decisions. • Limited investment will hinder smart approach/adequate succession/ability to deliver effectively, reducing the overall performance/resilience of the network.	• Additional staff or contract external resources to fill the gaps in supervision and auditing of the road maintenance contract and asset management, ensuring better oversight and decision-making. • Invest in Network/Asset Management to support a smart approach/succession planning/effective delivery, enhancing the overall performance and resilience of the transport network.

Strategic Assessment

Strategic Responses	Programme Assessment
• Network safety planning & targeted improvements	Some Contribution
• Improve Condition of our roads.	Contributes Strongly
Benefits	
• Benefit 5.2: Improved network productivity and utilisation	Contributes Strongly
• Benefit 10.1: Improved user experience of the transport system	Contributes Strongly

Critical Success Factors (CSF)	Programme Assessment
• Scheduling/programming	CSF Achieved
• Potential Value for Money	CSF Achieved

ONF Transport Outcomes

ONF Transport Outcomes	Preferred Programme Assessment
Health and Safety People	▲ Increased LoS as effective Asset Management will contribute to investing in the right places on the network. .
Resilience & Security	▲ Increased LoS as effective Asset Management will enable assessment of at-risk areas of the network.
Economic Prosperity	▶ Continuing level of service from previous period.
Environmental Sustainability	▶ Continuing level of service from previous period..
Inclusive Access	▲ Increased LoS particularly with footpaths and cycleways with repeat full condition survey aiding planning. .

Risks, Dependencies & Constraints

Risk	*Dependency*	*Constraints*
• Staff turnover: could result in the loss of critical Asset Management expertise.	• Succession planning and knowledge transfer.	• Limited financial resources may hinder the implementation of essential improvement initiatives and ongoing activities in Network & Asset Management, potentially leading to sub-optimal maintenance decisions and reduced resilience of the transport network.

11.3.11 Programme 11: Capital Improvement Programme. - budgets updated to reflect approved investment 2024-27 NLTP

Work Category ID	Work Category Name	2024/25	2025/26	2026/27	2027/28	2028/2029	2029/30	2030/31	2031/32	2032/33	2033/34	10 year Total
341	LCLR Improvements - Associated	0	0	0	265,065	281,764	301,487	328,018	345,731	357,486	369,640	2,249,191
341	LCLR Improvements-Resilience	2,050,000	0	0	5,782,616	6,146,920	6,577,205	7,155,999	7,542,423	7,798,865	8,064,027	51,118,055
341	LCLR Improvements-Safety	0	0	0	944,895	1,004,423	1,074,733	1,169,309	1,232,452	1,274,355	1,317,683	8,017,849
432	Promotion, education & advertising	86,333	86,333	86,334	253,730	269,716	288,596	313,992	330,948	342,200	353,835	2,412,016
US303	Non financially assisted Amenity Activities	366,430	215,611	222,511	230,076	244,571	261,691	284,720	300,095	310,298	320,848	2,756,850

Programme Overview

The programme mainly focusses on Low-Cost Low Risk (LCLR) Improvements, however there are other aspects as well such as the Unsubsidised Amenity Activities.

Problems	Programme Responses
• Ongoing safety concerns poses a continued risk to road users and requires targeted interventions. • Environmental challenges (coastal erosion, climate change etc means resilience improvements are required.	• LCLR Programme, Walking and Cycling Improvements, Intersection Improvements. • Invest Drainage Improvements, Bridge replacement and other works that will improve resilience.

Strategic Assessment

Strategic Responses	Programme Assessment
• Network safety planning & targeted improvements	Contributes Strongly
• Stabilise key routes	Contributes Strongly
Benefits	
• Benefit 1.1: Reduced social cost of deaths and serious injuries	Contributes Strongly
• Benefit 4.1: Reduced impact on system vulnerabilities and redundancies	Contributes Strongly

Critical Success Factors (CSF)	Programme Assessment
• Potential achievability	CSF Achieved
• Potential Value for Money	CSF Achieved

ONF Transport Outcomes

ONF Transport Outcomes	Preferred Programme Assessment
Health and Safety People	▲ Increased LoS from LCLR programme.
Resilience & Security	▲ Increased LoS due to targeted capital improvements.
Economic Prosperity	▶ Continuing level of service from previous period.
Environmental Sustainability	▲ Increased as new assets constructed with sustainability in mind.
Inclusive Access	▲ Increased LoS particularly with footpaths and cycleways/town amenity projects.

Risks, Dependencies & Constraints

Risk	*Dependency*	*Constraints*
• H&S risk if funding reduced.	• Programme needs staffing resource.	• Budget could limit effectiveness of programme.

11.4 Programme Risks

Risks result from uncertain events that either improve or undermine the achievement of the desired benefits. The main risks that might create, enhance, prevent, degrade, accelerate or delay the achievement of the objectives of the preferred programme (Option 3) are:

Table 50: Risks

Risk Area	Risk Description	Likelihood (L/M/H)	Consequence (L/M/H)	Risk Management Strategy
Supplier's cost for delivery is higher than expected	All options considered are exposed to the risk that actual contract costs are higher than the costs assumed in this plan. WDC has not seen the same level of unit cost increases that the state highway programmes have seen in recent years but there is often a flow-on effect.	M	H	The costs used in this plan are based on robust analysis of historic cost trends and guidance from Waka Kotahi and WDC's financial manager regarding cost projections. Primary areas of concern aside from cost escalations are the effect of increased state highway programmes on cost at the tender box, and the impact of increased TTM requirements through CoPTTM developments.
Traffic loading and growth are higher than expected	Historically, traffic loading impact has been significant. This is especially the case on WDC rural roads where pavement thickness and widths are marginal. Small increases in demand can have significant performance impact in terms of user safety and required maintenance	L	M	The recommended investment level will mitigate this risk.
Waka Kotahi funding does not match the preferred programme	Availability of required funding is a governing constraint on our ability to deliver the programme	M	H	Reduce programme to match subsidised level. Allow LoS deterioration on lower classification roads. Reduce speeds and limit access as required to maintain safety.
Resource Capability	Resource capacity from the contracting sector is insufficient to deliver the programme.	L	M	Strong collaboration with our suppliers over the programme. Early supplier contracting to ensure sufficient time for delivery planning.

12 Financial Plan

12.1 Introduction

This section contains the financial requirements resulting from all the information presented in previous sections. It defines the different cost areas (maintenance/operations, renewals and capital/new works) and details the expected expenditure and funding plan for each.

12.2 Revenue and Financing Policy

The WDC Revenue and Financing Policy (RFP) sets out how Council proposes to fund the operating expenditure (OPEX) and capital expenditure (CAPEX) of its activities, including Land Transport. The RFP also demonstrates how WDC has complied with section 101(3) of the LGA.

Determining the appropriate way to fund Council activities is a complex process that considers many variables including, but not limited to:

- Legal
- Social
- Affordability
- Impact of change
- Efficiency
- Equity
- Cost
- Transparency
- Accountability
- Business
- Strategic Alignment
- Benefit

In determining the appropriate RFP, Council plans to meet the current and future needs of communities for good-quality local infrastructure, local public services, and performance of regulatory functions in a way that is most cost-effective for households and businesses.

12.2.1 Funding Principles

WDC has determined the following principles to guide the appropriate use of funding sources:

- User charges are preferred when a private benefit can be identified, and it is efficient to collect the revenue.
- Subsidies, grants and other income options are fully explored prior to rates being used.
- Each generation of ratepayers should pay for the services they receive, and borrowing can assist to achieve this outcome.
- CAPEX to replace assets that reach their projected economic life is firstly funded from rates, which accumulate in asset renewal or depreciation reserves until needed. Borrowing is then used if there is a shortfall in the funding required. Depreciation reserves fund all roading activities.
- CAPEX to upgrade or build new assets is funded firstly from other sources (e.g. subsidies, grants, financial contributions) and then borrowing.
- Growth related CAPEX is funded by development contributions. Borrowing will be used if the expenditure is required in advance of the contributions being received.

The Council applies judgment in assessing options to determine suitability in its development of budgets or acquisition of assets and the choice of funding sources to implement these.

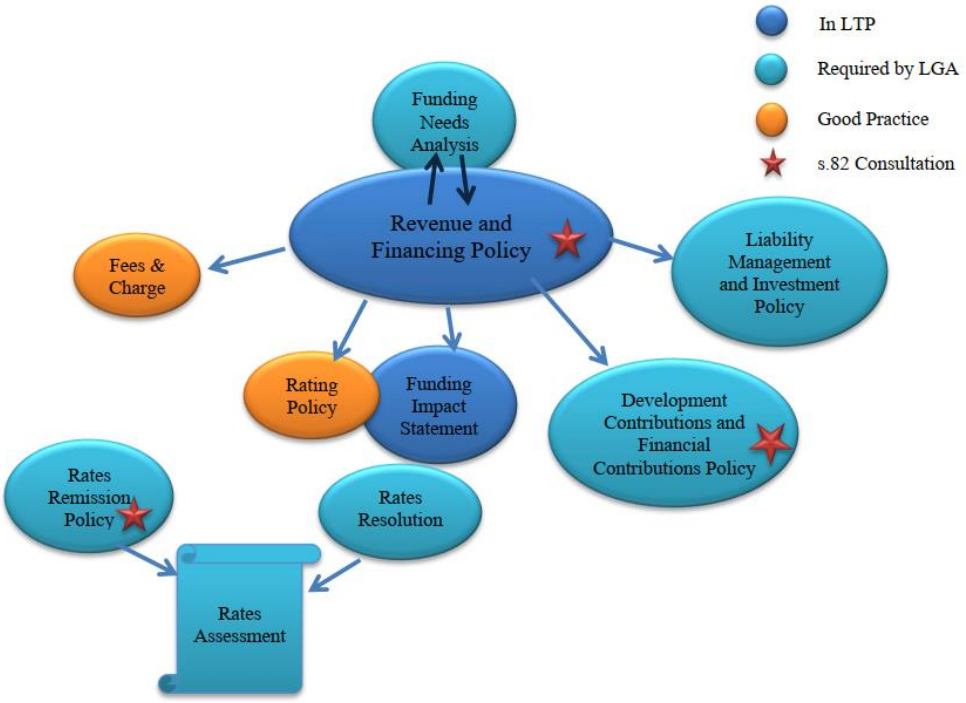


Figure 72: Revenue and Financing Policy Relationships (Source WDC Long Term Plan 2021-31)

12.2.2 Financial Strategy 2021-31

The WDC Financial Strategy was produced as a required component of the 2021-31 LTP (to promote prudent financial management). It sets out Council's approach to how it intends to allocate levels of spending over the short and medium term and how it will use the funding options available to share funding between the current and future residents and ratepayers.

Financial Strategy

To focus on delivering good quality service that meets the changing needs of the community while ensuring rates affordability and financial flexibility by focusing on efficiency and effectiveness, which maximises value and limits the use of debt.

This will be achieved by a variety of measures, the heart of the Strategy being:

- Deciding on new or increased services in a very selective way.
- Reviewing existing service deliver requirements with the aim of achieving better value, particularly from the assets involved.
- Using assets for their maximum possible life whilst ensuring that community needs and stakeholder requirements are not compromised.

The Strategy answers fundamental questions such as:

- What services should it provide, who should pay, and how should they be paid for?
- What types of assets should it own and how well should it look after them (set in conjunction with the Infrastructure Strategy)?
- How much should it be paying for now, and how much debt should it have (to be considered with the Revenue and Financing Policy, and Borrowing Management Policy)?
- What might change, and how would this change the decisions decided above?

This is the fourth iteration of the Strategy. Since the development of the last strategy there have been a number of significant issues. The three most significant were the re-introduction of the

four well-beings as the focus of local government, the impact of Covid-19 and Council response to it, and Council updating its strategic priorities.

The strategic priorities have a direct impact on the Strategy. The Strategy has recognised and allowed for these priorities in the following ways:

Table 51: Strategic Priorities

Strategic Priority	Response in the Financial Strategy
Providing high-quality core infrastructure and services	Identification of a greater need to increase the level of reinvestment in infrastructure.
Working with the community to respond to Covid-19 challenges	Further development of Council's ability to respond quickly to any change in circumstance and to rebuild financial capacity in an affordable way.
Creating a District Plan that is fit for Waitaki's future	Limited impact.
Striving towards better Council performance	Will be a key consideration in setting financial targets and measures.
Driving best value for rates	A point of emphasis that Council is focused on value rather than minimising increases in rates.

In addition to these priorities there are a number of other changes to the environment that are recognised in the Strategy:

- Increased speed and demand for change from Central Government.
- General reduction to third party funding availability.
- Increased term for Council's key investments.
- Joined the Local Government Funding Agency.

The response developed by Council was to have a two-part strategy, one for the first three years which focuses on Covid-19 recovery and affordability and a second part covering the balance of the LTP focusing on improvements. The focus of both parts is how the spending needed to meet required and desired goals can be funded in a sustainable way.

