Land Transport Asset Management Plan 2021-31

PART B: ACTIVITY MANAGEMENT PLAN / PROGRAMME BUSINESS CASE

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Prepared by: Roading Unit
Waitaki District Council

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Waitaki District Council Thames Street Private Bag 50058 Oamaru New Zealand Phone: +64 3 433 0300	Project Director: Mike Harrison
	Project Manager: Gary Woock
	Approved for issue by:

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1.0	Pre-consultation draft for 2021-24 NLTP planning period and 2021-31 Council LTP
2.0	Final Draft
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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 on Transport	
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 NZTA and Local Government New Zealand*
TAM	Transportation Asset Management	
TAMP	Transportation Asset Management Plan	
WDC	Waitaki District Council	
WoLC	Whole of Life Cost	

PART B: ACTIVITY MANAGEMENT PLAN / PROGRAMME BUSINESS CASE

1 Introduction

This part of the Land Transport Activity Management Plan sets out and explains the proposed investment for the 2021-2031 period. It includes evidence to support the investment proposed, clearly linking the investment back to service outcomes, including the key issues we are facing and experienced Levels of Service. It explains what we are going to do and how we are going to do it.

The key audiences for this part of the AMP include:

- Investors
- Community
- Council Reporting (Annual Plan, LTP)

1.1 Scope

Our Purpose: Our road corridor networks connect people with destinations, are lines of communication and are used for vital underground infrastructure reticulations. Our roads also link goods and freight from our farms and high-country stations to far away markets. Without a reliable roading network, much of the economic activity within our district and country would not be possible.

Waitaki District Council manages Waitaki's local road network, improving road safety and ensuring people enjoy easy access to different modes of transport. The Council operates and maintains local roads (including streetlights, bridges, footpaths, traffic signals, sumps, berms, bus shelters, parking buildings and parking machines), and monitors crash statistics to identify problem areas and determine solutions. Resilience of the transport network is supported by identifying the impacts of land use, growth and development on the network and parking resource, and identification of where future upgrades or control is required. The activity invests in walking and cycling projects and education to encourage greater use of more sustainable transport modes.

1.2 Legal Authority and Key Legislation

Council has statutory responsibilities under the Local Government Act 2002 and Land Transport Management Act 2003 to provide the services for this activity.

In performing its role, Waitaki must have regard to the contribution that the following core services make to *the social, economic, environmental, and cultural well-being of communities, in the present and for the future*:

(a) network infrastructure:
(b) public transport services:
(c) the avoidance or mitigation of natural hazards:

The hierarchy of instruments governing the practice of asset management is as follows:

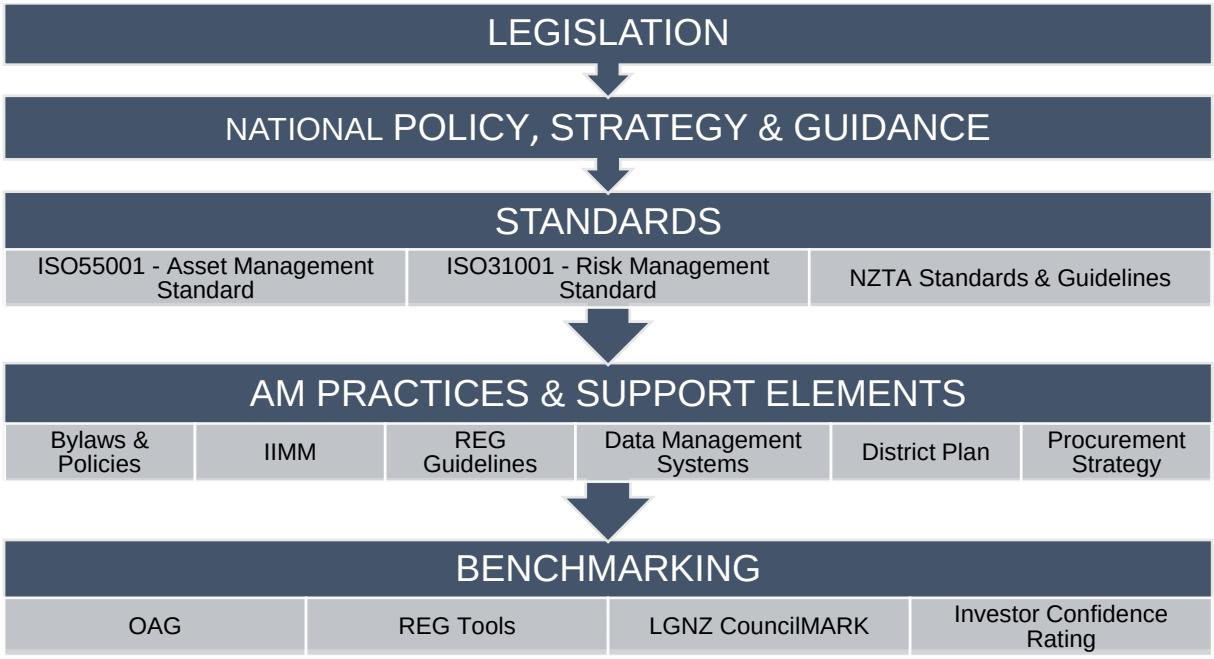


Figure 1: AM Document Hierarchy

The statutory requirements provide Council with a minimum level of service standard and have been reflected in the levels of service shown in Section 4. Council is currently complying with all legislative requirements and the operative strategies, plans and policies of the Regional Council.

Line of sight between the resulting planning documents and strategies that influence planning and delivery of the local road transportation services in Waitaki, and this AMP is shown in the figure below:

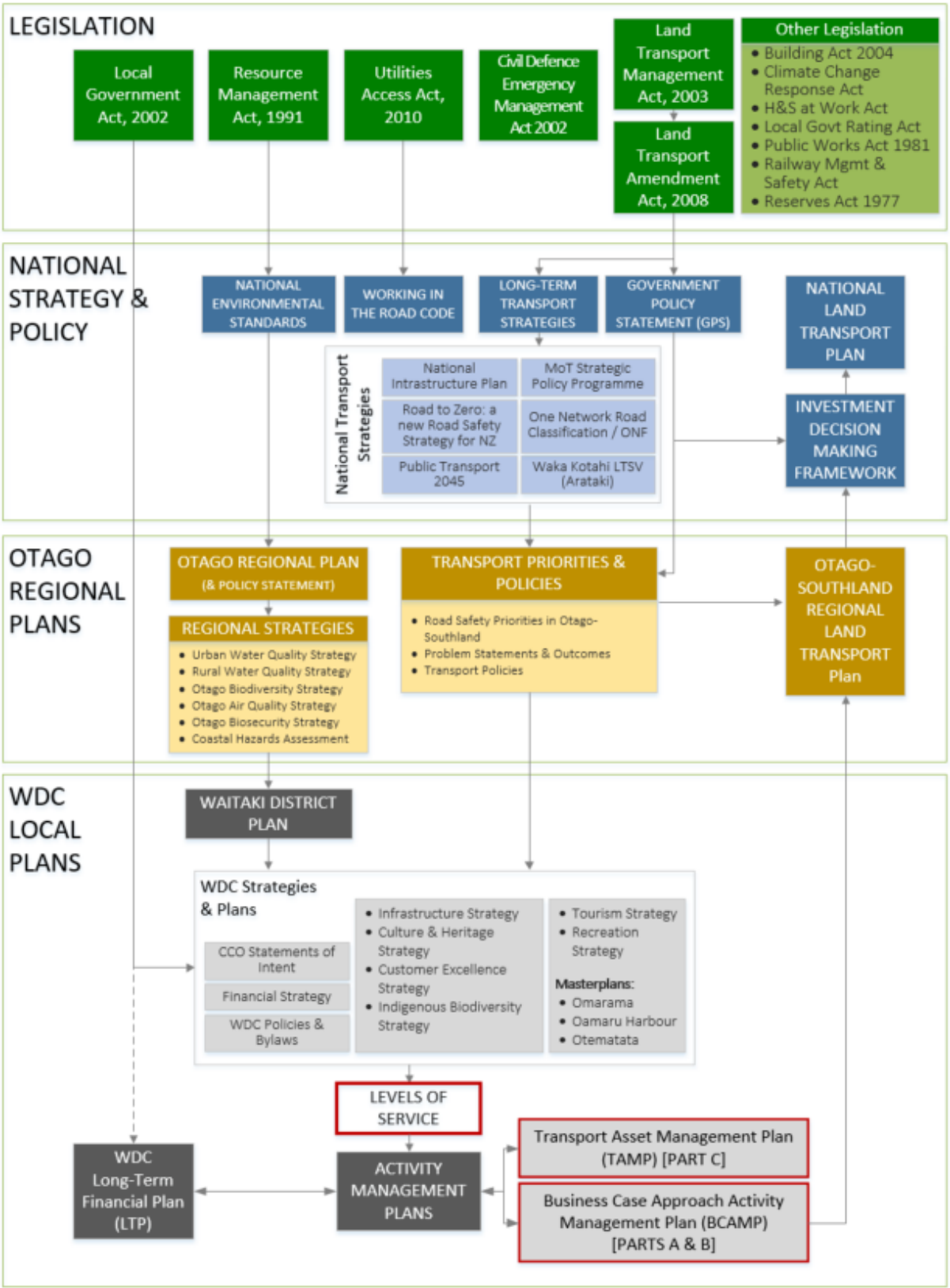


Figure 2: Asset Management Policy Framework

1.3 Local Bylaws

1.3.1 Roading Bylaw 2013 [currently under review]

The purpose of this bylaw is to promote public safety and effectively regulate pedestrian, animal and traffic movements on roads, footpaths and public places within the Waitaki District.

The 2013 Bylaw introduced the Code of Practice for Stock Crossings and revised speed limits. It is due for update in 2020 and will be split into two bylaws: Roading Bylaw (including speed limits) and a separate Parking Bylaw.

A speed limits review was completed in late 2018 with public consultation in 2019. A second round of consultation has been completed and implementation is now underway.

1.3.2 General Bylaw 2016 [to be reviewed in 2023]

Public Spaces - This part of the bylaw controls a diverse range of activities to ensure that acceptable standards of convenience, safety, visual amenity and civic values are maintained for the well-being and enjoyment of citizens, visitors and businesses within the district. In particular, this part addresses damage to public facilities such as roads, grass verges, garden areas and reserves. It also addresses activities within public places and reserves which may have an adverse effect on other users of these facilities.

1.4 Asset Management Policy and Guiding Principles

Council's AM Policy establishes responsible governance for the practice of asset management by the Council, and commits to the continuous improvement of asset management practices.

Our Mission: We are transport focussed, making lives better for our communities and visitors. We maintain and develop a safe, effective, efficient, accessible, affordable and fit for purpose transportation network.

The asset management objectives for the delivery of sustainable transportation services are:

1 **To ensure we provide services so people want to stay and move here;** maintain a Service Delivery Focus:
   i. Manage and maintain assets sustainably to meet defined Levels of Service that balance customer expectations with risk, affordability and time considerations;
   ii. consult actively, clearly and meaningfully with stakeholders where appropriate and be responsive to stakeholder inputs.

2 **To ensure we meet the diverse needs of our community;** implement integrated Decision-Making processes.
   i. integrate the decision-making processes for assets to include corporate, financial, business, land-use, community, environmental, social, technical and budgetary plans and perspectives; and
   ii. consider assets in a larger service delivery and "place" context using the ONRC framework, not just as an isolated asset.

3 **To enable opportunities for new and existing businesses;** undertake place based transport planning and incorporate mode neutrality within decision processes

4 **To ensure Waitaki's distinctive environment is valued and protected;** strive to manage assets to deliver services that are sustainable for the community and local environment, and that meet the anticipated challenges from climate change impacts, and future generations;
   i. consider climate change impacts and how they may directly affect levels of service;
   ii. consider future growth and demand requirements to ensure assets are adapted to meet demographic changes and the needs of future generations;
   iii. embed the precautionary principle in our planning and decision making, and deliver a low carbon transport system that minimises harm.

5 **To maintain the safest community we can;** ensure that relevant legislation, regulations, engineering standards, consent conditions and bylaws followed, monitored and enforced
   i. consider climate change impacts and how they may directly affect levels of service;
   ii. design and manage the land transport network to be to be safe

iii. systematically incorporate adaptive methods and technologies to improve infrastructure resilience; and

iv. consider future growth and demand requirements to ensure assets are adapted to meet demographic changes and the needs of future generations.

6 **To keep our district affordable;** make informed decisions by considering full lifecycle revenues and costs (including operation, maintenance, replacement, and decommissioning);

i. recognize that that there are constantly changing financial constraints and challenges that surround all services and assets delivered by the District and that asset management practices must be proactive and responsive to changing environments and short-term priorities;

ii. identify and adequately plan for required levels of operations, maintenance and replacements associated with new infrastructure, and use available resources effectively to minimize total life cycle costs of assets; and

iii. recognize that sustainable service delivery requires long-term financial planning.

1.5 Assurance

WDC sets goals and periodically monitors performance to manage programs, achieve targets, and deliver on strategic goals and customer levels of service. A hierarchy of performance measures allows Council staff and stakeholders to manage progress, identify improvements, and adjust programmes to ensure achievement of the desired outcomes.

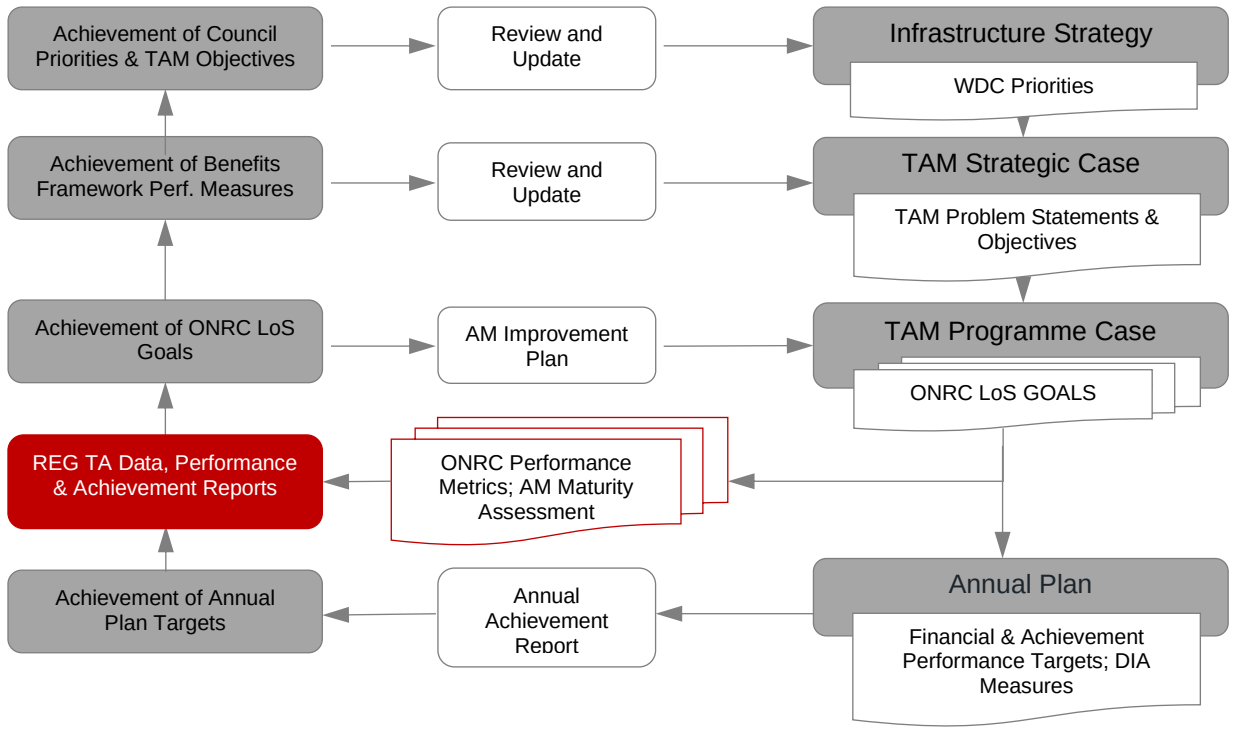


Figure 3: Performance Management Framework

Note: TAM = Transportation Asset Management; ONRC = One Network Road Classification; LoS = Levels of Service; DIA = Department of Internal Affairs; REG = Road Efficiency Group; TA = Territorial Authority

1.6 Asset Management Maturity

WDC periodically commissions independent reviews of AM maturity within the organisation. Our target level of advancement is “Core-Plus”, reflecting the scope, scale and risk of the transportation service and its criticality to the wellbeing of Waitaki District. The last review was completed by Waugh Infrastructure in 2017 and showed a developing level of maturity. Significant improvements have been made since 2017, assisted by the REG programme and our self-assessed maturity level is “Competent”. An independent review will be undertaken during the first year of this plan.

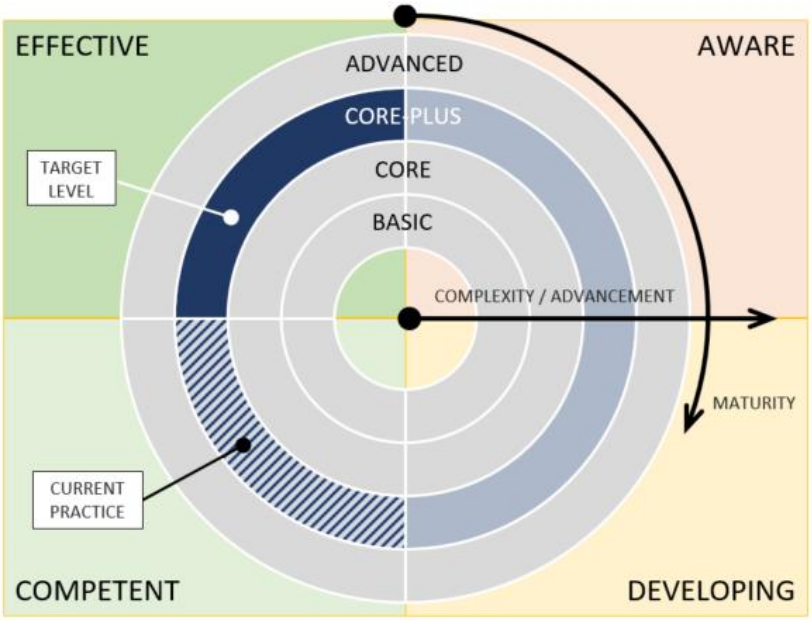


Figure 4: Asset Management Advancement & Maturity Assessment

2 The Services we Provide and How they are Delivered

2.1 Scope of the Activity and Description of Assets

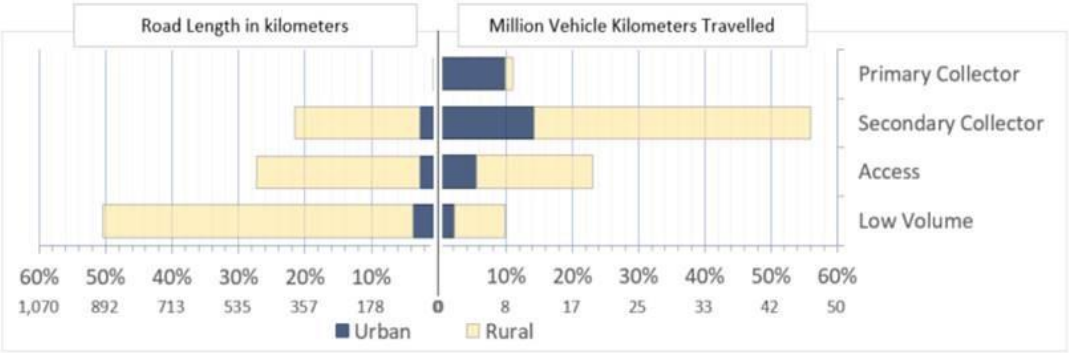
Council is responsible for most of the Land Transport system in the District other than state highways which are owned and operated by the New Zealand Transport Agency (NZTA). Our transport system includes:

- 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

Over 85% (1,800km) of the roads in the District are owned and operated by Council, with the NZTA controlling the remaining 15% (306km). The Waitaki District is characterised by rural, low volume, unsealed roads. Walking and cycling is comparatively small but an increasingly important part of the transport system:

- 90% of roads are rural (i.e. have a speed limit of more than 70 km/h)
- 57% are unsealed
- Over 94% have traffic volumes of less than 500 vehicles per day
- Waitaki District's population is 22,200 (Jun 2017), of which 13,900 (63%) live in Oamaru.
- Most transport in Waitaki involves trucks and private motor vehicles on public roads.

The national adoption of the One Road Network Classification (ONRC) has allowed us to work towards the standardisation of different levels of services for different roads, depending on use and function. The distribution of roads in the District according to the ONRC is shown below:



- ***Primary Collector****: locally important roads linking significant local economic areas or populations*
- ***Secondary Collector****: roads linking local areas of population and economic sites (may be the only route available)*
- ***Access****: all other roads but split further into the low volume subset below*
- ***Low Volume****: a further subset of access roads with less than 200 vehicles per day*

Figure 5: Waitaki District ONRC Road Classification

Council holds comprehensive asset inventories for all components of the land transport network and associated infrastructure. This information is retained in Council's RAMM database, which is updated monthly. As at July 2019, Council's land transport network consists of approximately 1,800 kilometres of roads. The land transport asset has an Optimised Replacement Cost (ORC) of $799.8M and an Optimised Depreciated Replacement Cost (ORDC) of $612.8M.

2.2 Scope of the Activity and Description of Assets

The Council-managed network consists of the following major components:

Table 1: Description of Assets

ASSET	ASSET COMPONENT	UNIT	QUANTITY
Road Pavements	Sealed Local Roads	km	777
	Unsealed Local Roads	km	1,023
Bridges & other structures	Bridges	ea	171
	Large Culverts	ea	10
	Fords	ea	8
	Railings	m	7,360
	Retaining Walls	ea	90
Drainage	Culverts	ea	7,950
	Subsoil Drains	ea	73
	Sumps & Catch Pits	ea	1,143 & 41
	Manholes	ea	12
	Drainage Flumes	ea	6
	Scour Protection	ea	7
	Soak Pits & Deep Well Shafts	ea	16 & 24
	Washover structure	ea	34
	Water Race	ea	77
	Vehicle crossing pipe	ea	113
Surface Water Channel	Dished Channel	km	10.47
	Kerb & Channel	km	184.09
	Roadside Drain	km	3,151.06
	Other	m	861
Traffic Services	Signs	ea	5,389
	Road Markings	km	2,772
	Sight Rails	m	3,756
Street Lighting	Street Lights	ea	2,014
Footpaths & cycleways	Footpaths	km	166
	Cycleways/Walkways	km	7.39
Car Parks	Off-Street Car parks	m2	21,000

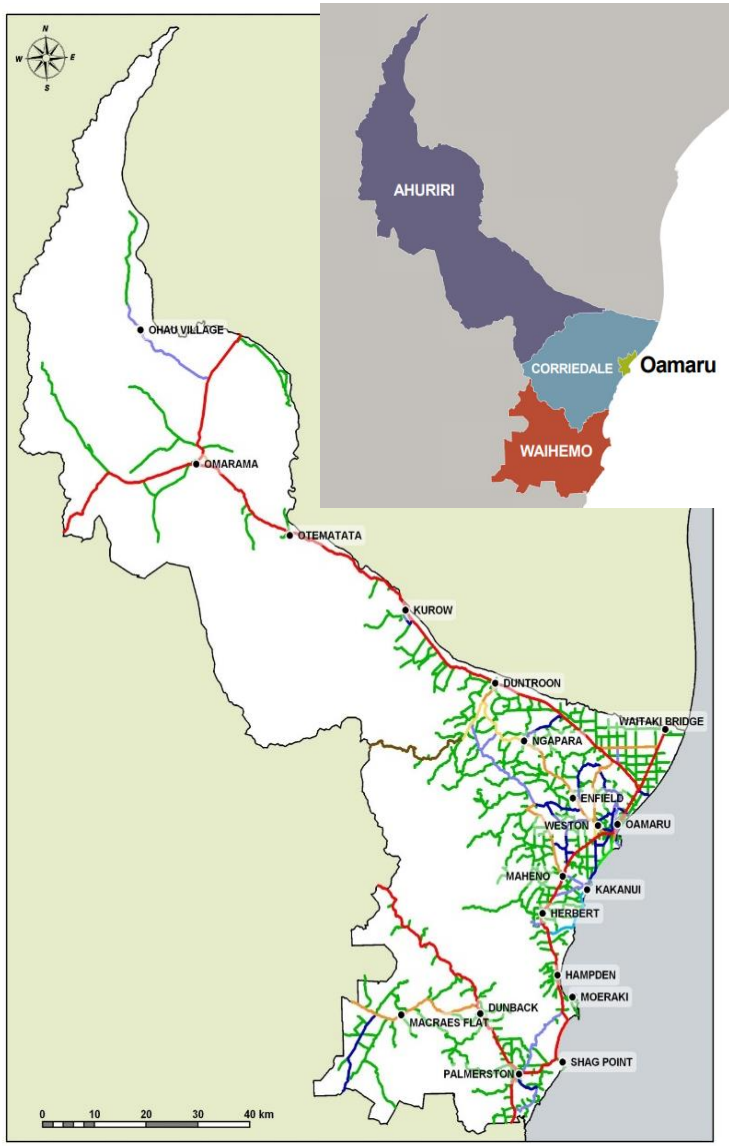


Figure 6: Transport Network in Waitaki

2.3 Critical Assets

Risk Management continues to be an area of learning and growth for Council. We are focussed on developing a consistent organisational approach to managing risk across Council services and projects.