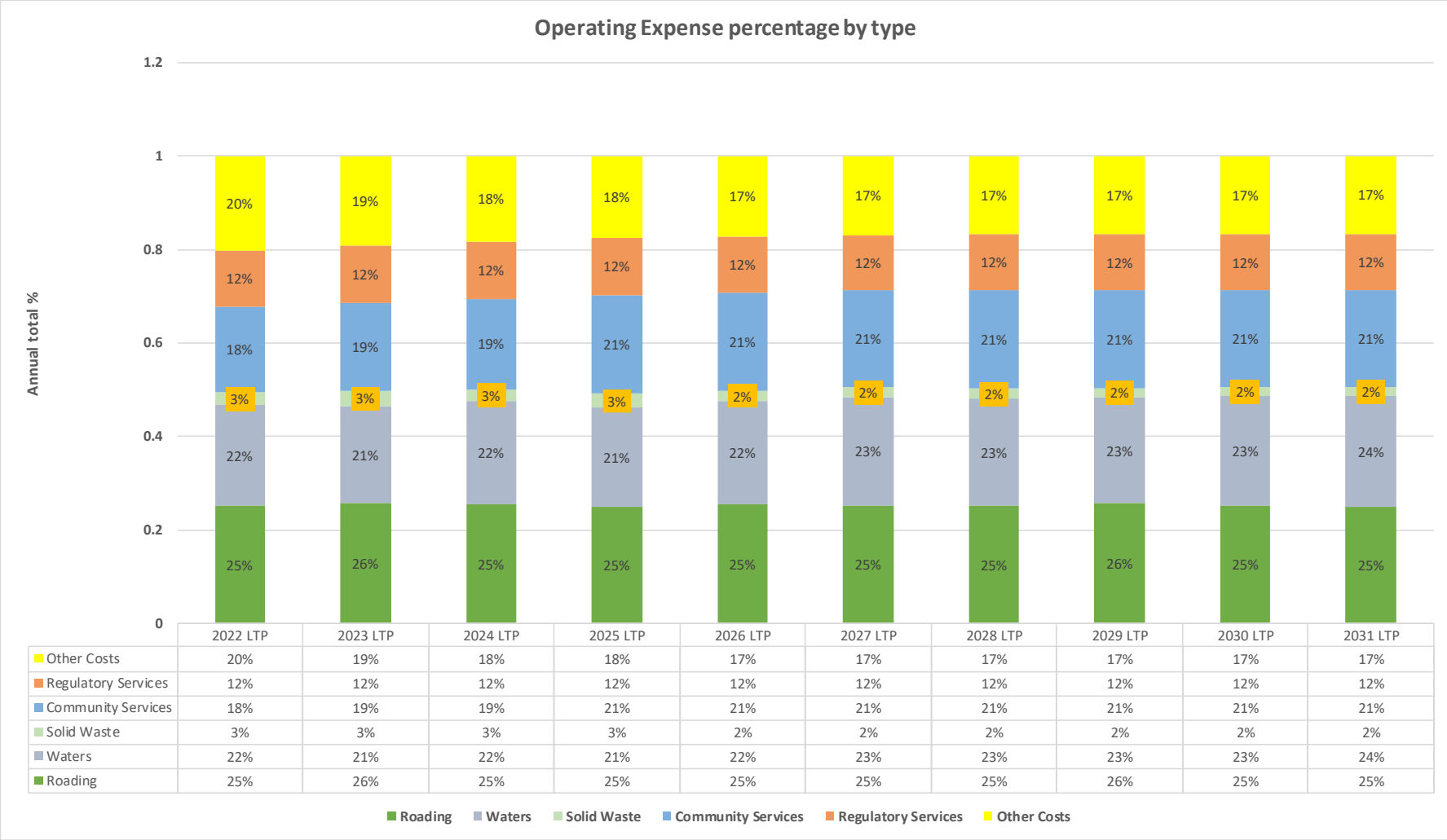
12.2.3 Affordability

Council had an average 0% increase in 2020/21 as part of the response to Covid-19. This was primarily achieved through changes to purchasing and efficiencies. Increasing cost pressures and service requirements mean that this approach had a limited impact into the future so alternative ways to address affordability measures needed to be utilised. Council's Transformation process, currently underway, recognises the need to complete this in a structured way to ensure those benefits are captured and made permanent.

Focusing on affordability has the twin aims of making financial life easier for ratepayers and creates the capacity to have more choice and ability to respond to changes and unexpected events. With that in mind, It was recognised at the time of the 0% rates that it was not sustainable and significant changes to funding and rates would be required over the coming years, particularly as Waka Kotahi had only approved a 7.4% increase over the 2021-24 National Land Transport Plan for transport and the forecast rates rise in Council's Long-Term Plan for that period was 25.5%. To ensure that levels of service are maintained, significant cost increases for construction and materials have been experienced and the 2024-2034 LTP will have higher costs for three waters and roading, which form 49% of Council's annual operating expenditure.

12.2.4 Expenditure and Levels of Service

In terms of demand on Council services and infrastructure, these factors will mean there will be limited expansion but more intense demand in existing areas. This, along with WDC's strategic priorities of improved core infrastructure and better performance and value, mean that most spending will be targeted at increased investment in current systems and services rather than on expansion or growth. These factors, along with increasing cost pressures means that Council will have to spend more to maintain the same LoS. How the mix in spending has and is expected to change is illustrated below in Figure 73 (valid until the 2024-34 LTP has been signed off).



	2022 LTP	2023 LTP	2024 LTP	2025 LTP	2026 LTP	2027 LTP	2028 LTP	2029 LTP	2030 LTP	2031 LTP
Other Costs	20%	19%	18%	18%	17%	17%	17%	17%	17%	17%
Regulatory Services	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%
Community Services	18%	19%	19%	21%	21%	21%	21%	21%	21%	21%
Solid Waste	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Waters	22%	21%	22%	21%	22%	23%	23%	23%	23%	24%
Roading	25%	26%	25%	25%	25%	25%	25%	26%	25%	25%

Figure 73: Council Planned OPEX (Source: WDC Long Term Plan 2021-31)

12.3 What The Transport Activities Will Cost

The cost of the preferred option (Option 3) is shown below. The commentary and justification for Option 3 can be found in the Options Analysis, and the Preferred Programme section of this TAMP. Supporting evidence is found in Part B: Detailed Business Case/Asset Management Plan.

Subsidised	Unsubsidised	Total Cost
$327.98M	$24.08M	$352.06M

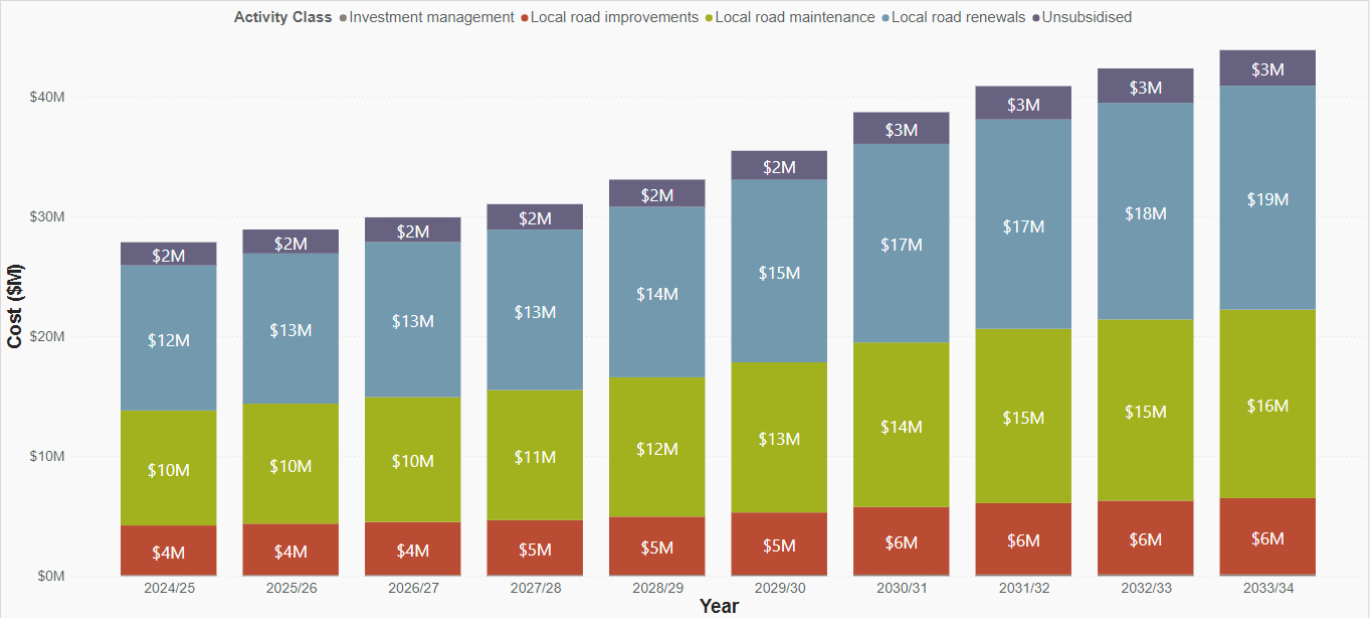


Figure 74: 10 Year Expenditure Forecast

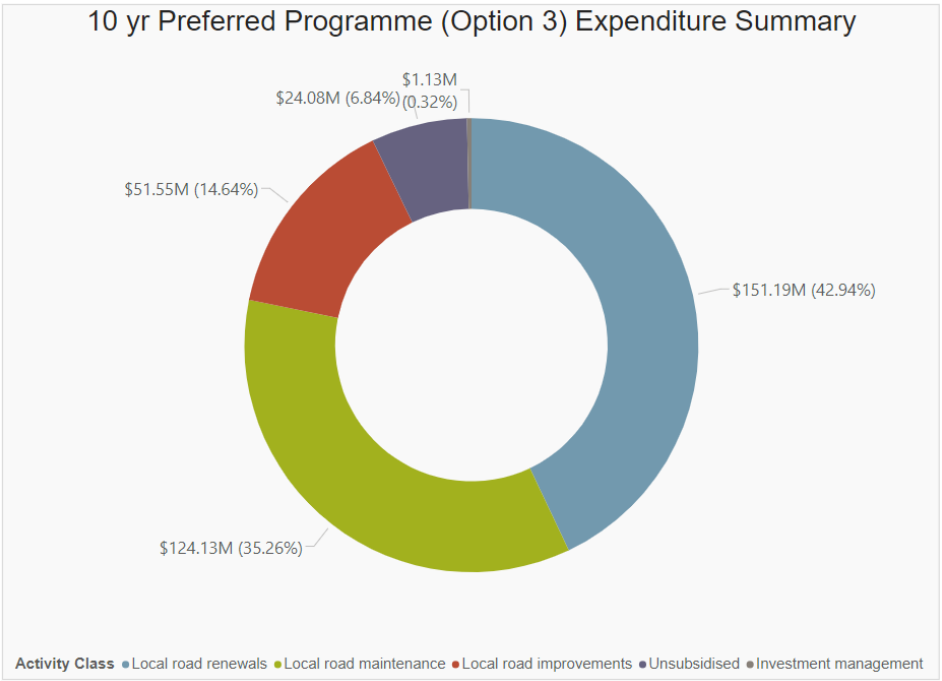


Figure 75: Expenditure Forecast/Summary

12.4 Programme Sustainability

Sustainability of the forward works programme is illustrated in the following figures. The charts show the Asset Sustainability Ratio (un-discounted) over the 10-year period of this plan is 75%. This ratio compares annual renewals expenditure with annual depreciation. Therefore, planned renewals expenditure is restoring 75% of depreciated asset value over the long term when assessed across the portfolio. This indicates that, in general, there is room for further increases in renewal expenditure to maintain a sustainable level of investment in the portfolio:

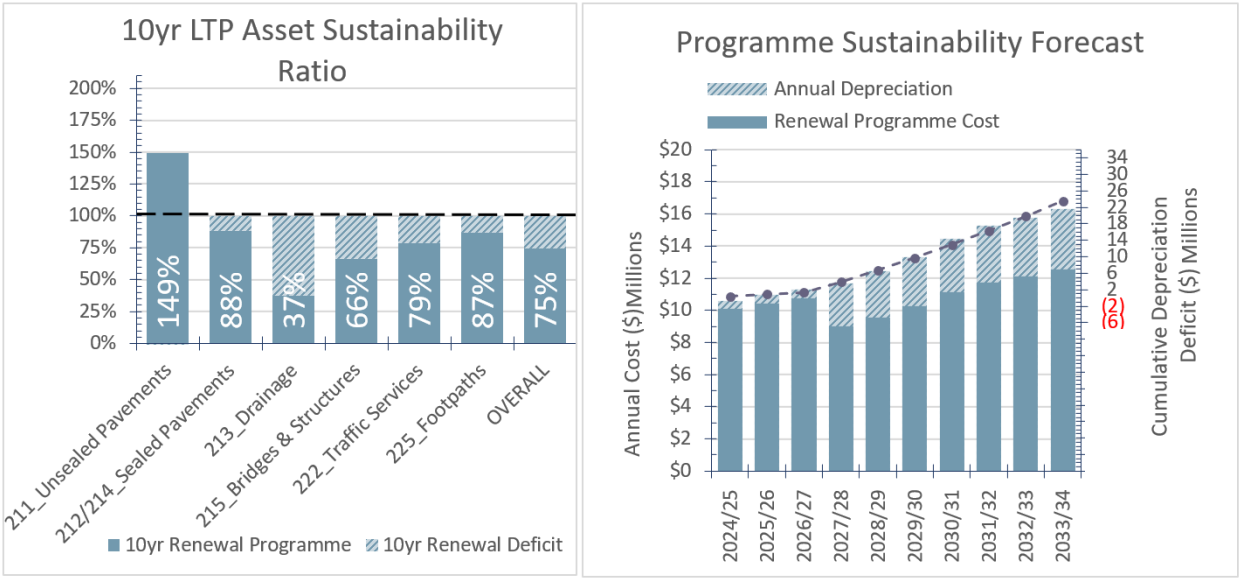


Figure 76: Programme Sustainability

12.5 How We Will Pay for It

Council's Revenue and Financing policy has been developed to comply with section I02 of the Local Government Act 2002. Funding Mechanisms to be used when funding Operations, Maintenance Renewals and Capital expenditure are a mixture of Targeted rates, UAGC, Fees and Charges, Interest Dividends from Investments, Borrowing, Reserve Funds etc.