Critical assets are those that may cause catastrophic failure and have the greatest effect on the network's primary function, thereby impacting on the customer should they fail or not be available. In broad terms, critical assets are bridges and lifeline routes (roads that provide key links or have high traffic). Critical failure modes have been assessed as: coastal erosion, flooding, landslips, seismic, wind, and wildfire – in that order. Our principal management objective is to prevent the deterioration of critical assets to "very poor" condition where major and urgent replacement is required. This ensures community safety, service continuity and minimises disruption costs.

Table 2: Critical Assets Schedule

Asset Name	Reason	Asset Name	Reason	Asset Name	Reason
STEWARD ST	Helipad, Medical, ONRC	WHITEROCKS RD	ONRC, Fire Station	DOUBLE HILL RD	ONRC
THAMES ST WEST	Helipad, ONRC, Welfare	WESTON RD	ONRC, Fire Station	FORTIFICATION RD	ONRC, Welfare
ROBERTSON RD	Airport	KAKANUI RD	ONRC	SETTLEMENT RD - KUROW	ONRC, Welfare
LAKE OHAU RD	Airstrip	TIVERTON ST	ONRC	OTEMATATA STATION RD	ONRC
WESTVIEW DR	Fire Station, ONRC, Utility	EAST RD	ONRC	NIMMO RD	ONRC
ITCHEN ST	ONRC, Utility	KAKANUI RD	ONRC	BUSHY BEACH RD	ONRC
MAIN ST (WESTON)	ONRC, Fire Station	HIGH ST	ONRC	HUMBER ST	ONRC
BRINKBURN ST	Utility, ONRC	ORWELL ST	Utility	MAHENO ALL DAY BAY RD	ONRC
TYNE ST	Utility, ONRC	REGINA LANE	Utility	SHAG POINT RD	ONRC
REDCASTLE RD	Utility, ONRC	REDCASTLE RD	Utility	SANDAY ST	ONRC, Fire Station
BEACH RD - KAKANUI (NORTH)	Utility, ONRC	RESERVOIR ROAD	Utility	LIMEKILN RD	ONRC

Emergency procedures - Coastal Otago Network: **Summary of key issues and detour routes identified as critical suitable for all vehicles (NZTA)**

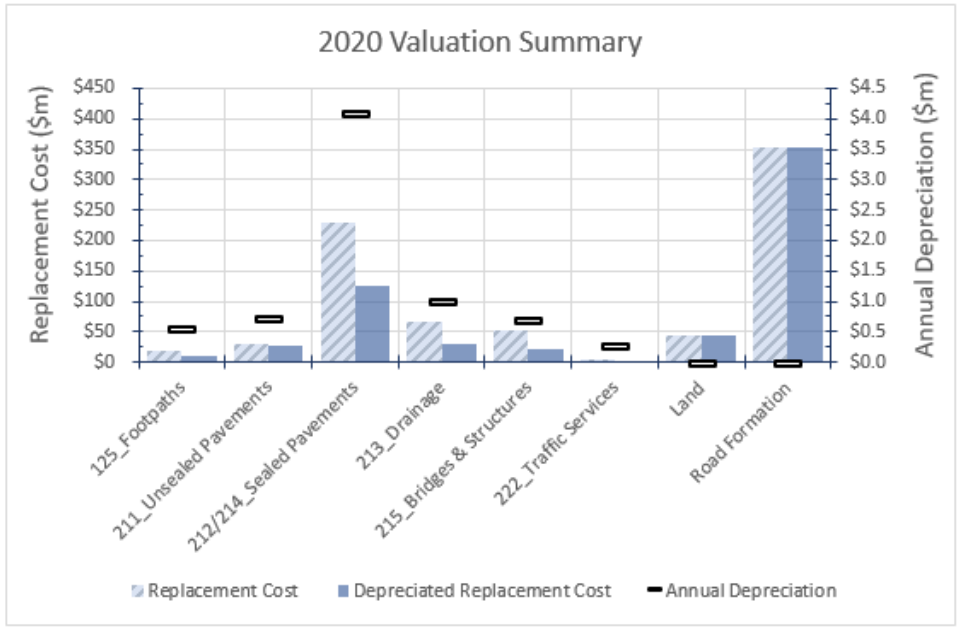
1. SH 1 and SH 83 between Pukeuri and the Waitaki River is noted as a known flood prone area. *The only alternative route identified near Oamaru is the Weston Road-Ngapara Road-Georgetown route from SH 1 to SH 83. There are few alternatives (at times this has required use of SH85 and SH8 via Alexandra and Fairlie).*
2. Known flooding issue at the Alma rail over bridge highlights a detour via *Weston Road* and *White Rocks Road.*
3. There is no designated detour between Reidston and Maheno. This area includes a floodway for the Kakanui River. The alternative route is via Kakanui, which includes the *Kakanui Point Bridge* (Posted to 80% Class 1, one lane, over 120 years old).
4. Alternative routes for SH8 and SH83 near Omarama include *Prohibition Road.*
5. A detour for SH 83 on the north side of Lake Aviemore includes the Aviemore Dam and *Loch Laird Road* (the rest is in Waimate District).
6. The alternative to part of SH85 is *Macraes Road – Hyde Macraes Road* to SH87

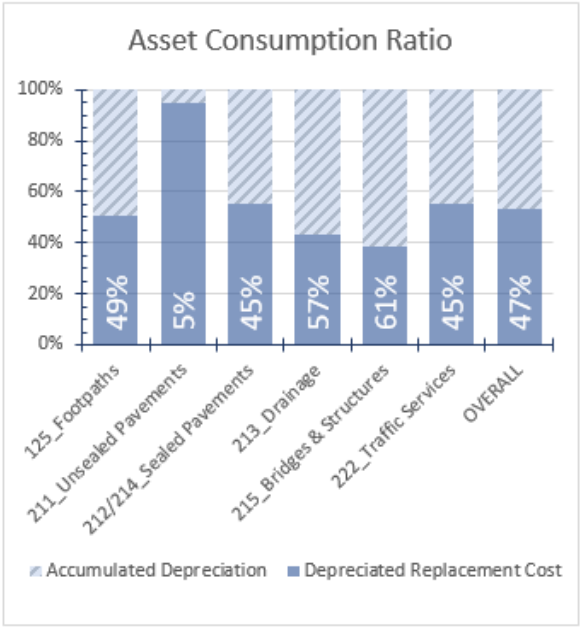
2.4 Asset Valuation

The 2020 asset revaluation shows that the portfolio has an overall replacement cost of $800m and annual depreciation of $7.3m:

Table 3: *Waitaki District Transportation Asset Valuation Summary*

Asset Groups	Work Category	Mar-19			Jun-20		
		Rep. Cost	DRC	Ann. Dep.	Rep. Cost	DRC	Ann. Dep.
Land	-	$43,527,583	$43,527,583	$0	$43,545,140	$43,545,140	$0
Formation	-	$352,940,583	$352,940,583	$0	$354,248,943	$354,248,943	$0
Unsealed Pavement Structure	211_Unsealed Pavements	$27,355,328	$26,168,094	$570,697	$28,804,450	$27,303,413	$712,969
Sealed Pavement Structure	212/214_Sealed Pavements	$138,263,581	$75,121,357	$1,467,254	$200,097,112	$114,240,976	$1,994,269
Sealed Pavement Surface	212/214_Sealed Pavements	$26,336,839	$9,536,877	$1,871,090	$28,879,282	$11,516,115	$2,087,837
Drainage	213_Drainage	$28,614,075	$14,594,889	$563,659	$23,757,766	$9,099,823	$457,584
Footpaths	125_Footpaths	$14,725,721	$9,346,903	$419,391	$18,844,917	$9,526,073	$539,517
Markings	222_Traffic Services	$8,837	$4,418	$2,209	$8,934	$4,467	$2,234
Railings	215_Bridges & Structures	$1,355,464	$491,316	$51,590	$2,361,190	$698,119	$68,205
Retaining Walls	215_Bridges & Structures	$9,324,244	$4,408,538	$135,339	$7,986,199	$2,460,309	$114,762
Signs	222_Traffic Services	$1,600,325	$718,307	$133,345	$1,427,978	$557,844	$118,983
Street Furniture	222_Traffic Services				$383,410	$115,023	$38,341
Street Lighting	222_Traffic Services	$2,446,649	$1,778,665	$89,627	$2,415,688	$1,677,977	$87,346
Surface Water Channels	213_Drainage	$43,027,823	$23,525,144	$591,978	$43,212,959	$19,928,997	$553,959
Traffic Facilities	222_Traffic Services	$263,278	$131,639	$21,940	$266,274	$133,137	$22,190
Bridges	215_Bridges & Structures	$42,522,000	$17,684,000	$492,000	$43,563,171	$17,710,278	$503,838
	TOTAL	**$732,312,330**	**$579,978,313**	**$6,410,119**	**$799,803,412**	**$612,766,635**	**$7,302,033**