Activities carried out on the land transport network are funded by central government (via Waka Kotahi) and through local rates share. Council's general ledger has these set up under the following three main categories:

- Roading Subsidised (RS)
- Roading Non-subsidised (RN)
- Parking (PA)

Our transport investment is funded by ratepayers and the National Land Transport Fund via Waka Kotahi, who sets the financial assistance rate for different Councils. Currently we receive 57% of the funding for approved activities (roading maintenance and renewal activities) from Waka Kotahi. This co-investment is only available for 30% of the cost of urban street cleaning and drainage maintenance. Work on footpaths, now also qualifies for Waka Kotahi subsidy.

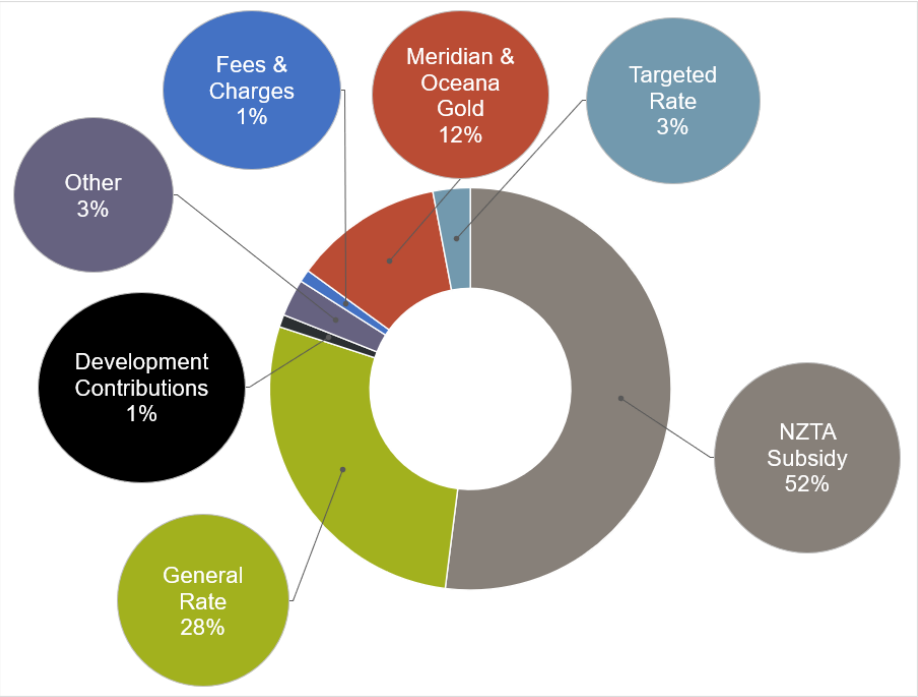


Figure 77: Our Revenue Plan

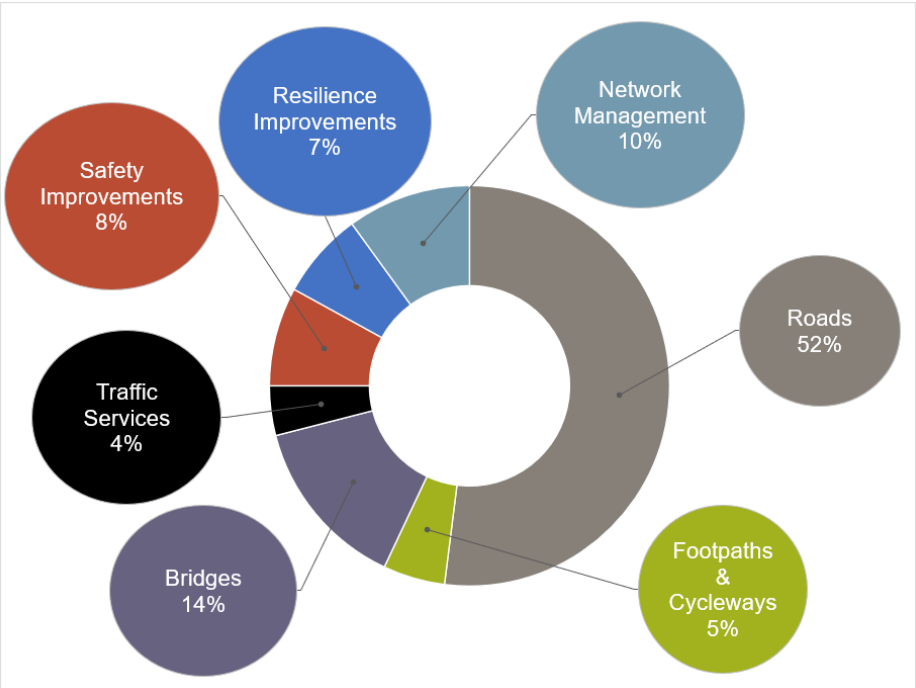


Figure 78: How we will Spend the General Rate on Transportation Services

12.6 Financial Projections

This TAMP is used to provide a framework for financial decision making that links to the LTP and other Council strategic documents. With the introduction of ONF, future funding needs to be targeted to provide appropriate LoS based on the ONF category and general road use. The financial projections included in this TAMP are focussed on achieving national consistency by ONF, while meeting our own customer requirements within the strategic context outlined in the Strategic Case.

The distinction between the different types of works for the purposes of this TAMP can be defined as follows.

- Maintenance (including operations) (OPEX) – works to maintain the asset such that its average ability to deliver a service remains relatively constant.
- Renewals (CAPEX RENEWALS) – works to restore or replace an existing asset such that its ability to provide its expected LoS is reinstated.
- Capital – works on new or existing assets that increase the LoS beyond the current LoS due to demand requirements or performance issues.

12.7 Key Assumptions made in Financial Forecasts

The following key assumptions have been made when developing the financial forecasts:

- Costs are in NZ dollars and are based on current day rates with estimated inflation rates included in the financial data. Council is required to report expenditure based on predicted inflation and cost escalation using standard financial forecasting indicators (Infometrics).
- The TAMP budget figures include updated corporate and engineering overheads.
- All aggregate requirements for unsealed roads will be able to be sourced within the district.
- Renewals and capital development assumptions have been made based on the best information available at this time and this may change as knowledge of the assets improves.
- Renewals will be fully funded.
- The activity will be funded predominantly from the FAR with the remainder coming from general rates. This subsidy rate is 57%.
- Asset renewals will be funded from depreciation funds.
- Depreciation is by the straight-line method.

12.7.1 Risks Associated with Financial Forecasts

Risks associated with the financial forecast assumptions include:

The cost of delivering and maintaining transport infrastructure has 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. This period of high and persistent inflation has brought an increased focus on cost escalation and the outlook for costs to deliver the transport service. WDC has engaged Infometrics to assist with preparing our cost outlook.

The following cost escalation assumptions and forecasts underpin our 3 and 10-year cost estimates:

- The higher level of base work levels nationally, against a backdrop of higher prices in the last few years, underscores a persistent level of sustained pricing pressure. Ongoing high levels of activity in the industry will continue to stretch labour capacity and competition for infrastructure resources will remain elevated throughout the forecast period.
- Despite the very strong cost growth of the last couple of years, there is no general expectation that the recent large cost increases are reversed out and prices fall to any degree. At best, there is scope for a slower period of cost growth in the second half of this decade due to a stabilisation of key input costs after the elevated growth rates recorded in the wake of COVID-19, as well as industry investment in an expansion of capacity that will provide some relief from the constraints currently being faced by the civil construction industry.
- 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.

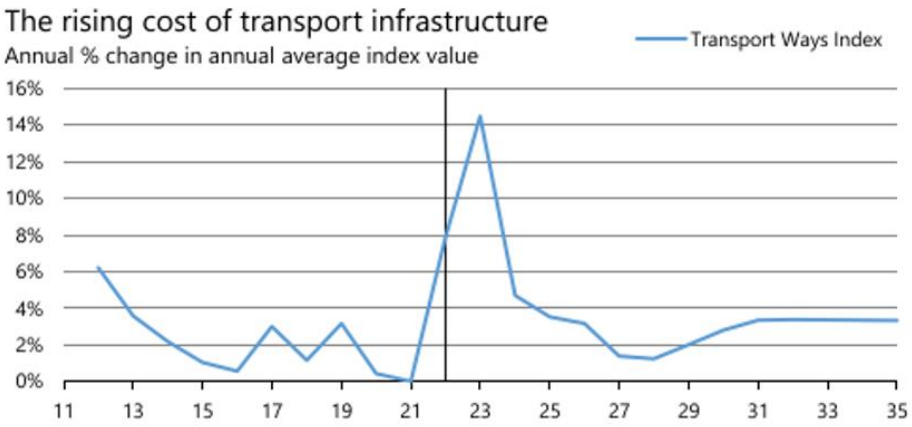


Figure 79: Transport Ways Index - Infometrics Report July 2023

In addition to the above, we expect further cost pressures to materialise from changes in the Temporary Traffic Management sector and replacement of the RMA. For the purposes of our forecast, we have assumed that these cost pressures will start impact from 2027. Should they materialise earlier, we expect to be able to manage the cost impact on our programme by adjusting our levels of service and risk profile.

The cost escalation factors and profile applied to our 10-year forecast is as follows:

Year:	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34
CPI Cost Fluctuation	0%	3.5%	3.2%	1.4%	1.3%	2.0%	2.8%	3.4%	3.4%	3.4%
Compliance Cost - RMA					1%	1%	2%	2%		
Compliance Cost - TTM & Bitumen Emulsion				2%	4%	4%	4%			
Annual Overall Escalation:	**0%**	**3.5%**	**3.2%**	**3.4%**	**6.3%**	**7.0%**	**8.8%**	**5.4%**	**3.4%**	**3.4%**

Figure 80: Cost Escalation Factors and Profile applied

12.8 Benefits of Investing

Benefits of the programme are as follows, using the Waka Kotahi benefits management framework:

Table 52: Benefits of Programme Investment

Investment Area	Benefit Cluster	Benefit	Description	Performance Measures
Sealed & Unsealed Pavements	1. Changes in user safety	1.1 Impact on social cost of deaths and serious injuries	The impact of reducing the number of DSIs on all land transport modes and their social costs. Achieved through improvements & better maintained roads, especially secondary collectors.	ONF Personal/Collective Risk Outcome
				ONF Deaths and Serious Injuries
	10. Changes in access to social and economic opportunities	10.1 Impact on user experience of the transport system	How all people experience the transport system, including people with disabilities, school children, and the elderly, and how different modes are experienced. Achieved through increased LoS on secondary collectors and urban roads.	ONF Smooth Travel Exposure Outcome
				ONF Peak Roughness Outcome

Investment Area	Benefit Cluster	Benefit	Description	Performance Measures
Bridges	5. System Reliability	5.2 Improved network productivity and utilisation	Network productivity and utilisation is about efficient use of the land transport network. Optimising our part of the broader economic/social system to allow broader benefits to be gained. Achieved through increased HPMV access	ONF Heavy Vehicle Accessibility Outcome
Other Structures	4. Changes in impact of unplanned disruptive events on access to social and economic opportunities	4.1 Impact on system vulnerabilities and redundancies	Reducing the risk of communities not being able to access social and economic opportunities due to unexpected outages.	Availability of a viable alternative to high-risk and high-impact route
				ONRC Resilience CO1 measure – No. of journeys impacted by closure
				ONRC Resilience CO2 measure – The number of instances where road access is lost
Drainage	4. Changes in impact of unplanned disruptive events on access to social and economic opportunities	4.1 Impact on system vulnerabilities and redundancies	Reducing the risk of communities not being able to access social and economic opportunities due to unexpected outages. Achieved through enhanced inspection and maintenance of drainage systems.	4.1.1 Availability of a viable alternative to high-risk and high-impact route
				ONRC Resilience CO1 measure – No. of journeys impacted by closure
				ONRC Resilience CO2 measure – The number of instances where road access is lost
Traffic Services	1. Changes in user safety	1.1 Impact on social cost of deaths and serious injuries	The impact of reducing the number of DSIs on all land transport modes and their social costs.	ONF Personal/Collective Risk Outcome
				ONF Deaths and Serious Injuries
Cycleways & Footpaths	10. Changes in access to social and economic opportunities	10.1 Impact on user experience of the transport system	How all people experience the transport system, including people with disabilities, school children, and the elderly, and how different modes are experienced. Achieved through better maintained footpaths	DIA PM4 – Network condition - footpaths
Network & asset management	Contributes to all benefit areas outlined above. Benefits achieved through proactive, evidence-based planning and delivery.			

12.9 Consequence of Not Investing

If the issues and opportunities identified are not addressed there will be economic consequences both locally and across the wider region. These are detailed earlier in the TAMP in Section 5.

12.10 Residual Risk and Significant Negative Effects

There are a number of potentially significant negative effects associated with the preferred programme and the land transport activity, including:

- Crashes

- Dust
- Congestion
- Flooding
- Noise
- Stock-truck effluent
- Vehicle emissions

This TAMP identifies a number of objectives and priority actions over the next ten years that seek to mitigate these negative effects.

Table 53: Residual Risk

Driver of Effects	Issue	Asset	Impact to Well-Beings	Possible Resolution	Status of Resolution
General Roading Activity	Gravel loss to adjacent land	Unsealed Roads	Storm water drain blockages.	• Increased numbers of drainage cut-outs, culverts, and rock lining.	Increase drainage maintenance within maintenance contract
			Decline in service potential.	• Implement programme of seal extensions.	Seal Extension Policy
	User Safety	Entire activity	Serious injury and / or loss of life. Impact on social and cultural well-beings.	• Road Safety Action Plan used to implement Safer Journeys Strategy. • Deficiency Database / SWIPP used to Prioritise minor improvements and road safety projects.	In place and on-going.
	Noxious weed vector	Rural Roads	Reduced economic productivity	• Liaise with Regional council about vegetation & pest management strategies	Yet to start
	Traffic Congestion	Primarily urban areas	Not a common occurrence in the district. Impact is likely to be reduced travel times and increase in localised vehicle emissions.	• Not a common occurrence in the district. Measures to address this to be raised as and when needed.	On-going.
Activity changes due to business growth	Dust	Unsealed Roads	Dust can cause respiratory illness in livestock, impact on viticulture quality and general nuisance to people in the vicinity.	• On-going programme of seal extensions and dust suppression methods in place. • Network hierarchy to be guided by growth in economic benefit.	Seal Extension Policy
	User Safety	Rural under width roads	Safety risk resulting from narrow carriageways and wide heavy vehicles	• Programme of seal widening planned.	On-going
	Vehicle Emissions	Rural and Urban Roads	Increase in CO2 and PM10 emissions.	• To be guided by policy from Ministry of Environment and Ministry of Health or regional council.	On-going.

Driver of Effects	Issue	Asset	Impact to Well-Beings	Possible Resolution	Status of Resolution
	Noise	Rural Roads	Increase in noise in rural towns on main truck routes.	• Enforcement of speed limits. • Promote use of bypasses. • Smoother sealing. • Signs requesting 'No Exhaust Brakes'.	No mitigation planned. Suggest reviewing Bylaws.
	Stock Truck Effluent	Rural and SH Roads	Environmental concerns of run-off. Road safety (Slippery roads and dirty windshields). Aesthetics.	• Endorse the industry code of practice for minimisation of stock effluent spillage from trucks on roads.	
	Stormwater Discharge quality	Rural Roads	Decrease in storm water run-off quality.	• Construction and maintenance of road drainage systems comply with ORC and ECAN.	Working to ORC stormwater plan and ECAN Natural Resources Regional Plan
	Vibration	Urban Roads	Structural integrity of rural and urban properties on main truck routes.	• Enforced speed limits. • Promote use of bypasses.	Review Bylaws for speed limits. Use of Roading Network Plan and ONF to define main routes
	New Roads	All roads	Environmental impact of new road and increased activity into new area.	• Ensure all new roads are consented under the RMA and are constructed to standards endorsed by Council.	On-going.

12.11 Meeting the Investment Assessment Criteria

This investment proposal meets the assessment criteria in the following areas:

Table 54: Meeting the Investment Assessment Criteria

Assessment Criteria	How the Criteria are being met	TAMP Section
Strategic Case		
Strategic Alignment	Contribution is made towards achieving national Transport Outcomes and aligning with strategic drivers outlined in the GPS, with a specific focus on supporting regional New Zealand by recognising the pivotal role of regional transport in regional development. Furthermore, full alignment with other significant national and regional strategies, including the ONF/ONRC, has been successfully achieved. The ONF/ONRC framework has been incorporated into the TAMP and funding development process. Renewal projects are prioritised based on ONF/ONRC criteria, and a more flexible approach is taken for maintenance on lower classification roads, considering the associated risks.	Section 5
Strategic Direction	The national and regional Strategic Direction have been thoroughly examined and integrated into the assessment of gaps in LoS.	Section 2, 5, and 9
Problem Identification	We have successfully identified concise problem statements, along with our primary Investment Objectives and Strategic Responses, to initiate and foster transformation. The potential ramifications of not making investments have been detailed, considering their impact within different timeframes:	Section 5

Assessment Criteria	How the Criteria are being met	TAMP Section
	short-term (0-3 years), medium-term (3-10 years), and long-term (10+ years).	
Objectives and benefits identified	The development of our program is guided by our prominent Investment Objectives, which offer clear direction. We have effectively aligned the identified Benefits with the Problems at hand and established suitable performance measures to monitor future progress. Additionally, we have provided a comprehensive report on our performance in relation to ONRC Levels of Service (LoS).	Section 5
Economic Case		
Core Programme	The comprehensive Programme Business Case presents a comprehensive range of options that were evaluated, accompanied by a Multi-Criteria Assessment of these options. This assessment aims to identify a preferred program that maximises both LoS and affordability.	Section 10 and 11
Evidence	Supporting evidence has been collected to strengthen the Strategic Case during the formulation of the Programme and Detailed Business Cases. While the majority of areas have sufficient evidence, identified improvement items highlight specific gaps in evidence that require attention.	Section 5 and Part B
Programme expenditure	Our TAMP is in alignment with our funding application submitted to Waka Kotahi.	Section 10, 11, and 12
Financial Case		
Overall network base preservation costs	The analysis has identified that the overall network base preservation level required for the respective ONF classes cannot be achieved at the current investment level. The options considered reflect the impact of different investment levels on LoS	Section 10, 11, and 12
Affordability	A review of funding sources and affordability has been completed for the proposed programme.	Section 10, 11, and 12
Commercial Case		
Procurement	Our latest Procurement Strategy is in place. We have completed the Smart Buyer Self-Assessment and developed key procurement implementation initiatives. These outline future risks and opportunities around sustaining a healthy and competitive market, incorporating AM approaches, selecting appropriate contract models and shared services.	Section 13
Maintenance contracts	Maintenance contracts has been retendered in the last 3 years. The new maintenance contract has a greater emphasis on ONRC alignment (ONF was not embedded in time for the new contract, but will be phased in where possible), customer service, works quality and operational AM.	Section 13
Programme stability	WDC and Waka Kotahi need to consider a more stable work programme for contractors so there is more consistency over time and not having spikes. Industry has signalled that efficiency of the sector will increase with more stable workloads. They can plan ahead, build capability and capacity and retain the capability to delivery over time.	Section 11 and 13
Management Case		
Network Management	Though WDC has effectively managed the maintenance of the roading asset over a period of funding constraints and growth, recent approaches are no longer sustainable. The condition of road surfaces and road pavements that	Section 13

Assessment Criteria	How the Criteria are being met	TAMP Section
	existed at the start of the last LTP are being consumed, and flat-line investment risks overall network condition declining to a point where increased investment is now critical.	
Integration / Partnering	During the TAMP development process, we have given due consideration to the programs and activities of other agencies. Our team actively participated in regional workshops, thoroughly evaluating regional projects that will have an impact on WDC.	Section 1 and 2
Performance Management	Our Improvement Programme provides key improvement initiatives along with proposed timing and resourcing for completion. We have also included details on how we will monitor programme delivery.	Section 14 and Appendices includes the Improvement Programme
Confidence in Delivery / Risk Management	We have provided a thorough overview of our ability and resources to effectively deliver the program, encompassing information about our external delivery partners, such as contractors and professional service providers, and highlighting our collaborative approach to ensure successful delivery. In addition, we have included details regarding our Asset Management (AM) Maturity, emphasising areas where we intend to enhance our internal expertise. Throughout the program development process, we have integrated Risk Management, with particular emphasis on asset criticality, to ensure comprehensive mitigation strategies are in place.	

13 Delivery

Implementation is a critical aspect to ensuring this business case can successfully deliver on the identified benefits. The recommendations from this business case will not be successful without working with our community, Waka Kotahi and the delivery sector to ensure the work activities are delivered to the programme.

13.1 Providing Value for Money

WDC provides a high standard of services across an extensive District and affordability is a key issue for the community, so achieving Value For Money is critical. Low population and relatively weak socio-economic depravity indicators have a significant impact on affordability of the transport activity, with limited ability for the ratepayers to finance any increases in road maintenance and renewals costs.

The Council's endorsed procurement strategy is aimed at providing good quality local infrastructure, local public services, and performance of regulatory functions in a way that is most cost-effective for households and businesses:

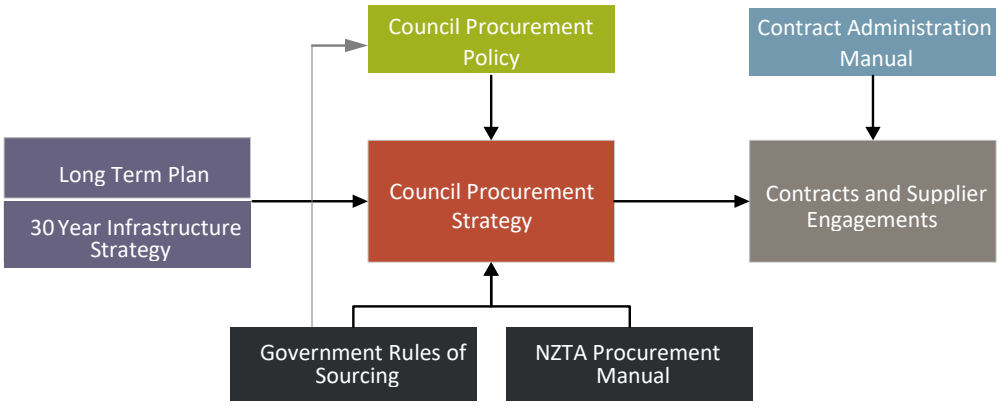


Figure 81: Council Procurement Strategy and relevant linkages

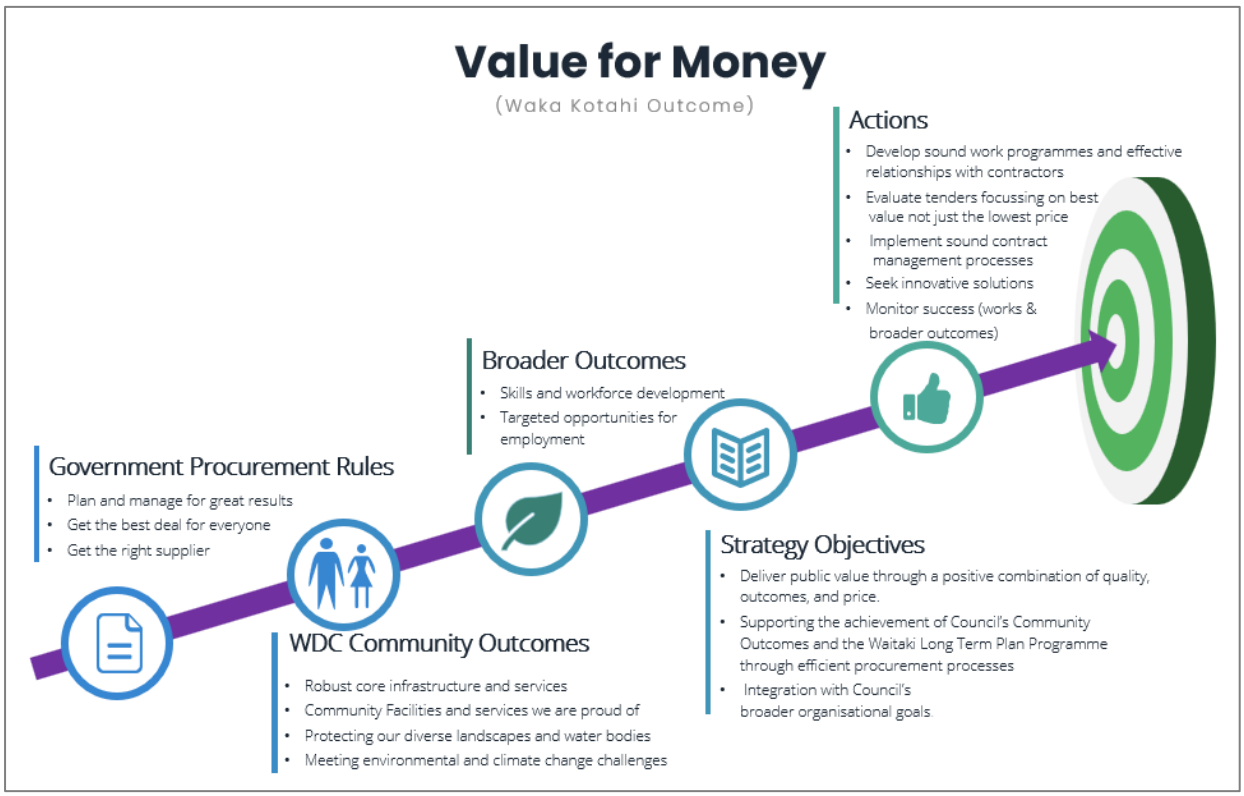


Figure 82: Combination of Outcomes sought by Waka Kotahi and WDC (Source: WDC Procurement Strategy 2023)

Key strategies for achieving this include:

- **Focus on outcomes** – we make sure we are doing the right thing to meet our community outcomes and national transport outcomes, including the GPS Strategic Priorities and ONF Transport Outcomes.
- **Have a robust plan –** to identify an effective FWP over the long term so we can keep providing services for future generations.
- **Practice smart buying** – simplified procurement to assist suppliers and simplified supplier selection procedures help us make sure we get a quality outcome for the right price.
- **Support local** – maintaining capacity and competitiveness in the local market means we have best access to the skills we need to do the work and are able to reinvest in our community.