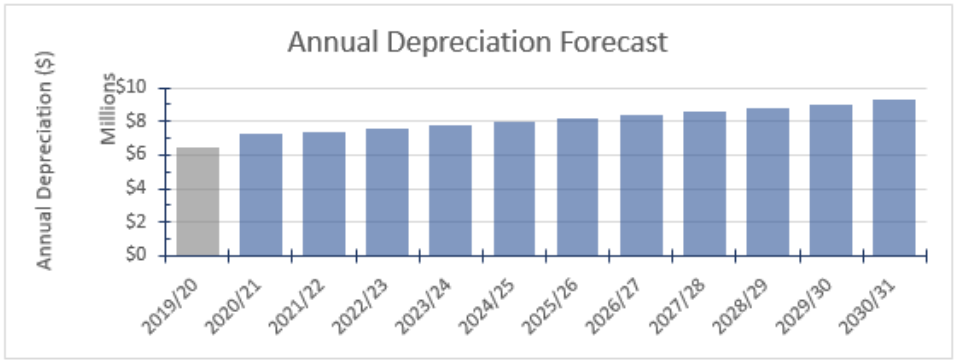
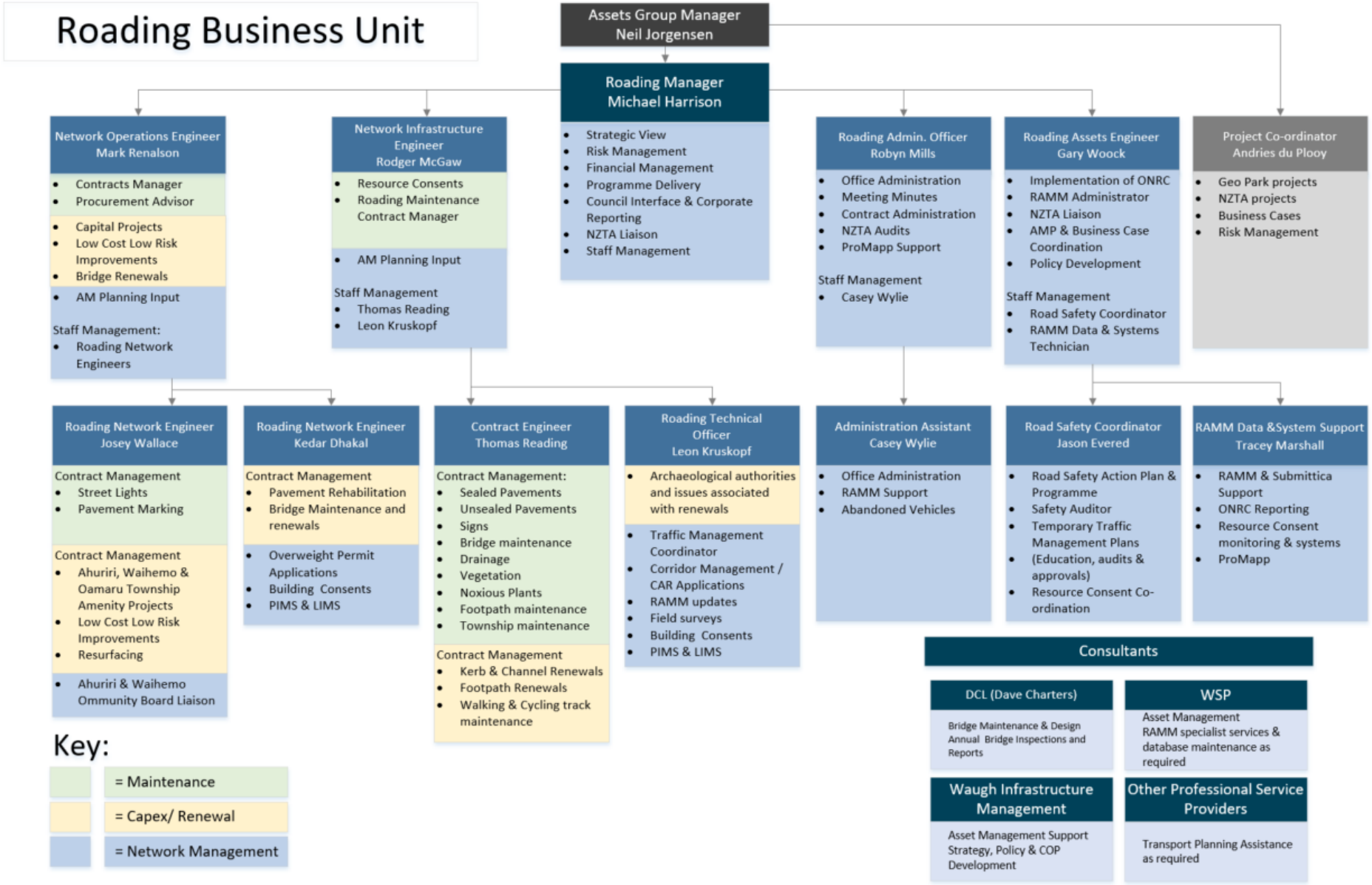


Figure 7: Waitaki District Transportation Asset Valuation Summary

2.5 Organisational Structure

WDC operates an in-house roading professional services business unit to manage the road network. The figure below shows the members of our team, their position and key functional responsibilities.

Roading Business Unit

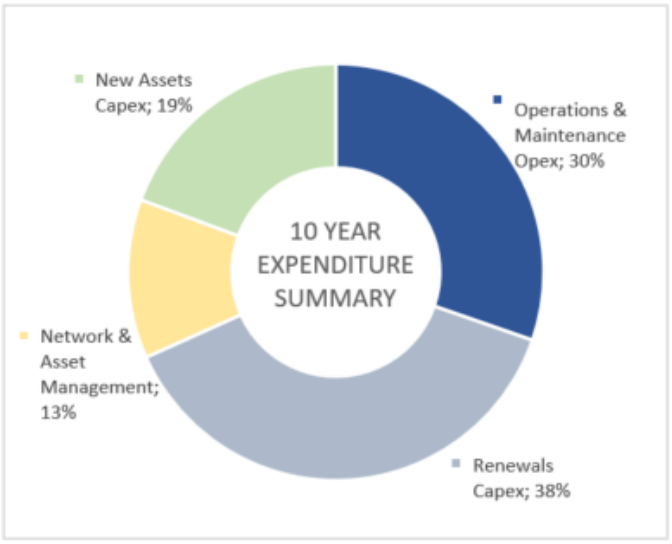


2.6 Managing Service Delivery

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 level of service
- Network and Asset Management and general services to support Council functions



Council 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. There are no changes proposed to existing inhouse staff numbers.

We utilise professional services to provide technical skills and capacity that cannot be provided by staff within Council. 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 4: WDC Contract Schedule

Contract	Contract Term	30/6/2020	30/6/2021	30/6/2022	30/6/2023
Roading Maintenance (c642/3)	Awarded July 2017 (3+1+1)	Initial Term	Extension awarded	Extension awarded	New Contract
Streetlight maintenance (c628/3)	Awarded July 2016 (2+3)	In Extension	In Extension	New Contract	Initial Term
Pavement Marking (c753)	Awarded July 2015 (3+2)	In Extension	New Contract	Initial Term	Initial Term
Road Resurfacing (c750/3)	Awarded July 2020 (3+1+1)	Initial Term	Initial Term	Initial Term	Possible Extension
Bridge Inspections (c704/1)	Awarded July 2018 (3+2)	Initial Term	Initial Term	Extension awarded	New Contract
Footpath Resurfacing (c723/3)	Awarded October 2019 (3 years)	Initial Term	Initial Term	New Contract	
RAMM/Asset Data	In-house professional services	Specialist services of professional providers direct appointed where required. Open tender early in 2023			
Pavement Rehabilitation	Annual Contracts	New Contract	New Contract	New Contract	New Contract
Low Cost Low Risk Improvements	Annual Contracts	New Contract	New Contract	New Contract	New Contract

2.6.1 Value for Money

Council 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.

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:

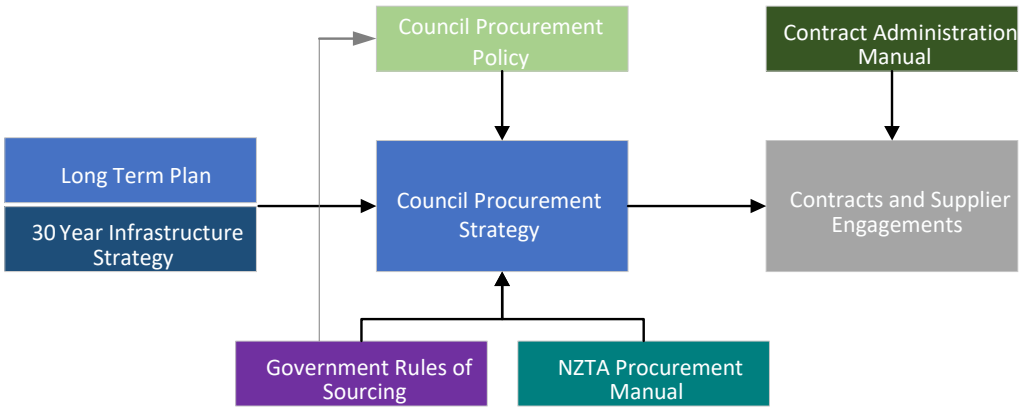
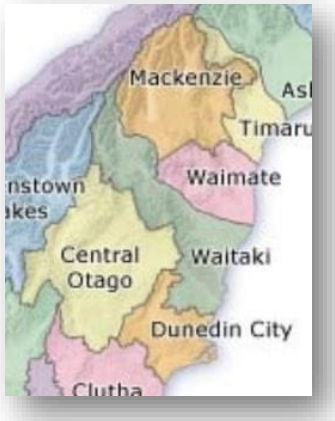


Figure 8: Council Procurement Strategy

Key strategies for achieving this include:

i. **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 ONRC Customer Levels of Service
ii. **Have a robust plan** – to identify an effective Forward Work Plan (FWP) over the long term so we can keep providing services for future generations
iii. **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
iv. **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

2.6.2 Linkages with other RCAs



Waitaki District Council works with neighbouring authorities where there is mutual benefit. In the Roading sector, Waitaki District has opted to undertake planning through the Otago Regional Council's Regional Land Transport Plan, but also collaborates with other territorial authorities and NZTA in Canterbury as well.

2.6.3 Collaboration

Council has explored opportunities and associated benefits of work with other entities. However, these opportunities are limited as NZTA 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.

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.

2.7 Activity Programme Linkages

The table below 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 ONRC requirements.

Table 5: Activity Programme Linkages

Problems Identified	Related ONRC Customer Outcomes	Key Components of the Programme that Address these Problems		
		Maintenance and Operations	**Renewals**	**Improvements**
Better Travel Options: Inability to access, plan, fund and adapt to changing environmental and user demands, constrains timely investment in a fit for purpose transport system now and in the future	**ACCESSIBILITY** – Providing a transportation network that allows access for HCVs as well as appropriate wayfinding and connectivity **SAFETY** - Maintaining the road and roadsides in such a way as to ensure that people feel safe driving them	WC111 – Sealed pavement maintenance WC112 – Unsealed roads maintenance WC113 – Drainage maintenance WC122 – Traffic services maintenance WC151 – Network and Asset Management	WC211 – Unsealed road metaling WC212 – Sealed road resurfacing WC214 – Sealed road pavement rehabilitation	WC341 – Low Cost/Low Risk Improvements
Safety: Inconsistent attitudes and behaviours, and variable network design and quality results in deaths and serious injuries, congestion and low confidence to use alternative transport modes	**SAFETY** – Reducing numbers of Fatal and serious crashes **SAFETY** - Maintaining the road and roadsides in such a way as to ensure that people feel safe driving them	WC111 – Sealed pavement maintenance WC112 – Unsealed roads maintenance WC113 – Drainage maintenance WC122 – Traffic services maintenance	WC211 – Unsealed road metaling WC212 – Sealed road resurfacing WC214 – Sealed road pavement rehabilitation WC222 -Traffic Services Renewals	WC341 – Low Cost/Low Risk Improvements
Resilience and Better Freight Connections: Parts of the network and service infrastructure lack resilience and are vulnerable to disruption due to adverse events, resulting in economic and social disruption	**RESILIENCE** – Limiting disruption to traffic affected by unplanned events and the impacts of closures that occur	WC113 – Drainage Maintenance WC121 – Environmental Maintenance WC141 – Emergency works WC151 – Network and Asset Management	WC213 – Drainage Renewals WC221 – Environmental renewals	WC341 – Low Cost/Low Risk Improvements
	ACCESSIBILITY – Providing a transportation network that allows access for HCVs (including 50Max vehicles) via key road transport links	WC114 – Structures Maintenance WC151 – Network and Asset Management	WC215 – Structures Component Replacement WC216 Bridge Renewals	WC341 – Low Cost/Low Risk Improvements

An important factor in the delivery of the maintenance, operations and renewals programmes will be ensuring these activities are prioritised and optimised across the different road classifications and key transport routes. This should ultimately facilitate cost-savings by adjusting the Levels of Service across different ONRC. We aim to achieve this by:

- Ensuring funding requests are prioritised by ONRC where appropriate.
- Determining optimal timing of renewal treatments, which may mean ‘sweating’ the asset more on lower classification roads.
- Ensuring that risk and consequence are proactively managed on higher classification roads and identifying opportunities to accept more risk and consequence on lower classification roads.

3 Levels of Service and Performance

3.1 Customer Consultation and Expectations

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

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 Waitaki Long Term Plan and each year through the Annual Plan process.

Council 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 transportation 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.