13.1.1 Asset Management Principles

According to international research, substantial cost reductions of approximately 40% can be achieved by implementing optimal asset management principles. This is shown in Figure 84. By implementing this TAMP, WDC is putting into action its corporate Asset Management (AM) Policy. The AM Policy establishes the accepted standard of AM practices to be employed in asset management. Through evaluating and embracing a suitable level of AM, the Council can determine the "Appropriate Best Practice" for Waitaki District. This enables the allocation of resources to be directed towards enhancing the responsible management of community infrastructure.

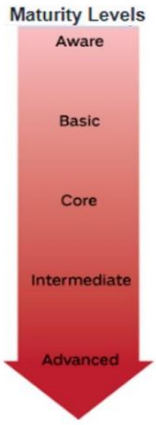


Figure 83: IIMM Asset Management Maturity Levels

At present, Council have adopted AM level for the transportation service as:

"Core Plus/Intermediate"

This means that the plan level represents a transition between Core (Basic) practice and Advanced practice accounting for all lifecycle elements. Additional emphasis in the Transportation plan is required in the following practice areas:

- Lifecycle Decision Making
- Financial Forecasts

Further information on the AM system can be found in the TAMP Part B: Detailed Business Case/Asset Management Plan.

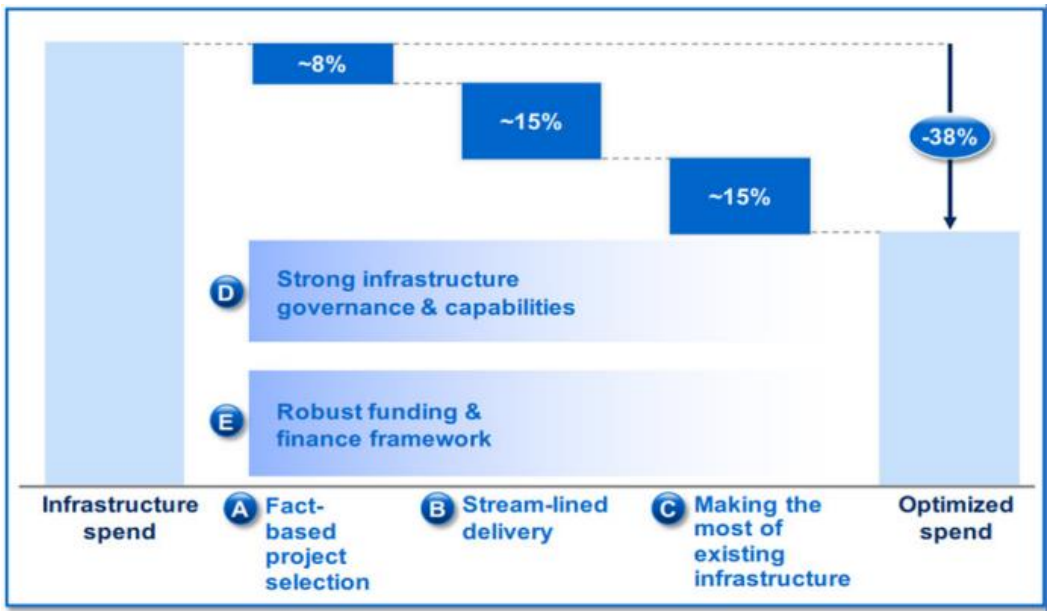


Figure 84: Potential Savings through using mature Asset Management Principles (Original Source: McKinsey Global Institute)

13.1.2 Taking a Lifecycle Management Approach

In relation to the ONF, it is important to recognize that a primary motivation for investing in the transportation network is to ensure the integrity of assets. This is achieved by adopting a comprehensive approach that encompasses the entire lifespan of assets, incorporating effective asset management planning, including lifecycle management planning and modelling. Within the framework of this plan, the lifecycle of an asset refers to understanding the rate at which it changes. The main objective is to determine the appropriate timing for asset maintenance, renewal, or improvement (such as upgrading through capital works), either for the asset as a whole or its individual components. The TAMP Part B: Detailed Business Case/Asset Management Plan provides a breakdown of maintenance plans and outlines the strategies for renewing, upgrading, and creating assets to support the activities and services provided to the community. It describes the practices implemented by the Council to maintain current service levels and explores opportunities to enhance asset lifecycles through condition monitoring.

A key aspect of effective lifecycle management is the availability of accurate data and the ability to interpret it effectively, enabling well-informed decision-making. This facilitates the optimisation of our infrastructure and holds particular significance for mature and critical assets.

Figure 85: Lifecycle Management (Source: International Infrastructure Management Manual)

13.1.3 Risk Management

Within this section it is important that significant Risk Management outcomes are emphasized, which have been integrated into the future planning outlined in the TAMP. Comprehensive information regarding the specific risk management practices employed for the land transport activity can be found in Part B: Detailed Business Case/Asset Management Plan. The risk discussion in Part B: Detailed Business Case/Asset Management Plan includes but is not limited to:

- Our Approach to Risk Management
- Strategies for Managing Risk
- Transportation Risk Management Plan
- Critical Assets Assessment Process and Outcomes

- Core Infrastructure
- Critical Assets

- Managing Risk Through ONF
- Specific Activity Risks and Mitigation
  - Incident Response & Disaster Recovery
  - Environmental & Cultural Risks
  - Risks from Third Party Activities in the Corridor
  - Road Safety Risks
  - Asset Failures
- Climate Change Adaptation
- Risk Register

13.2 Organisational Structure

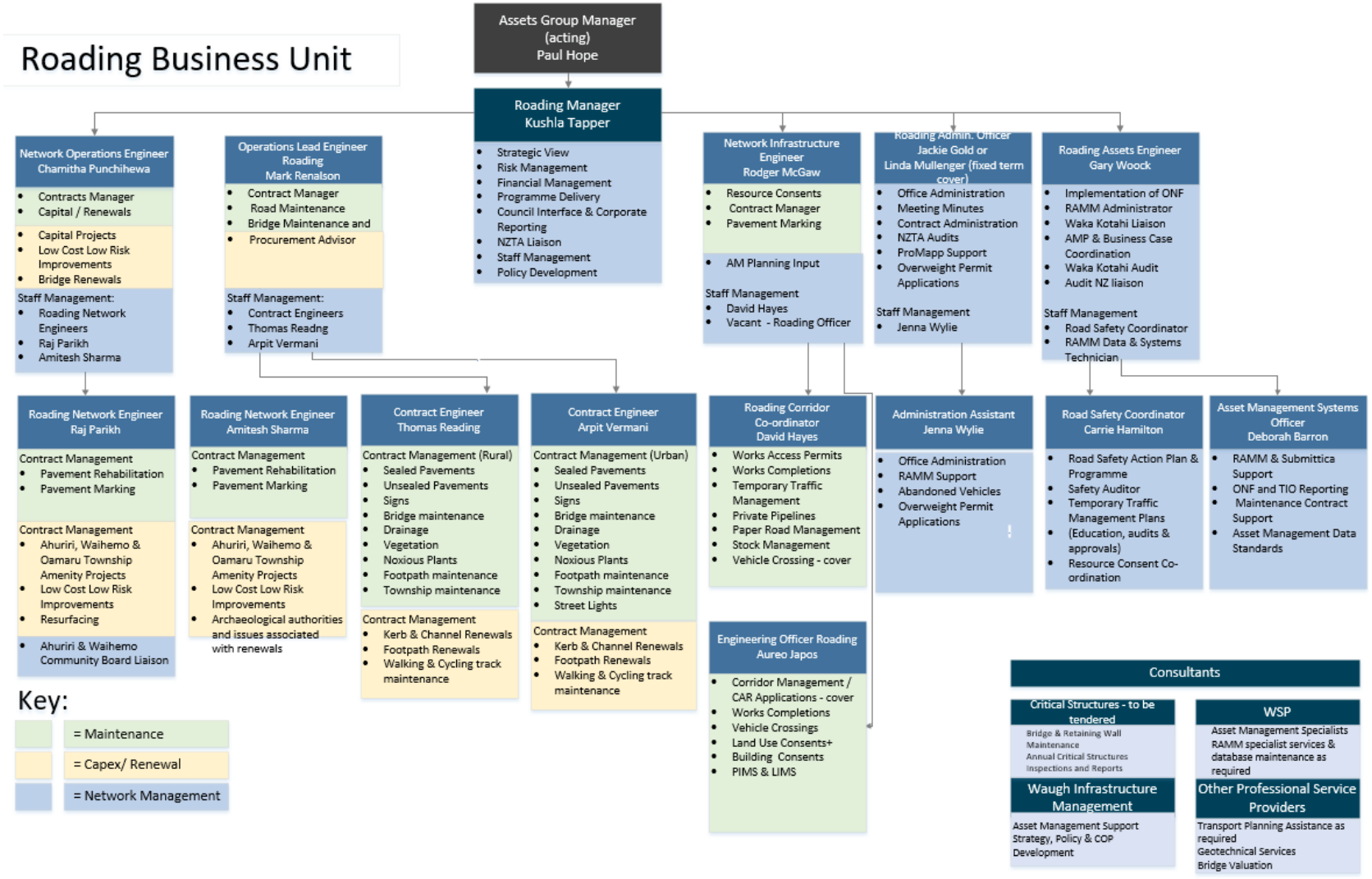


Figure 86: WDC Roading Organisational Chart 2023 Note - to be updated when the new Transformation structure is available from Council's HR unit.

13.3 Managing Service Delivery

Our roading infrastructure is delivered through a combination of in-house staff, external professional service consultants and external physical works contractors.

Transportation expenditure includes a combination of:

- Operations & maintenance of assets
- Renewal of assets
- Construction of new infrastructure to improve the LoS
- Network and Asset Management and general services to support Council functions

WDC staff undertake the strategic management of the asset and respond to stakeholder queries. They also undertake routine inspections of the network and manage both the professional services and physical works contracts.

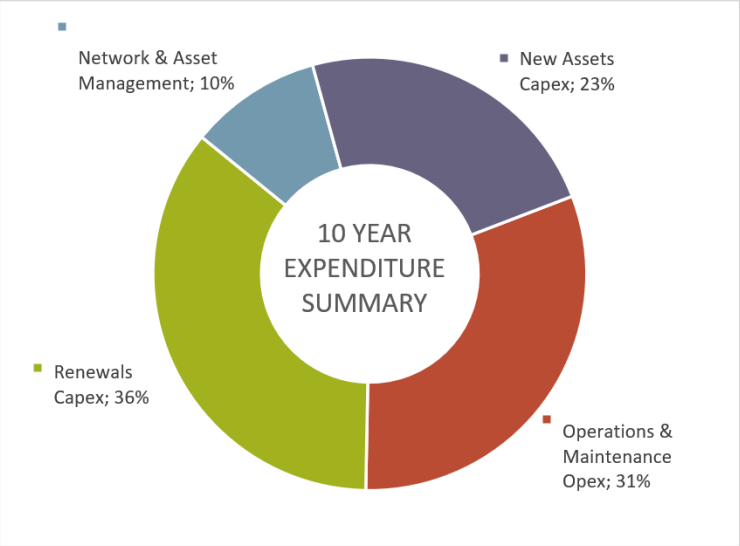


Figure 87: 10 Year Expenditure Delivery

We utilise professional services to provide technical skills and capacity that cannot be provided by staff within WDC. This approach has allowed the formal sharing of knowledge and experience between both parties and the efficient delivery of services. This means of delivery has also allowed access to a larger resource base than the Council could afford to retain.

Physical works contractors are appointed to undertake both maintenance and renewal works on WDC's roads. Our current contract schedule is shown below:

Table 55: WDC Contract Schedule

Contract	Contract Term	30/6/2022	30/6/2023	30/6/2024	30/6/2025
Roading Maintenance (c870)	Awarded October 2022 (5+2)		New Contract	Initial Term	Initial Term
Streetlight maintenance (c818)	Awarded April 2022 (3)	New Contract	Initial Term	Initial Term	Initial Term
Pavement Marking (c753)	Awarded July 2020 (3+1+1)	Initial Term	Initial Term	Extension awarded	Possible Extension
Road Resurfacing (c750/3)	Awarded July 2020 (3+1+1)	Initial Term	Initial Term	Extension awarded	Possible Extension
Bridge Inspections (c) to be awarded	Awarded August 2023 (3)		New Contract	Initial Term	Initial Term
Footpath Resurfacing (c863)	Awarded May 2022 (2+1)	Initial Term	New Contract	Initial Term	Initial Term
RAMM/Asset Data	In-house professional services	Specialist services of professional providers direct appointed where required. Awarded July 2023			
Pavement Rehabilitation	Annual Contracts	New Contract	New Contract	New Contract	New Contract

Contract	Contract Term	30/6/2022	30/6/2023	30/6/2024	30/6/2025
Low Cost Low Risk (LCLR) Improvements	Annual Contracts	New Contract	New Contract	New Contract	New Contract

13.3.1 Collaboration

WDC works with neighbouring RCA's where there is mutual benefit. In the Roading sector, Waitaki District has opted to undertake planning through the ORC RLTP, but also collaborates with other territorial authorities and Waka Kotahi in Canterbury as well e.g. road safety collaboration with Timaru and Ashburton Districts. Other opportunities are limited as Waka Kotahi has long term network outcome contracts in place, and Waimate District is part of the Aoraki Roading Collaboration in South Canterbury. Linkages with Central Otago are limited, but some network management investigation modelling work has been shared. Council shares a Risk and Procurement Advisor with Central Otago District Council.

After a period of considering options to share professional services with Dunedin City, Council has opted to grow its in-house resources to meet the increasing workload and rely less on outsourcing.

14 Improvement Programme

14.1 Current & Desired State of AM Practices

Our Activity Management Plan uses Business Case principles and Asset Management processes to provide strong support for future investment requirements.

Our transportation team have the capacity and capability to provide professional engineering and management services to all asset based activities, including: managing physical works contracts, collecting maintenance cost data, managing customer and stakeholder interface and future planning for the transportation activity. The in-house team are complemented when necessary by a range of professional services providers for technical input, design and investment planning capability.

14.1.1 Current AM Practices - Core Plus / Intermediate Level Asset Management

The International Infrastructure Management Manual (IIMM) uses an Asset Management (AM) Maturity Index to provide guidance to advancing asset management practices. Our current capability is assessed as providing Core Plus / Intermediate Level Asset Management meeting minimum legislative requirements.

Core Plus / Intermediate maturity represents custodial responsibilities identified in the National Asset Management Framework and the IIMM and comprises minimum requirements on:

- Record and report on the state of all assets to the community;
- Meet current statutory reporting requirements;
- To enable council through information to understand the cumulating impact of decisions;
- Ensure community safety

14.1.2 Desired Level of AM Practices

Asset management processes need to be fit for purpose. For some aspects of the Transport Activity, Core Plus / Intermediate level asset management is appropriate. However, with the predicted growth in demand on the network, and the tensions applied to achieve ONF LoS requirements, a more sophisticated level of asset management is warranted, particularly for higher value assets including pavements and structures. This would enable Council to better manage the sustainability and long-term whole of life cost of providing a fit for purpose transportation the network.

Implementation of this improvement programme will contribute to meeting this desired increased asset management capability.

14.2 Improvement Plan

Since the 2021-24 TAMP, WDC have undertaken steps to resolve items that were identified on 2021-24 Improvement Plan. The residual items are included again on the 2024-2027 Improvement Plan, along with newly identified improvement items.

The Improvement Plan is structured under the Te Ringa Maimoa strategic pillars headings. Implementation of this Improvement Plan will also provide a framework from which the AMP can be developed to meet all the requirements of a core plus asset management system.

The full improvement plan is included as Appendix B and also included as an Appendix in the TAMP Part B: Detailed Business Case/Asset Management Plan. The key high priority improvement items (that are included in full in Appendix B) are summarised below:

Systems Improvements: Embed Risk Framework, Improve Line of Sight, ONF integration, Speed Limit Management Plan/ONF integration LCLR/ONF integration.

Evidence: ONF measures, ONF Future State, High Speed Data Collection, Further maturing of footpath survey strategy, SWC/Drainage Inspections, Sign and Railing condition data.

Communicating: Asset Management Compliance Report – undertake to demonstrate improvement from 2021-24.

Decision Making: Develop Retaining Wall 30-year Strategy, Develop Climate Resilience Strategy, Integrate ONF into Maintenance Contract, Development of Dangerous, Earthquake prone Buildings Policy, Road Maintenance Global Resource Consent/RAMM Contractor Integration, ORC and ECan resource consents/RAMM UDT's, Continued updating of Roading Policies.

Service Delivery: Only Medium and Low priorities. Please refer to Appendix B.

People/Culture: Continued Te Ringa Maimoa Attendance, further development of Broader Outcomes Framework.

Appendix A – Operations, Maintenance, Renewals and Improvement Programmes

Work Category ID	Work Category Name Financially Assisted		2024/25	2025/26	2026/27	2027/28	2028/2029	2029/30	2030/31	2031/32	2032/33	2033/34	10 year Total
003	Transport planning	Requested	84,000	86,940	89,722	92,773	98,617	105,521	114,806	121,006	125,120	129,374	1,047,879
		Approved	0	0	0	92,773	98,617	105,521	114,806	121,006	125,120	129,374	787,217
111	Sealed pavement maintenance	Requested	2,784,938	2,882,411	2,974,648	3,075,786	3,269,561	3,498,430	3,806,292	4,011,832	4,148,234	4,289,274	34,741,408
		Approved	2,438,614	2,483,314	2,528,013	3,075,786	3,269,561	3,498,430	3,806,292	4,011,832	4,148,234	4,289,274	33,549,351
112	Unsealed pavement maintenance	Requested	835,000	864,225	891,880	922,204	980,303	1,048,924	1,141,230	1,202,856	1,243,753	1,286,041	10,416,416
		Approved	736,494	749,994	763,494	922,204	980,303	1,048,924	1,141,230	1,202,856	1,243,753	1,286,041	10,075,292
113	Routine drainage maintenance	Requested	958,510	992,058	1,023,804	1,058,613	1,125,306	1,204,077	1,310,036	1,380,778	1,427,724	1,476,267	11,957,171
		Approved	867,427	883,326	899,226	1,058,613	1,125,306	1,204,077	1,310,036	1,380,778	1,427,724	1,476,267	11,632,778
114	Structures maintenance	Requested	329,362	340,889	351,798	363,759	386,676	413,743	450,152	474,461	490,592	507,272	4,108,703
		Approved	310,954	316,654	322,354	363,759	386,676	413,743	450,152	474,461	490,592	507,272	4,036,617
121	Environmental maintenance	Requested	445,327	460,914	475,663	491,835	522,821	559,419	608,647	641,514	663,326	685,879	5,555,345
		Approved	376,419	383,318	390,218	491,835	522,821	559,419	608,647	641,514	663,326	685,879	5,323,396
122	Traffic services maintenance	Requested	643,701	666,231	687,550	710,927	755,715	808,615	879,773	927,281	958,809	991,408	8,030,010
		Approved	572,811	583,310	593,810	710,927	755,715	808,615	879,773	927,281	958,809	991,408	7,782,459
123	Network operations	Requested	30,000	31,050	32,044	33,133	35,220	37,686	41,002	43,216	44,686	46,205	374,242
		Approved	29,459	29,999	30,539	33,133	35,220	37,686	41,002	43,216	44,686	46,205	371,146
124	Cycle path maintenance	Requested	17,987	18,616	19,212	19,865	21,117	22,595	24,583	25,911	26,792	27,703	224,381
		Approved	4,714	4,800	4,886	19,865	21,117	22,595	24,583	25,911	26,792	27,703	182,966
125	Footpath maintenance	Requested	330,000	341,550	352,480	364,464	387,425	414,545	451,025	475,380	491,543	508,256	4,116,667
		Approved	90,737	92,400	94,063	364,464	387,425	414,545	451,025	475,380	491,543	508,256	3,369,838
131	Rail level crossing warning devices maintenance	Requested	42,373	43,856	45,259	46,798	49,747	53,229	57,913	61,040	63,116	65,262	528,593
		Approved	43,039	43,828	44,617	46,798	49,747	53,229	57,913	61,040	63,116	65,262	528,588
151	Network and asset management	Requested	2,391,936	2,497,866	2,577,797	2,665,442	2,833,365	3,031,701	3,298,490	3,476,609	3,594,814	3,717,037	30,085,057
		Approved	2,315,792	2,358,240	2,400,689	2,665,442	2,833,365	3,031,701	3,298,490	3,476,609	3,594,814	3,717,037	29,692,180
140	Minor events	Requested	0	0	0	0	0	0	0	0	0	0	0
		Approved	0	0	0	0	0	0	0	0	0	0	
	Total Financially Assisted Operations & Maintenance	Requested	8,893,134	9,226,606	9,521,857	9,845,600	10,465,873	11,198,484	12,183,950	12,841,884	13,278,508	13,729,977	111,185,872
		Approved	7,786,460	7,929,183	8,071,909	9,845,600	10,465,873	11,198,484	12,183,950	12,841,884	13,278,508	13,729,977	107,331,828

Work Category ID	Work Category Name	Financially Assisted	2024/25	2025/26	2026/27	2027/28	2028/2029	2029/30	2030/31	2031/32	2032/33	2033/34	10 year Total
211	Unsealed road metalling	Requested	1,207,389	1,249,647	1,289,636	1,333,483	1,417,493	1,516,717	1,650,189	1,739,299	1,798,435	1,859,582	15,061,869
		Approved	1,075,691	1,095,408	1,115,125	1,333,483	1,417,493	1,516,717	1,650,189	1,739,299	1,798,435	1,859,582	14,601,422
212	Sealed road resurfacing	Requested	2,865,494	2,965,786	3,060,691	3,164,755	3,364,134	3,599,623	3,916,390	4,127,875	4,268,223	4,413,343	35,746,314
		Approved	2,618,646	2,666,646	2,714,645	3,164,755	3,364,134	3,599,623	3,916,390	4,127,875	4,268,223	4,413,343	34,854,281
213	Drainage renewal	Requested	660,617	683,738	705,618	729,609	775,574	829,865	902,893	951,649	984,005	1,017,461	8,241,029
		Approved	621,928	633,328	644,728	729,609	775,574	829,865	902,893	951,649	984,005	1,017,461	8,091,040
214	Pavement rehabilitation	Requested	2,063,476	2,135,697	2,204,040	2,278,977	2,422,552	2,592,131	2,820,239	2,972,532	3,073,598	3,178,100	25,741,341
		Approved	2,045,817	2,083,317	2,120,817	2,278,977	2,422,552	2,592,131	2,820,239	2,972,532	3,073,598	3,178,100	25,588,079
215	Structures component replacemen	Requested	182,500	188,888	194,932	201,560	214,258	229,256	249,430	262,900	271,838	281,081	2,276,642
		Approved	180,026	183,326	186,626	201,560	214,258	229,256	249,430	262,900	271,838	281,081	2,260,300
216	Bridge renewals	Requested	3,120,000	3,124,200	3,128,174	132,532	140,882	150,744	164,009	172,866	178,743	184,820	10,496,970
		Approved	3,067,768	3,124,000	3,180,232	132,532	140,882	150,744	164,009	172,866	178,743	184,820	10,496,596
221	Environment renewals	Requested	0	0	0	0	0	0	0	0	0	0	0
		Approved	0	0	0	0	0	0	0	0	0	0	0
222	Traffic services renewals	Requested	322,303	333,584	344,258	355,963	378,389	404,876	440,505	464,293	480,079	496,401	4,020,652
		Approved	225,851	229,991	234,131	355,963	378,389	404,876	440,505	464,293	480,079	496,401	3,710,479
223	Cycle path renewals	Requested	25,000	25,875	26,703	27,611	29,350	31,405	34,169	36,014	37,238	38,504	311,869
		Approved	6,835	6,960	7,085	27,611	29,350	31,405	34,169	36,014	37,238	38,504	255,171
225	Footpath renewals	Requested	704,016	728,656	751,973	777,540	826,525	884,382	962,208	1,014,167	1,048,649	1,084,303	8,782,418
		Approved	192,315	195,840	199,365	777,540	826,525	884,382	962,208	1,014,167	1,048,649	1,084,303	7,185,293
324	Bridge replacements	Requested	0	0	0	0	0	0	0	0	0	0	0
		Approved	0	0	0	0	0	0	0	0	0	0	0
	Total Financially Assisted	Requested	11,150,793	11,436,071	11,706,025	9,002,030	9,569,158	10,238,999	11,140,031	11,741,593	12,140,807	12,553,594	110,679,102
	Renewals	Approved	10,034,877	10,218,816	10,402,754	9,002,030	9,569,158	10,238,999	11,140,031	11,741,593	12,140,807	12,553,594	107,042,660