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 completed in 2008 will ultimately be replaced by One Network Road Classification and One Network Framework once the road hierarchy in the current District Plan review has been completed
- The extent of the network policy; revised and adopted by Council in 2012
- Development contributions updated for the 2021/31 LTP
- Seal widths and seal extensions policy revised and adopted by Council in 2008 and reaffirmed in 2018
- Speed limits and Roading Bylaw review have been completed in 2020 and new Council approved speed limits are due in implementation
- Consultation of Roading Improvements in 2017 for inclusion in the 2018-21 Regional Land Transport Plan
- Review of Roading Policies in 2020/21

The legal requirements for consultation and a list of stakeholders is detailed in Local Government Act 2002 and its amendments.

3.1.1 Customer Satisfaction Surveys

Each year Council surveys residents through its customer satisfaction survey. These surveys provide insight into the current customer expectations regarding the delivery of the land transport activity. Since 2011, customer survey results have dropped markedly to an average of 32% for satisfied and very satisfied. The sealed and unsealed roading networks are consistently the worst performing service areas in this annual survey, although slow improvement:

WDC Service Area	2017 Satisfied	2018 Satisfied	2019 Satisfied	2020 Satisfied	3-yr Trend
Opera House	95	92	96	97	↑
Waitaki is a Safe Place to Be	90	87	85	88	→
Water Supply - Oamaru	86	84	89	88	↑
Library Services	95	93	89	88	↓
Parks & Reserves	85	87	84	87	→
Sports Fields & Facilities	84	84	80	82	↓
Aquatic Centre	87	85	77	81	↓
Cemeteries	83	86	82	80	↓
Counil-owned Lakes & Camping Grounds	66	64	71	77	↑
Public Toilets	74	73	74	77	↑
Resource Recovery Centres	88	86	84	75	↓
Water Supply - Waihemo	69	72	76	73	→
Performance of Mayor & Councillors	57	56	64	72	↑
Council's Consultation with the Community	43	39	47	51	↑
Sealed Roading Network	47	35	41	46	↑
Unsealed Roading Network	27	29	28	33	↑

Figure 9: WDC Customer Satisfaction Survey Results

Residents in Oamaru and Corriadale (higher volume & urban networks) are more likely to be satisfied than those in Waihemo and Ahuriri (more remote, lower volume networks), and this gap is growing:

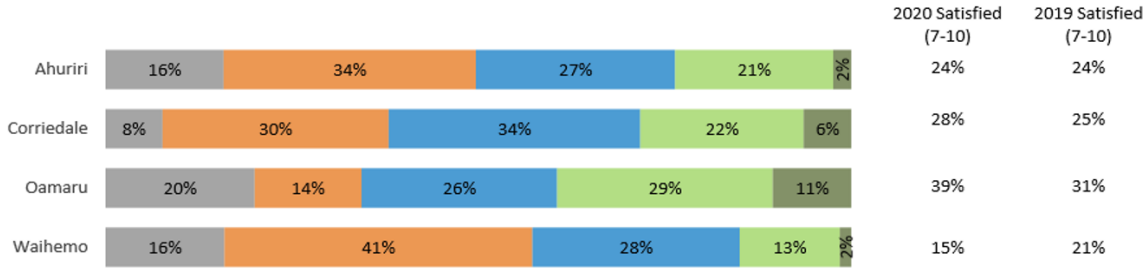


Figure 10: Roading Customer Satisfaction Splits

This trend reflects the impact of implementing the ONRC in our maintenance programmes and prioritisation processes and is an intended outcome of Waka Kotahi.

Some of the main issues highlighted in the latest 2020 customer satisfaction survey include:

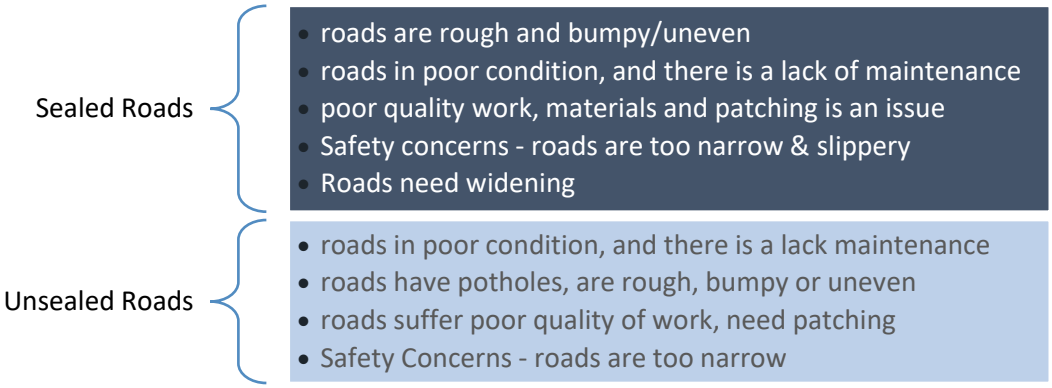


Figure 11: Main Roading Issues from Customer Feedback

This consultation provides good insight into the priorities of the community which need to be considered when developing appropriate levels of service. 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 levels of service are appropriate and achievable given the reduced funding environment.

3.2 Current Performance, Levels of Service (LoS)

3.2.1 Mandatory Measures

DIA Mandatory Measures are reported on through the Long-Term Plan and Annual Reports. Performance against these and other key Council measures against target for the last three years is detailed below. The highlighted red, yellow and green cells indicate where Council has performed worse or better than target. Red = worse, yellow = on/close to target, green = better

3.2.2 ONRC

ONRC LoS and performance measures are reported on through the Road Efficiency Group's (REG's) Performance Measures Reporting Tool (PMRT). Reporting is completed both individually for each Road Controlling Authority (RCA) and on a comparison basis against a Peer Group of other similar RCAs. This reporting is summarised in the REG TA report (refer to Appendix A), but is included here in tabular format with commentary on LoS gaps.

- The highlighted red, yellow and green cells indicate where Council is worse or better compared to the peer group. Red = worse, yellow = average, green = better.
- Where no data has been collected for a particular performance measure, this is indicated as Not Yet Assessed.
- Where there is no peer group comparison reporting available from the PMRT this is represented with N/A (Not Applicable).

Table 6: DIA Performance Measures & Results

Customer Outcomes	Asset	Performance Measure	Target	2017/18	2018/19	2019/20
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	-3	+2
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	94%	Not measured
	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%	92%	93%	91%
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 – 7.5% per year	8%	5.8%	7.9%
	Network	***DIA mandatory measure, Response to service requests:** Percentage of customer service requests responded to within 5 days	≥ 90%	No data	No data	87%

Table 7: REG Performance Measures & Results

ONRC Performance Measures			Council Current (19/20) Performance												Comments / LoS Gaps
			Urban				Rural				Combined				
Type	No.	Name	PC	SC	Ac	LV	PC	SC	Ac	LV	PC	SC	Ac	LV	
SAFETY	SCO1	The No. of Deaths and Serious Injuries (DSI's) on the network	2 ↑	3 ↑	- ↑	- ↓	- →	3 ↓	4 ↑	- ↓	2 ↑	6 ↑	4 ↑	- ↓	Increasing trend, especially on secondary collector roads
	SCO2	Collective Risk (DSI rate per kilometre)	0.051 ↑	0.027 →	0.012 ↑	0.005 →	-	0.010 ↓	0.005 ↑	0.002 ↑	0.030 ↓	0.012 →	0.006 ↑	0.003 ↑	
	SCO3	Personal risk (DSI rate per kilometre)	4.69 ↑	7.52 →	12.84 ↑	15.95 ↑	-	6.70 ↓	12.18 ↑	33.11 ↑	4.36 ↓	6.92 ↓	12.30 ↑	29.18 ↑	
	STO1	Permanent Hazards	No data				No data				No data				Additional staff required and proposed in WC 151 for the development and collection of data for ONRC Input Measures
	STO2	Temporary Hazards	No data				No data				No data				
	STO3	Sight Distances	No data				No data				No data				
	STO4	Loss of Control on wet road DSI's	- →	- →	- →	- →	- →	- ↓	- →	- ↓	- →	- ↓	- →	- ↓	Decreasing trend in secondary and low volume roads – zero in 2019/2020
	STO5	Loss of driver control at night DSI's	- →	- →	- →	- →	- →	- ↓	- →	- ↓	- →	- ↓	- →	- ↓	Decreasing trend in secondary and low volume roads – zero in 2019/2020

ONRC Performance Measures			Council Current (19/20) Performance												Comments / LoS Gaps
			Urban				Rural				Combined				
Type	No.	Name	PC	SC	Ac	LV	PC	SC	Ac	LV	PC	SC	Ac	LV	
	STO6	Intersection DSI's	- ↓	1 ↑	- →	- ↓	- →	- ↓	1 ↓	- →	- ↓	1 ↑	1 ↓	- ↓	Increasing trend in secondary collector roads and decreasing trends in Access roads.
	STO7	Hazardous Faults	No data				No data				No data				Additional staff required and proposed in WC 151 for the development and collection of data for ONRC Input Measures
	STO8	Cycle Path Faults	No data				No data				No data				
	STO9	Vulnerable user DSI's	- ↑	- ↑	- ↑	- ↓	- →	- ↓	- →	- →	- ↑	- ↑	- ↑	- ↓	Data for 2019/2020 is not available
	STO10	Roadside Obstructions	No data				No data				No data				Additional staff required and proposed in WC 151 for the development and collection of data for ONRC Input Measures
Amenity	AMCO1	Smooth Travel Exposure (STE) %	89 ↓	80 ↓	71 ↓	84 ↓	88 ↓	97 ↓	96 →	92 ↑	89 ↓	92 ↑	90 ↓	87 ↓	Deteriorating trend on urban network
	AMCO2	Peak Roughness - 85th %ile	130.8 ↓	173 ↓	166 →	155 ↑	134.5 ↓	98 ↓	112 →	119 ↑	134.0 ↓	113 ↓	125 →	139 ↑	
	AMCO2	Peak Roughness - 95th %ile	130.8 ↓	173 ↓	166 ↑	155 ↑	134.5 ↓	98 ↓	112 ↑	119 ↑	134 ↓	113 ↓	125 ↑	137 ↑	
	AMTO1	The median Roughness of your Roads (95TH %ile)	94 ↓	117 ↓	121 ↓	113 ↑	84 ↑	69 ↓	77 ↑	84 ↓	85 ↓	73 ↓	83 ↑	92 ↑	
	AMTO1	The Average Roughness of your roads	94 ↓	124 ↓	126 ↓	119 ↑	95 ↑	73 ↓	82 ↑	90 ↓	94 ↓	81 ↓	89 ↑	101 ↑	
	AMTO2	Aesthetic Faults	No data				No data				No data				Additional staff required and proposed in WC 151 for the development and collection of data for ONRC Input Measures
Access	ACCO1	% of network not available to Class 1 HCV	No data				No data				No data				Additional staff required and proposed in WC 151 for the

ONRC Performance Measures			Council Current (19/20) Performance												Comments / LoS Gaps
			Urban				Rural				Combined				
Type	No.	Name	PC	SC	Ac	LV	PC	SC	Ac	LV	PC	SC	Ac	LV	
															development and collection of data for ONRC Input Measures
	ACTO1	No. of instances markings are NC with TCD/MOTSAM	No data				No data				No data				Additional staff required and proposed in WC 151 for the development and collection of data for ONRC Input Measures
Resilience	RCO1	No. of journeys impacted by unplanned events	No data				No data				No data				Additional staff required and proposed in WC 151 for the development and collection of data for ONRC Input Measures
	RCO2	No. of instances where road access is lost	No data				No data				No data				
	TTR1	Throughput at indicator sites	No data				No data				No data				Additional staff required and proposed in WC 151 for the development and collection of data for ONRC Input Measures
Cost Efficiency	CE1	Pavement Rehabilitation Cost ($)	No data				No data				No data				Data to be sourced from ONRC Data Quality Reports
	CE1	Pavement Rehabilitation Average life achieved	No data				No data				No data				Data to be sourced from ONRC Data Quality Reports
	CE2	Chipseal resurfacing cost ($)	-	40,106 ↓	49,703 ↓	58,485 ↑	-	337,512 ↓	427,300 ↓	138,370 ↓	-	377,618 ↓	477,003 ↓	196,855 ↓	Cost is lower – data not available for Primary collector
	CE2	Chipseal resurfacing Average Life achieved	10.8 ↓	13.7 ↓	13.9 ↓	16.7 ↑	10.8 ↓	14.2 ↑	15.9 ↑	14.6 ↑	10.8 ↓	14 ↑	15.1 ↑	15.8 ↑	
	CE3	Asphalt resurfacing cost ($)	-	-	-	-	-	-	-	-	-	-	-	-	Data to be sourced from ONRC Data Quality Reports
	CE3	Asphalt resurfacing Average life achieved	6.1 ↓	8.7 ↓	7.6 ↓	7.3 ↓	-	25.2 ↑	-	-	6.1 ↓	16.9 ↑	7.6 ↓	7.3 ↓	
	CE4	Unsealed Metalling Cost ($)	No data				No data				No data				