Work Category ID	Work Category Name	Financially Assisted	2024/25	2025/26	2026/27	2027/28	2028/2029	2029/30	2030/31	2031/32	2032/33	2033/34	10 year Total
341	LCLR Improvements - Associated	Requested	240,000	248,400	256,349	265,065	281,764	301,487	328,018	345,731	357,486	369,640	2,993,940
		Approved	0	0	0	265,065	281,764	301,487	328,018	345,731	357,486	369,640	2,249,191
341	LCLR Improvements-Resilience	Requested	2,519,490	2,607,672	2,691,118	5,782,616	6,146,920	6,577,205	7,155,999	7,542,423	7,798,865	8,064,027	56,886,334
		Approved	2,050,000	0	0	5,782,616	6,146,920	6,577,205	7,155,999	7,542,423	7,798,865	8,064,027	51,118,055
341	LCLR Improvements-Safety	Requested	855,545	885,489	913,825	944,895	1,004,423	1,074,733	1,169,309	1,232,452	1,274,355	1,317,683	10,672,707
		Approved	0	0	0	944,895	1,004,423	1,074,733	1,169,309	1,232,452	1,274,355	1,317,683	8,017,849
421	Travel demand management & behaviour change	Requested	0	0	0	0	0	0	0	0	0	0	0
		Approved	0	0	0	0	0	0	0	0	0	0	0
432	Promotion, education & advertising	Requested	229,738	237,778	245,387	253,730	269,716	288,596	313,992	330,948	342,200	353,835	2,865,919
		Approved	86,333	86,333	86,334	253,730	269,716	288,596	313,992	330,948	342,200	353,835	2,412,016
451	Walking facilities	Requested	0	0	0	0	0	0	0	0	0	0	0
		Approved	0	0	0	0	0	0	0	0	0	0	0
452	Cycling facilities	Requested	0	0	0	0	0	0	0	0	0	0	0
		Approved	0	0	0	0	0	0	0	0	0	0	0
	Total Improvements &	Requested	3,844,772	3,979,339	4,106,678	7,246,305	7,702,823	8,242,020	8,967,318	9,451,553	9,772,906	10,105,185	73,418,900
	Education	Approved	2,136,333	86,333	86,334	7,246,305	7,702,823	8,242,020	8,967,318	9,451,553	9,772,906	10,105,185	63,797,110

Work Category ID	Work Category Name Non-Financially Assisted		2024/25	2025/26	2026/27	2027/28	2028/2029	2029/30	2030/31	2031/32	2032/33	2033/34	10 year Total
US111	Carpark maintenance	Requested	121,656	125,914	129,943	134,361	142,826	152,824	166,272	175,251	181,210	187,371	1,517,628
		Approved	121,660	125,914	129,943	134,361	142,826	152,824	166,272	175,251	181,210	187,371	1,517,632
US111	Targeted maintenance including Road Safety Advertising as at 20 May 2025, not yet approved by Council	Requested	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	250,000
		Approved	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	250,000
US111	Recoverable works	Requested	247,200	255,852	264,039	273,017	290,217	310,532	337,859	356,103	368,210	380,730	3,083,758
		Approved	407,200	255,852	264,039	273,017	290,217	310,532	337,859	356,103	368,210	380,730	3,243,758
US114	Structures Maintenance	Requested	26,400	27,324	28,198	29,157	30,994	33,164	36,082	38,030	39,323	40,660	329,333
		Approved	26,730	27,324	28,198	29,157	30,994	33,164	36,082	38,030	39,323	40,660	329,663
US121	Street cleaning	Requested	77,000	79,695	82,245	85,042	90,399	96,727	105,239	110,922	114,693	118,593	960,556
		Approved	77,000	79,695	82,245	85,042	90,399	96,727	105,239	110,922	114,693	118,593	960,556
US121	Pest plant management	Requested	79,044	81,811	84,428	87,299	92,799	99,295	108,033	113,867	117,738	121,741	986,054
		Approved	109,490	81,811	84,428	87,299	92,799	99,295	108,033	113,867	117,738	121,741	1,016,500
US121	Rural general	Requested	82,320	85,201	87,928	90,917	96,645	103,410	112,510	118,586	122,618	126,787	1,026,921
		Approved	75,100	85,201	87,928	90,917	96,645	103,410	112,510	118,586	122,618	126,787	1,019,701
US121	Township maintenance												
	Ahuriri	Requested	101,136	104,676	108,025	111,698	118,735	127,047	138,227	145,691	150,645	155,766	1,261,646
		Approved	89,840	104,676	108,025	111,698	118,735	127,047	138,227	145,691	150,645	155,766	1,250,350
	Corriedale	Requested	72,528	75,066	77,469	80,103	85,149	91,109	99,127	104,480	108,032	111,705	904,769
		Approved	66,900	75,066	77,469	80,103	85,149	91,109	99,127	104,480	108,032	111,705	899,141
	Oamaru & Weston	Requested	326,664	338,097	348,916	360,780	383,509	410,354	446,465	470,575	486,574	503,118	4,075,051
		Approved	256,530	338,097	348,916	360,780	383,509	410,354	446,465	470,575	486,574	503,118	4,004,917
	Waihemo	Requested	140,328	145,239	149,887	154,983	164,747	176,280	191,792	202,149	209,022	216,129	1,750,557
		Approved	164,600	145,239	149,887	154,983	164,747	176,280	191,792	202,149	209,022	216,129	1,774,829
US151	Road legalisation	Requested	55,620	57,567	59,409	61,429	65,299	69,870	76,018	80,123	82,847	85,664	693,846
		Approved	60,420	57,567	59,409	61,429	65,299	69,870	76,018	80,123	82,847	85,664	698,646
US201	Carpark renewals	Requested	71,500	74,003	76,371	78,967	83,942	89,818	97,722	102,999	106,501	110,122	891,945
		Approved	75,000	74,003	76,371	78,967	83,942	89,818	97,722	102,999	106,501	110,122	895,445
US301	Aggregate Supplies	Requested	28,870	29,880	30,836	31,885	33,893	36,266	39,457	41,588	43,002	44,464	360,141
		Approved	21,240	29,880	30,836	31,885	33,893	36,266	39,457	41,588	43,002	44,464	352,511
US301	Seal extensions	Requested	143,150	148,160	152,901	158,100	168,060	179,825	195,649	206,214	213,225	220,475	1,785,760
		Approved	-	148,160	152,901	158,100	168,060	179,825	195,649	206,214	213,225	220,475	1,642,610
US302	Cycle safety	Requested	6,240	6,458	6,665	6,892	7,326	7,839	8,528	8,989	9,295	9,611	77,842
		Approved	-	6,458	6,665	6,892	7,326	7,839	8,528	8,989	9,295	9,611	71,602
US302	Abandoned vehicles	Requested	1,000	1,035	1,068	1,104	1,174	1,256	1,367	1,441	1,490	1,540	12,475
		Approved	1,000	1,035	1,068	1,104	1,174	1,256	1,367	1,441	1,490	1,540	12,475
	Total Non finacially Assisted	Requested	1,605,656	1,660,979	1,713,330	1,770,733	1,880,714	2,010,614	2,185,348	2,302,007	2,379,425	2,459,476	19,968,282
	Operations & Maintenance	Approved	1,577,710	1,660,979	1,713,330	1,770,733	1,880,714	2,010,614	2,185,348	2,302,007	2,379,425	2,459,476	19,940,337

Work Category ID	\ Non-Financially Assisted		2024/25	2025/26	2026/27	2027/28	2028/2029	2029/30	2030/31	2031/32	2032/33	2033/34	10 year Total
US302	Non financially assisted Amenity Activities												
	Duntroon	Requested	1,800	1,863	1,923	1,988	2,113	2,261	2,460	2,593	2,681	2,772	22,455
		Approved	12,750	1,863	1,923	1,988	2,113	2,261	2,460	2,593	2,681	2,772	33,405
	Hampden	Requested	12,000	12,420	12,817	13,253	14,088	15,074	16,401	17,287	17,874	18,482	149,697
		Approved	25,000	12,420	12,817	13,253	14,088	15,074	16,401	17,287	17,874	18,482	162,697
	Herbert	Requested	1,800	1,863	1,923	1,988	2,113	2,261	2,460	2,593	2,681	2,772	22,455
		Approved	750	1,863	1,923	1,988	2,113	2,261	2,460	2,593	2,681	2,772	21,405
	Kakanui	Requested	6,000	6,210	6,409	6,627	7,044	7,537	8,200	8,643	8,937	9,241	74,848
		Approved	27,740	6,210	6,409	6,627	7,044	7,537	8,200	8,643	8,937	9,241	96,588
	Kurow	Requested	21,120	21,859	22,559	23,326	24,795	26,531	28,866	30,424	31,459	32,528	263,467
		Approved	7,000	21,859	22,559	23,326	24,795	26,531	28,866	30,424	31,459	32,528	249,347
	Maheno	Requested	1,800	1,863	1,923	1,988	2,113	2,261	2,460	2,593	2,681	2,772	22,455
		Approved	750	1,863	1,923	1,988	2,113	2,261	2,460	2,593	2,681	2,772	21,405
	Moeraki	Requested	6,000	6,210	6,409	6,627	7,044	7,537	8,200	8,643	8,937	9,241	74,848
		Approved	52,500	6,210	6,409	6,627	7,044	7,537	8,200	8,643	8,937	9,241	121,348
	Oamaru & Weston	Requested	60,000	62,100	64,087	66,266	70,441	75,372	82,005	86,433	89,371	92,410	748,485
		Approved	125,010	62,100	64,087	66,266	70,441	75,372	82,005	86,433	89,371	92,410	813,495
	Ohau	Requested	3,600	3,726	3,845	3,976	4,226	4,522	4,920	5,186	5,362	5,545	44,909
		Approved	1,500	3,726	3,845	3,976	4,226	4,522	4,920	5,186	5,362	5,545	42,809
	Omarama	Requested	13,200	13,662	14,099	14,579	15,497	16,582	18,041	19,015	19,662	20,330	164,667
		Approved	7,500	13,662	14,099	14,579	15,497	16,582	18,041	19,015	19,662	20,330	158,967
	Otematata	Requested	24,000	24,840	25,635	26,506	28,176	30,149	32,802	34,573	35,749	36,964	299,394
		Approved	23,370	24,840	25,635	26,506	28,176	30,149	32,802	34,573	35,749	36,964	298,764
	Palmerston	Requested	36,000	37,260	38,452	39,760	42,265	45,223	49,203	51,860	53,623	55,446	449,091
		Approved	25,940	37,260	38,452	39,760	42,265	45,223	49,203	51,860	53,623	55,446	439,031
	Shag Point	Requested	1,800	1,863	1,923	1,988	2,113	2,261	2,460	2,593	2,681	2,772	22,455
		Approved	750	1,863	1,923	1,988	2,113	2,261	2,460	2,593	2,681	2,772	21,405
	Weston	Requested	19,200	19,872	20,508	21,205	22,541	24,119	26,241	27,658	28,599	29,571	239,515
		Approved	55,870	19,872	20,508	21,205	22,541	24,119	26,241	27,658	28,599	29,571	276,185
	Total Non finacially Assisted	Requested	208,320	215,611	222,511	230,076	244,571	261,691	284,720	300,095	310,298	320,848	2,598,740
	Amenity Activities	Approved	366,430	215,611	222,511	230,076	244,571	261,691	284,720	300,095	310,298	320,848	2,756,850

Appendix B – Detailed Improvement Plan

Ref	Title	Activity	Current Status	Future Status and Identified Improvements	Improvement approach	Priority	Timeframe	Responsibility	Resources
SYSTEMS									
1	Risk framework	Embed risk framework	WDC has an operational risk framework in place which is light on AM risks within Council. Being embedded into the business.	Continue embedding risk framework and identify/assess risks, populate risk register with critical risks etc.	Work collaboratively within Council to follow the risk process for AM risks.	High	30/06/2024	Roading Asset Engineer	WDC Roading Team
2	Line of sight	Improve the use of the BCA and line of sight connection in Activity Management Plan and programme of works.	Regional Plan has been developed with regional problem statements.	Test problem statements within each local RCA network. Better understand the scale of regional problems at local level. Improve link of local programme delivery to high level strategy. Improve use of BCA in AMP for next NLTP.	Work collaboratively with other regional RCAs. Ensure individual ownership and how this applies within each individual RCA.	High	30/06/2026	Roading Asset Engineer	WDC/Waugh
3	ONF integration	Improve how the ONF is linked to business systems	Regional Plan has been developed incorporating the ONF; Waitaki is beginning to use ONF in various aspects of business operations/decision making.	Business / AMP systems fully integrated with ONF classification, LoS, and use of performance measures.	Work collaboratively with other regional RCAs and Waka Kotahi.	High	30/06/2026	Roading Asset Engineer	WDC
4	Speed Limits	Management and setting of speed limits in Speed Limit Management Plan	Assessment of speed limits through the Waitaki has been completed in conjunction with Megamaps.	Assessment within ONRC and ONF framework	Speed Management Plan -Speed limits set within speed limit management guidelines and speed limit setting rules.	High	30/06/2026	Roading Asset Engineer	Network Infrastructure Engineer - RM
5	Review of CAS database in relation to ONF Transport Outcomes	Identify common safety themes and issues for prioritisation in Safety Deficiency Database	In-house review commenced for 2024-27 RLTP.	Ensure import of CAS data into RAMM by 31 July each year to update ONF Transport Outcomes around crashes and safety	Complete safety audits on high ONF category roads.	Medium	30/06/2026	Roading Asset Engineer	Road Safety Co-ordinator