ONRC Performance Measures			Council Current (19/20) Performance												Comments / LoS Gaps
			Urban				Rural				Combined				
Type	No.	Name	PC	SC	Ac	LV	PC	SC	Ac	LV	PC	SC	Ac	LV	
	CE4	Unsealed Metalling Average life achieved	No data				No data				No data				

3.3 Overview of Current Asset Capacity, Performance and Risks

The following table summarises the results from a review of the effectiveness of current work category programmes in addressing the problem statements and ONRC performance gaps ("+" good effect, "notes" not delivering, "–" not relevant). Refer to Activity Management Plan Part C: lifecycle strategies for further detail. Total expenditure for each work category during the 2018/21 period is also shown as a percentage of overall roading expenditure for context:

Table 8: Effectiveness of current work category programmes

WC No.	WC Description	% of Total Expenditure	Relevant Problem Statements	Community Outcomes	Transport Outcomes Realised	Value for Money	ONRC/LoS Gaps and Impacts	Life Cycle Management
111	Sealed pavement maintenance	9.4	1, 2, 3	Customer satisfaction is low and trending downwards	+	+	Urban roughness. Service installs	Maintenance is too reactive
212	Sealed road resurfacing	11.0	1, 2, 3	+	+	+	+	+
214	Sealed pavement rehabilitation	10.2	1, 2, 3	+	+	+	Pavements performing, with minor deterioration; esp. on HPMV routes	+
112	Unsealed pavement maintenance	5.0	1, 2, 3	Customer satisfaction is low but trending upwards. More work needed.	+	Crown restoration programme will reduce long term maintenance costs	+	Halved grading requests due to running extra gravel, performance grading & compaction behind grader
211	Unsealed road metalling	6.1	1, 2, 3		+	WDC operates own gravel sources and quarries	+	Remetalling rates are well below sustainable levels. This is increasing maintenance requirements and impacting customer satisfaction.
113	Routine drainage maintenance	2.9	2, 3	+	+	+	+	+
213	Drainage renewals	3.2	2, 3	+	Urban water quality policies – Enhanced requirements re. treatment, attenuation and fish passage	+	+	Culvert renewals reactive based on routine inspections. Need a proactive programme. Urban K&C renewals prioritised by NPV calculation. Gaps in AM processes
114	Structures maintenance	1.5	1, 3	+	+	+	Replacing bridge rails with safety barriers (LCLR)	Good condition and sustainable maintenance backlog. Some smaller retaining walls not in the inventory impacted by change in

WC No.	WC Description	% of Total Expenditure	Relevant Problem Statements	Community Outcomes	Transport Outcomes Realised	Value for Money	ONRC/LoS Gaps and Impacts	Life Cycle Management
								financial assistance for footpath maintenance and renewals
215	Structures component replacements	1.2	1, 3	+	+	+	Limited number of posted bridges.	Some high risk urban walls need replacing
216; 324	Bridge Renewals & replacements	4.8	1, 3	Kakanui bridge vulnerabilities impacts network resilience (SH closures)	+	Replacing small bridges with culverts and washover structures	+	
141	Minor Events	0.6	2, 3	+	+	+	+	+
121	Environmental maintenance	2.3	1, 2, 3	+	+	+	Ice/grit management could increase. Rural intersection sight visibility maintenance needs to increase to combat crash trends.	Increasing lichen growth and control required Oak tree leaf drop issues for drainage in urban areas. Protected street trees in asphalt pavements reducing asset life.
221	Environmental renewals	0.0	1, 2, 3	+	+	+	+	+
122	Traffic services maintenance	2.9	2	+	+	+	+	+
222	Traffic services renewals	1.2	2	+	Introduction of coloured surfaces to support multi-modal use has led it improved outcomes	+	Durability of marking at high-use intersections is an issue. Dark areas on collector routes and poor rural intersection lighting is leading to crashes	+
123	Operational traffic management	0.2	2	+	+	+	+	+
124	Cycle path maintenance	0.2	1, 2	+	+	+	+	+
125	Footpath maintenance & renewals	4.9	1, 2	+	Many old and unsafe crossing points are increasing crashes and causing impediment to impaired users.	+	Poor condition. Do not support change in urban mobility – esp. for older population which is increasing in Waitaki.	Footpath spreading due to weak timber edging is reducing life. Footpath condition rating survey to be completed for 100% of network resulting in FWP

WC No.	WC Description	% of Total Expenditure	Relevant Problem Statements	Community Outcomes	Transport Outcomes Realised	Value for Money	ONRC/LoS Gaps and Impacts	Life Cycle Management
151	Network and asset management	13.4	1, 2, 3	+	+	+	+	Endorsed procurement strategy
341	Low Cost Low Risk improvements	17.5	1, 2, 3	+	+	+	Intersection improvements and Bridge strengthening as well as safety improvements (see above)	Could be a larger programme but constrained by resource capacity Additional staff resource to be included in budget

The expenditure profile for the last 3-years of this strategy is shown in the following chart, and shows the escalating effect of cost inflation in the current term roading maintenance contracts:

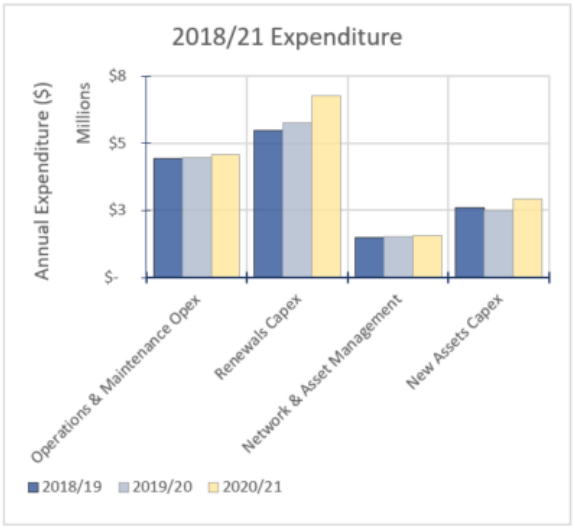


Figure 12: Expenditure profile for the last 3-years

4 Gap Assessment

4.1 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 ONRC performance criteria. Each criterion was weighted using a pairwise analysis, and then each issue/gap was scored across each of the performance criteria.

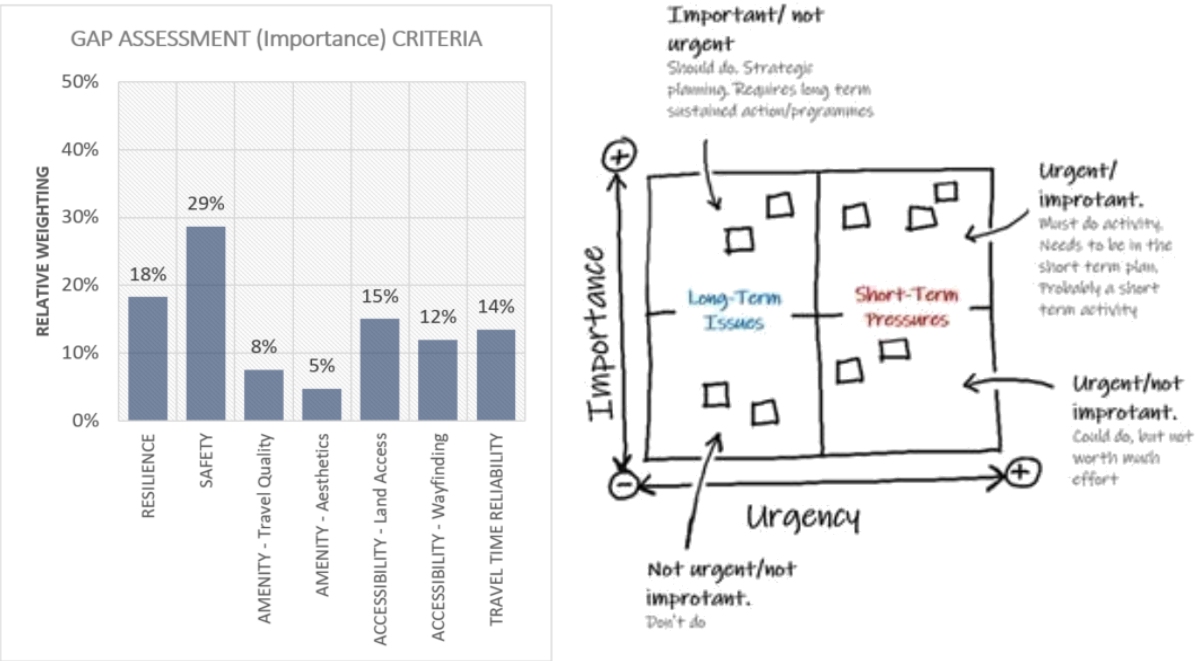


Figure 13: Transportation Level of Service Gap Assessment Criteria

Gaps assessed as medium or high importance are presented in the following sections:

4.2 Transport Outcomes

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

Table 9: Transportation Level of Service Gap Assessment Results

Outcome	Key Gaps [Importance / Urgency]		Programme Response
Healthy & Safe People	Rural road loss of control and intersection crashes on secondary collector roads.		Safety Improvements: Focus on safety at intersections and on Secondary Collector roads for targeted programmes of safety LoS improvements
	H	M	
	Urban footpath condition is deteriorating and not good enough for our aging population.		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	
Economic Prosperity	Key routes related to future expansion of NOIC are not open for HPMV access. Limits economic opportunity.		Bridge Inspections & Data Collection: implement Bridge Inspection Policy to collect condition data. Bridge strengthening: based on capacity assessment outcomes
	H	H	

Outcome	Key Gaps [Importance / Urgency]		Programme Response
Resilience & Security	Lack of alternative routes available. Criticality is well understood though.		Road Closure Data Collection: to be recorded consistently to meet performance reporting requirements. Use this to direct future investment need
	M	M	
	Kakanui Bridge provides important to resilience to SH1S, but is vulnerable to flooding and closure.		Bridge Replacement: Invest in detailed engineering assessment and develop business case if warranted.
	H	M	
	Coastal erosion threatening some routes and communities.		Continue implementation of coastal erosion strategy.
	M	H	
Inclusive Access	Urban footpath condition is deteriorating and not good enough for our aging population.		Build a district transportation plan and work with developers through engagement and consent conditions to ensure good mode-neutral access & connectivity.
	H	H	
	Latest communitrak survey (2020) shows that 60% of respondents are not very satisfied with the standard of road maintenance, especially on unsealed roads		Stakeholder Engagement: to understand customers' desired level of service and allow for better understanding of cost of service vs level of service.
	M	H	

4.3 Changes to Meet ONRC Function

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

Table 10: ONRC Function Gap Assessment Results

Strategic Case Problem	ONRC Gap [Importance / Urgency]		Programme Response
Resilience and Better Freight Connections: Parts of the network and service infrastructure lack resilience and are vulnerable to disruption due to adverse events, resulting in economic and social disruption	Kakanui Valley Road (Secondary Collector) - Maheno Iron Bridge requires upgrading for HPMV traffic to maximise economic potential of this route. This is a critical access to the state highway network (SH1S) from a large agricultural area in the NOIC and is key for realising potential economic productivity from the scheme.		Bridge Strengthening (1-3yr planning horizon)
	H	H	
	Dunback Domain Road (Secondary Collector) - Dunback Domain Bridge requires upgrading for HPMV traffic to maximise economic potential. 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.		Bridge Strengthening (4-10yr planning horizon)
	M	M	

The ONRC gap assessment has been very limited to date however and it is possible that further gaps exist, particularly in relation to the ONF in and around the main urban centres where rural residential and retirement developments are ongoing. This Activity Management Plan therefore includes

development of a District Transportation Plan to identify future gaps and allow strategic transport planning.

4.4 Transport Planning

Key gaps have been identified in the following areas in terms of demand management:

Table 11: Demand Management & Transport Planning Gap Assessment Results

Strategic Case Problem	Demand Gap [Importance / Urgency]		Programme Response
Better Travel Options: Inability to access, plan, fund and adapt to changing environmental and user demands, constrains timely investment in a fit for purpose transport system now and in the future	Need to better understand future development patterns and transport options to adequately support travel choice and low carbon options		Stakeholder Engagement: particularly with development companies, but also other landowners wanting to maximise productivity through transportation. Prepare a District Transport Plan This will allow Council to better plan long term investment to accommodate demand.
	H	M	

4.5 Peer Group ONRC Performance Gaps

From the review of ONRC performance outcomes compared to the peer group, the significant areas where Council are under-performing compared to the peer group are detailed below. This indicates that the LoS may not be provided to the appropriate level in these areas. These generally align with past under-performance against Council's own LoS.

Table 12: Peer Group ONRC Performance Gap Assessment Results

ONRC Outcome Area	Performance Measures	Waitaki Result	Peer Group Comparison [Importance / Urgency]		Programme Response
Safety	SCO1: the number of fatal and serious injuries on the network	Few accidents, generally static trend	Generally lower than peer group average, but higher on Secondary Collector roads		Review Secondary Collector roads for safety LoS improvements
			H	M	
Amenity	AMCO1: Percentage travel on road network classified as smooth as per defined Level of Service (STE)	Generally static trend – not deteriorating further	Lower than peer group average on higher classification urban roads		Targeted Pavement Renewals: Target Secondary Collector roads to continue to improve STE & roughness through pavement renewals, pre-levelling and heavy maintenance
			M	L	
	AMCO2: Peak Roughness	Primary collector peak roughness > secondary collector and access roads. Generally static	Higher than peer group on higher classifications		
			M	M	
	AMTO1: Average / Median roughness		Higher than peer group for all classifications, but particularly PC and SC		
			M	L	
Accessibility	ACCO1: Proportion of network not available to Class 1 heavy vehicles and 50Max vehicles	Not reported	Not assessed Known deficiencies in key growth areas		Bridge strengthening based on capacity assessment outcomes
			M	M	

ONRC Outcome Area	Performance Measures	Waitaki Result	Peer Group Comparison [Importance / Urgency]		Programme Response
Cost Efficiency	CE2: Chipseal resurfacing Average Life achieved	Short seal lives on Primary Collectors	Seal lives 20% less than peer group on primary collectors		Maintain seal rates on higher classification roads to ensure asset integrity is maintained and lives are not stretched too far
			M	L	
	CE3: Asphalt resurfacing Average Life achieved	Long surface lives on Secondary Collectors	Seal lives 35% longer than peer group on Secondary Collectors		Increase resurfacing rates on higher classification roads to ensure asset integrity is maintained and lives are not stretched too far
			M	L	

4.6 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 13: 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.		Increase reseal programme by 10% 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. Ensure achievement of 56km per year.
	H	M	
Unsealed Pavements	Drainage/resilience of unsealed roads - High grading frequency to meet LoS expectations. Customer satisfaction is very low (33%)		Increase remetalling quantities to improve road structure and resilience/durability. Introduce enhanced crown to achieve better drainage and resilience.
	M	L	
	Quarry/aggregate availability within 25km radius.		Actively seek to control/manage quarry provision to safeguard access to an economic resource.
	M	L	
Drainage	Limited understanding of drainage asset condition which means there is uncertainty around drainage asset sustainability.		Condition rating of drainage assets to be procured through the roading maintenance contract.
	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 primary and secondary collectors 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.		Increase footpath renewal quantities to recover service level and contribute to

Asset Type	Key Lifecycle Management Issues [Importance / Urgency]		Programme Response
	H	H	mode neutral outcomes, including a lower carbon system
Bridges & Structures	Aging timber bridges are nearing the end of their lives. This is impacting 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. 30-year bridge renewal strategy.
	H	H	
Network & Asset Management	Staffing levels – supervision/ auditing of maintenance contract & asset management (including data). Some gaps in condition data.		Increase resources (2 FTE). Optimise condition rating strategies and decision models/ processes.
	H	H	

4.7 Data Quality Gaps

Council 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 Council and updated in RAMM.

The REG Data Quality Reports outline the quality of RAMM data used by the ONRC PMRT. The metrics help us to understand data completeness, accuracy and timeliness. WDC has placed significant emphasis over the last 3 years on data quality and we are maintaining a strong upward trend:

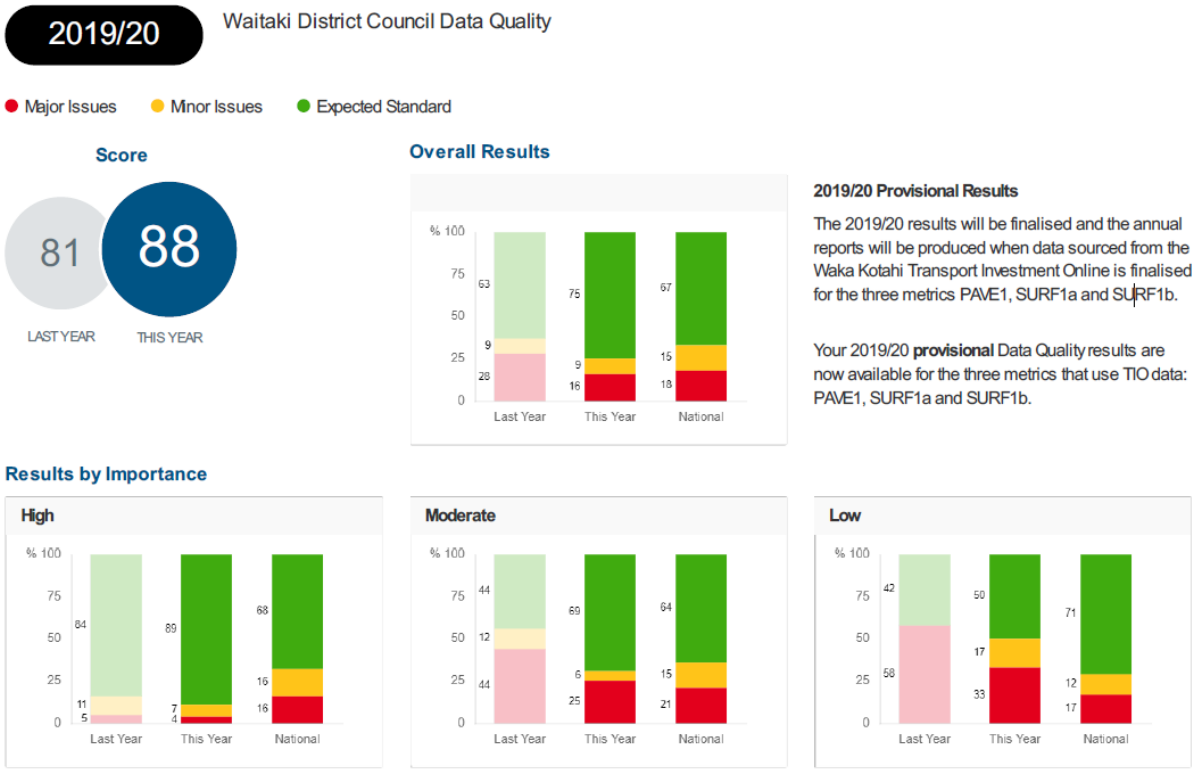


Figure 14: REG Data Quality Dashboard – Waitaki RAMM Data

There are however still a number of important data gaps and quality issues that impact on investment decision making. The significant data quality gaps are summarised below.

Table 14: Data Quality Gap Assessment Results

Strategic Case Problem	Data Gap [Importance / Urgency]		Tactical Response
Safety: Inconsistent attitudes and behaviours, and variable network design and quality results in deaths and serious injuries, congestion and low confidence to use alternative transport modes	Condition Data for many assets including drainage, signs and railings is out of date, or not of sufficient quality to inform analysis or investment decision making.		Enhance routine maintenance contracts to ensure that road maintenance contracts collect and maintain asset condition data.
	M	H	
	Network hazard data is patchy and out of date. It is insufficient to report on ONRC technical output measures. Continued focus and updating required.		Enhance routine maintenance contracts to ensure that road maintenance contracts collect and maintain network hazard data and implement an all-faults programme.
	H	H	
	Safety – non-reported crashes not in CAS so accident causes not well understood.		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
	H	M	
	Pedestrian and cycle count data is patchy and out of date. Continued focus and 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	
Resilience and Better Freight Connections: Parts of the network and service infrastructure lack resilience and are vulnerable to disruption due to adverse events, resulting in economic and social disruption	Data for ONRC resilience performance measures is not currently collected		Enhance routine maintenance contracts to ensure that road maintenance contracts collect and maintain ONRC road closure and resilience data.
	M	M	
	Drainage asset condition data is out of date, or not of sufficient quality to inform analysis or investment decision making.		Enhance routine maintenance contracts to ensure that road maintenance contracts collect and maintain asset condition data.
	H	M	

4.8 Other Evidence Gaps

Other evidence gaps that have been identified through the Detailed Business Case, which are not already included above are outlined below.

Table 15: Other Evidence Gaps

Strategic Case Problem	Evidence Gap [Importance / Urgency]		Tactical Response
Better Travel Options: Inability to access, plan, fund and adapt to changing environmental and user demands, constrains timely investment in a fit for purpose transport system now and in the future	Limited understanding of current and future development trends and likely impact on transport demand. Includes understanding of the appetite and opportunities for low carbon mobility within the primary sector.		Develop District Transportation Plan through a consultative process to enable integration between transport and land use planning.
	H	M	

<table>
<tr><th>Strategic Case Problem</th><th colspan="2">Evidence Gap [Importance / Urgency]</th><th>Tactical Response</th></tr>
<tr><td rowspan="4">Resilience and Better Freight Connections: Parts of the network and service infrastructure lack resilience and are vulnerable to disruption due to adverse events, resulting in economic and social disruption</td><td colspan="2">Need better understanding of the right balance of planned vs reactive maintenance (i.e. maintenance vs renewal) to meet required levels of service. This has been done to some extent through dTIMS modelling for pavements, but not completed yet for other assets. Unsealed roads are priority.</td><td rowspan="2">Cost of Service Analysis: Complete full review of maintenance and renewal costs and align with levels of service.</td></tr>
<tr><td>H</td><td>L</td></tr>
<tr><td colspan="2">Drainage & vulnerable network areas not well understood in terms of catchment areas, capacity and the likely impacts of climate change. Need better understanding of vulnerable areas required – e.g. Rivers adjacent to road undermining road.</td><td rowspan="2">Drainage: review catchments and drainage capacity requirements in areas where flooding is common. Measure and monitor condition of high-risk slopes and scour sites.</td></tr>
<tr><td>H</td><td>M</td></tr>
</table>

5 Options Analysis

5.1 Investment Options

Overall, this AMP aims to demonstrate that Waitaki has a robust plan to deliver the community's desired level of service at a price the community and third-party investors are willing to pay.

The AMP is primarily concerned with presenting how WDC plans to maintain, and in some cases improve, customer 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.