Ref	Title	Activity	Current Status	Future Status and Identified Improvements	Improvement approach	Priority	Timeframe	Responsibility	Resources
		and inclusion in LCLR Improvements							
6	Prioritisation of Improvements	Low-Cost Low Risk Improvements	Deficiency Database.	Prioritisation of improvement projects within the ONRC and ONF framework.	Implementation & alignment of Safety Deficiency Database in RAMM.	High	30/06/2024	Roading Asset Engineer	WSP
7	Improvements identified in 2023 dTIMS modelling	RAMM database improvements to improve outputs of modelling	Improvements to be started.	To improve future accuracy of dTIMS modelling for improved forward work programme and budgeting.	Continuous improvements to RAMM data and continued use of candidate site selection	High	30/069/2027	Roading Asset Engineer	Beca/WSP
EVIDENCE									
8	ONF measures	Collection and reporting of ONF Transport Outcomes	A number of ONF performance measures are not being collected and/or monitored.	Collect data to better understand network performance indicators, comparative measures and guide investment.	Draft ONF data collection plan, collect and store data, analyse and report.	High	30/06/2024	Roading Asset Engineer	WDC/WSP
9	ONF future state	review ONF future state classifications as appropriate - ensure all roads have classifications	ONF future state not considered by WDC yet.	Review ONF future state classifications with criteria.	Review yearly using a 'by exception approach'.	High	30/06/2024	Roading Asset Engineer	WDC/WSP
10	Surveys – high speed data	High speed data collection	Waiting on the Te Ringa Maimoa/Waka Kotahi led Consistent Condition Data Collection project to mature.	Assessment within ONF framework.	Improve data source for dTIMS modelling and candidate site selection.	High	30/06/2026	Roading Asset Engineer	WDC/Supplier
11	DIA and Annual Plan non-financial performance measures	Results from footpath survey, and surfacing renewals	One survey completed and another needs to be organised.	WDC to consider frequency of footpath surveys.	Review approach to ensure robust programme of condition data collection and candidate site generation.	High	30/06/2025	Roading Asset Engineer	WSP

Ref	Title	Activity	Current Status	Future Status and Identified Improvements	Improvement approach	Priority	Timeframe	Responsibility	Resources
12	Traffic monitoring	Continue traffic counting programme ensuring compliance with requirement of Te Ringa Maimoa Data Quality measures.	Collecting classifier traffic count information on sealed roads.	Count Sites to be reviewed (count site table in RAMM needs an overhaul) and traffic count strategy to be developed.	Begin with a review of count sites and in parallel complete review of Waitaki specific 30-year demand forecast model. Review predicted transport demand against existing transport capacity to determine when transport capacity upgrades are required. Also focus on roads of economic benefit.	Medium	30/06/2024	Roading Asset Engineer	WDC/WSP
13	Surface Water Channel and Culvert inspections	Condition rating of Surface Water Channels and Culverts	There is currently no Surface Water Channel condition data collected and culvert data to be verified.	Assessment within ONF framework This asset also has implications with respect to Climate Change and the networks ability to handle high rainfall events.	Improve evidence of condition, inform decision-making and help plan for extreme weather events.	High	30/06/2025	Roading Asset Engineer	WSP to complete dedicated survey of SWC and Culverts
14	Signs and Railing condition data.	Condition rating of Signs and Railings	There is currently no Signs and Railings condition data collected which poses a Health and Safety Risk to the community.	Assessment within ONF framework.	Condition Surveys to be implemented as soon as possible with long term repeatability to be considered.	High	30/06/2025	Roading Asset Engineer	Consultant.
15	Road Closures/Restrictions	Road Closed/Restriction recording.	There is some data held presently by WDC but this needs to be captured in the relevant tables in RAMM.	Update RAMM UDT's with the data so that ONF Transport Outcomes can be reported on with respect to road closure/restriction measures.	WDC to update RAMM with the relevant data.	Medium	30/06/2025	Asset Systems and Information Officer	WDC staff.
16	Road marking	Road marking Inventory collection	Poor inventory in RAMM.	Accurate inventory collection of road marking for contract schedules and challenges by public to legality of road markings.	WDC to update RAMM; potentially using AI technology.	Medium	30/06/2025	Roading Asset Engineer	WDC staff / Consultant

Ref	Title	Activity	Current Status	Future Status and Identified Improvements	Improvement approach	Priority	Timeframe	Responsibility	Resources
17	Unsealed roads	Traffic monitoring and pavement strength	No traffic monitoring or pavement strength.	Continue dTIMS modelling for unsealed roads	Traffic Monitoring and MSD / FWD surveys.	Medium	30/06/2025	Roading Asset Engineer	WDC / Contractors
COMMUNICATING									
18	Asset Management Plan Improvement Items	As per upcoming AMP Compliance Report with **Moderate Consequences**	As per upcoming AMP Compliance Report.	Improve from Existing Status to Appropriate Level as identified in the upcoming AMP Compliance Report.	Improvements within the context of the ONF framework.	Medium	30/06/2025	Roading Asset Engineer	WDC/WSP
19	Asset Management Plan Improvement Items	As per upcoming AMP Compliance Report with **Minor Consequences**	As per upcoming AMP Compliance Report.	Improve from Existing Status to Appropriate Level as identified in the upcoming AMP Compliance Report.	Improvements within the context of the ONF framework.	Medium	30/06/2025	Roading Asset Engineer	WDC/WSP
20	Asset Management Compliance Report	Updated report on BCA AMP	To be completed.	Improvement to be to Appropriate Level or better as identified in the AMP Compliance Report.	Complete all improvements within 2021-24 period so that further assessment can be completed.	High	30/06/2025	Roading Asset Engineer	Waugh
21	Line of Sight Enhancement	Table to describe detailed linkage between activity and WDC Community Outcomes.	Can be derived from other sections in the TAMP but needs a section in the Waitaki Local Context Section.	Include section in the Waitaki Local Context Section.	Include section in the Waitaki Local Context Section.	Med	30/06/2025	Roading Asset Engineer	WSP
DECISION MAKING									
21	Forward works programme	Programme development of renewal activities	Some data and evidence base has been captured to develop candidate site lists – but further development needed.	Use data to develop longer term views in renewal programmes which will assist collaboration and procurement opportunities.	Co-ordinated approach to data collection, review of strategic problems and priorities, develop and assess programme options for 2024-27 bid.	Medium	31/03/2027	Roading Asset Engineer	IDS/Beca/WSP
22	Prioritisation of Year 1 of the programme	Programme development	Need documented site priority score.	Assigning a site priority score to each resurfacing and rehabilitation site in the 1-year programme. This score would indicate relative importance and is used to rank all sites.	WDC to workshop and formalise the priority scores process so that it can become part of	Medium	31/03/2025	Roading Asset Engineer	IDS/Beca/WSP

Ref	Title	Activity	Current Status	Future Status and Identified Improvements	Improvement approach	Priority	Timeframe	Responsibility	Resources
					the business process.				
23	Retaining Walls 30-year strategy and programme	Strategy/Programme	No 30-year Strategy in place.	Development of 30-year Strategy for Retaining Walls. Include development of Programme at the same time.	Complete Strategy and Programme in Unison.	High	30/06/2024	Roading Asset Engineer	WDC/WSP/Other Consultant
24	Development of Climate/Resilience Strategy	Strategy	Inventory is largely understood but work is required to develop a climate change/resilience strategy.	Development of a Strategy considering resilience/climate change impacts on transport and freight.	Leverage coastal erosion work already completed several years ago by WSP, however this time take a network wide approach with particular focus to roads of economic benefit.	High	30/06/2025	Roading Asset Engineer	WDC/Consultants
25	Maintenance programming	Maintenance	More reactive than desired.	Implement a proactive maintenance programming.approach, including use of “all faults” outputs.	Apply proactive maintenance programming techniques with respect to ONF within funding constraints including implementation and use of Max Maintenance KPI’s	High	30/06/2024	Roading Asset Engineer	WDC Roading Team/ Suppliers
26	Archaeological Authority for Oamaru	Roading maintenance in historic areas as defined in archaeological assessment	Archaeological Authority for Oamaru renewed.	Variation of existing authority with options of expanding areas in District at a later date.	Archaeological Authority requires annual reporting to Heritage NZ.	Medium	30/06/2025	Roading Asset Engineer	WDC Technical Officer
27	Dangerous, Earthquake prone Buildings Policy	Policy	Council has a policy on dangerous and insanitary buildings but that excludes earthquake prone buildings.	Development of Dangerous, Earthquake prone Buildings Policy.	Roading to consult with Property Department to ensure Policy reflects both	High	30/06/2024	Roading Asset Engineer Roading Manager Property Manager	WDC Staff

Ref	Title	Activity	Current Status	Future Status and Identified Improvements	Improvement approach	Priority	Timeframe	Responsibility	Resources
					Property and Roading structures.				
28	Road Maintenance Global Resource Consent with Otago Regional Council	Resource consent to allow for roading maintenance and bridge repairs	New Resource Consent in place April 2022.	Improvement on compilation of annual resource consent monitoring returns.	Investigate the possible use of RAMM Contractor to assist identification of sites that require performance monitoring information and implement template for collection of resource consent data.	High	30/06/2024	Roading Asset Engineer	Infrastructure Network Engineer
29	ORC and ECan resource consents	Review of existing resource consents	Ensure consents identified for renewal within 1 year of expiry.	If resource consents are within 1 year of expiry, renew as necessary.	Resource consents to be included into RAMM UDT and workflow to notify Council of upcoming expiry.	High	30/06/2024	Roading Asset Engineer	Infrastructure Network Engineer
30	Roading Policies	Review, amend, update and add where required	Outdated roading policies.	3 tranches of policies going to Council, tranche 1 approved, 2 and 3 yet to go to Council.	Continuous improvement to provide staff with tools to meet expectations of customers and stakeholders.	High	30/06/2024	Roading Manager	Waugh
SERVICE DELIVERY									
31	Aggregate Resources	Aggregate supply for new and renewal projects as well as to Council 3 Waters	Road Metals has a multi-year contract to crush aggregates for Council.	Make improvements to service delivery within ONF framework.	Council is also looking at expanding their own quarry sites.	Low	30/06/2027	Roading Asset Engineer	Network Operations Engineer
32	Collaboration of Services	Collaboration of roading and water services	Forward Works Viewer use has commenced	Ensure that Forward Works Viewer is kept current.	Both the Roading and Water Group	Medium	30/06/2024	Roading Asset Engineer	Roading Manager 3 Waters Manager

Ref	Title	Activity	Current Status	Future Status and Identified Improvements	Improvement approach	Priority	Timeframe	Responsibility	Resources
			which will identify and help avoid rework.		need a Forward Works Viewer champion to ensure they are kept current.				
PEOPLE / CULTURE									
33	Regional collaboration	Regional collaboration is continued to be developed, and new opportunities identified	Te Ringa Maimoa regional peer group provides valuable opportunity for regional collaboration. This is to be continued.	Continue to work together with shared improvement opportunities for AMP development. Identify further collaborative opportunities.	Continued WDC attendance at Te Ringa Maimoa meetings.	High	30/06/2024	Roading Manager and Asset Engineer	Te Ringa Maimoa workshops
34	Capability plan	Development of a capability and success plan	No plan in place, however Te Ringa Maimoa have provided a good starting point with their Asset Management Competency Assessment.	WDC to complete Te Ringa Maimoa Asset Management Competency Assessment and then develop a plan based on outcomes.	Develop capability plan.	Medium	30/06/2025	Roading Asset Engineer	WDC Roading Team.
35	Māori Policy	Development of WDC existing draft Māori Policy	Council have an existing Memorandum of Understanding with Te Rūnanga o Moeraki and existing Policy is embedded in the 2021-31 Long Term Plan.	Council should consider updating and expanding on the current draft Policy.	Further development of a Māori Policy.	Medium	30/06/2025	Assets Group Manager/Roading Manager	WDC staff
36	Procurement Strategy	Develop Broader Outcomes Framework	Condition of 2023 Procurement Strategy	Implement Broader Outcomes Framework in 2025 within roading contracts.	Develop Broader Outcomes Framework further for inclusion into Council's Procurement Policy.	High	30/06/2024	Road Asset Engineer / Roading Manager	Waugh and Council's Procurement and Risk Advisor