The four primary options considered for this plan are:

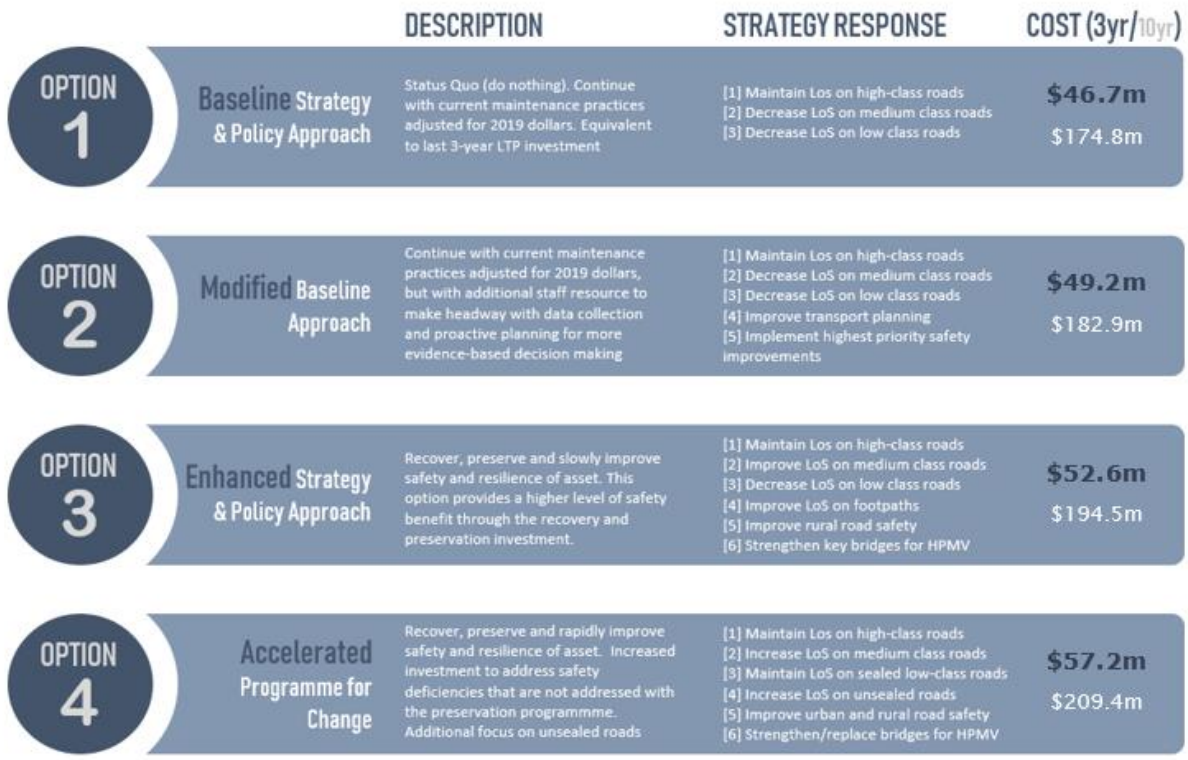


Figure 15: Four Primary Options

Estimated expenditure forecasts for the 4 options are shown in the following figure:

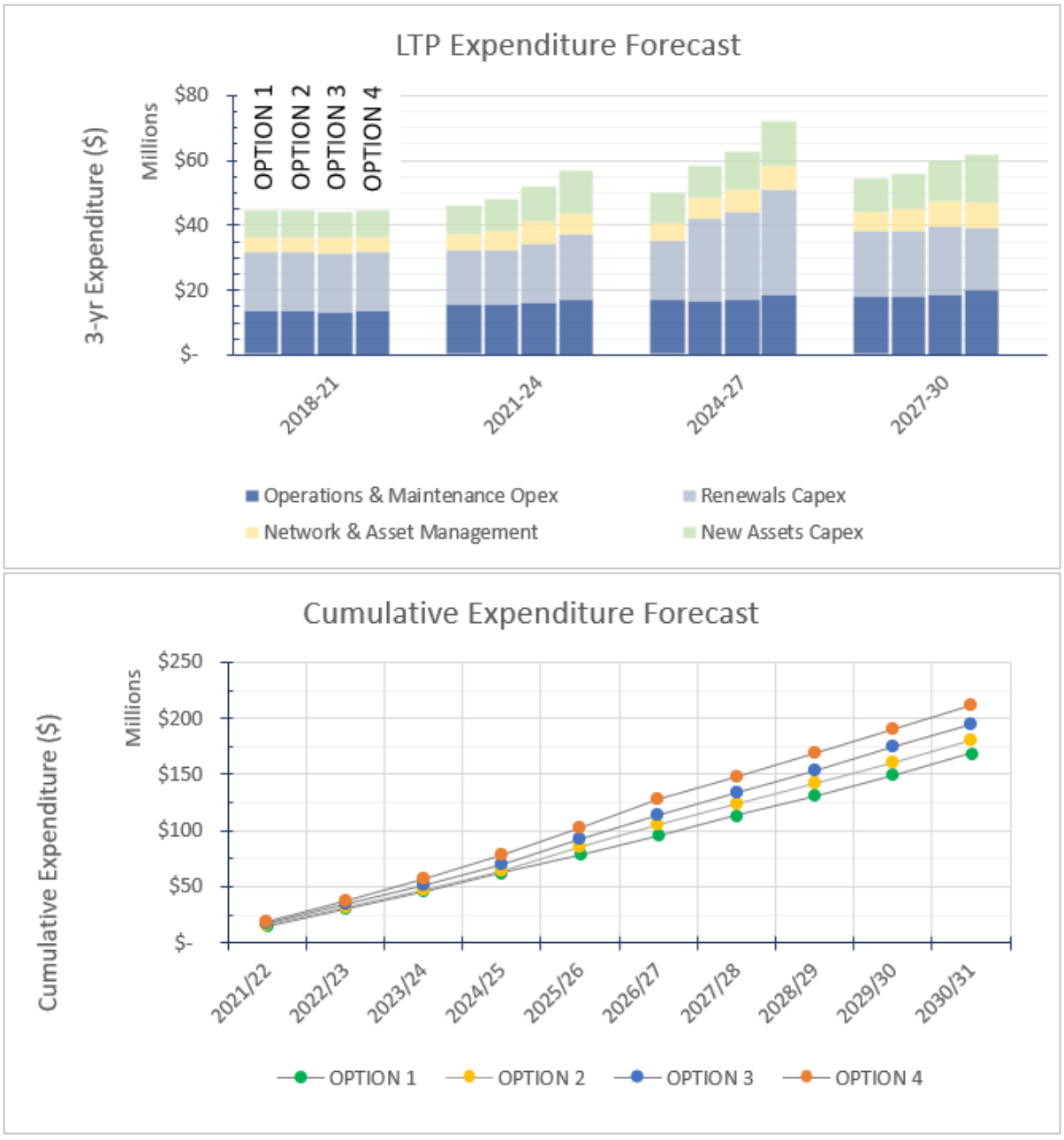


Figure 16: Estimated Expenditure Forecasts

Our baseline strategies are summarised in Section 5.3. This options assessment considers specific enhancements and improvements to targeted areas of the continuous programmes of activity. Based on the outcomes of the assessment of our long list of options, a conclusion is drawn about the preferred primary option.

5.2 Investment Decision Making Criteria

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 Road Efficiency Group guidelines.

5.2.1 Waka Kotahi Investment Decision Making Framework

The 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:

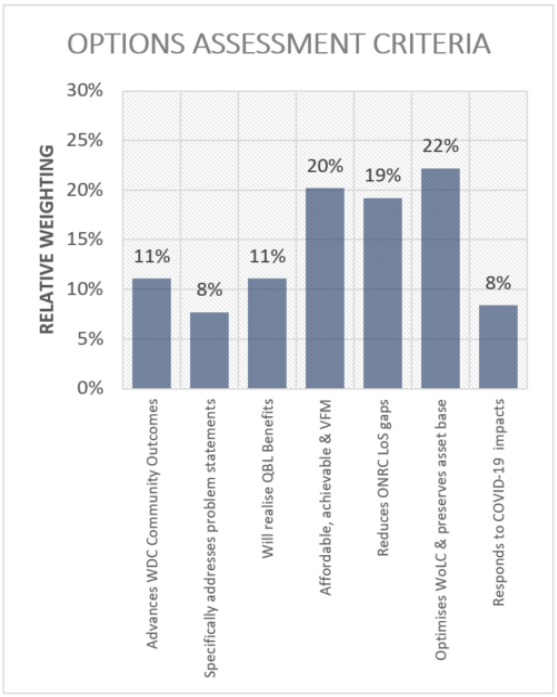
1. **Investment Objective and Relevant Transport Outcome:** Aligned with national Transport Outcomes, including the Government Policy Statement on land transport (GPS), which sets out the government's priorities for expenditure over a 10-year period.
2. **Critical Success Factors:** Practical considerations that will dictate whether a project can be successfully implemented, including:
    - Achievability/ Feasibility
    - Potential affordability
    - Potential value for money
    - Supplier capacity and capability
    - Urgency

5.2.2 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 Asset Management Plan (Part C) for evaluation. These solutions include are based on the following approaches (*Source: REG 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 level of service (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, 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 Asset Management Plan – Part C):



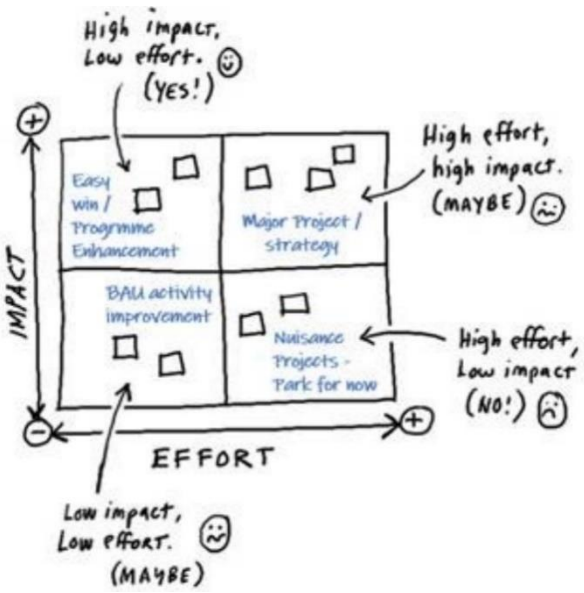
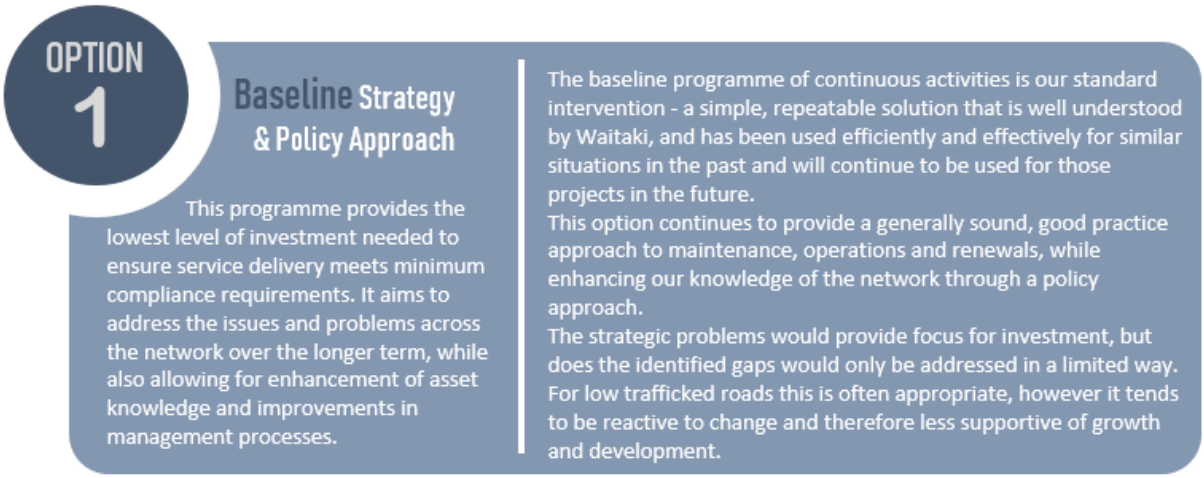


Figure 17: Investment Options Assessment criteria

5.3 Option 1: Baseline Strategy & Policy Approach



The current baseline strategy for Waitaki's sealed road network is aligned with 'optimising 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. WDC is transitioning to a preventative and needs based management strategy. 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 secondary collector and lower-class roads, while maintaining LoS on primary collector and higher-class roads.

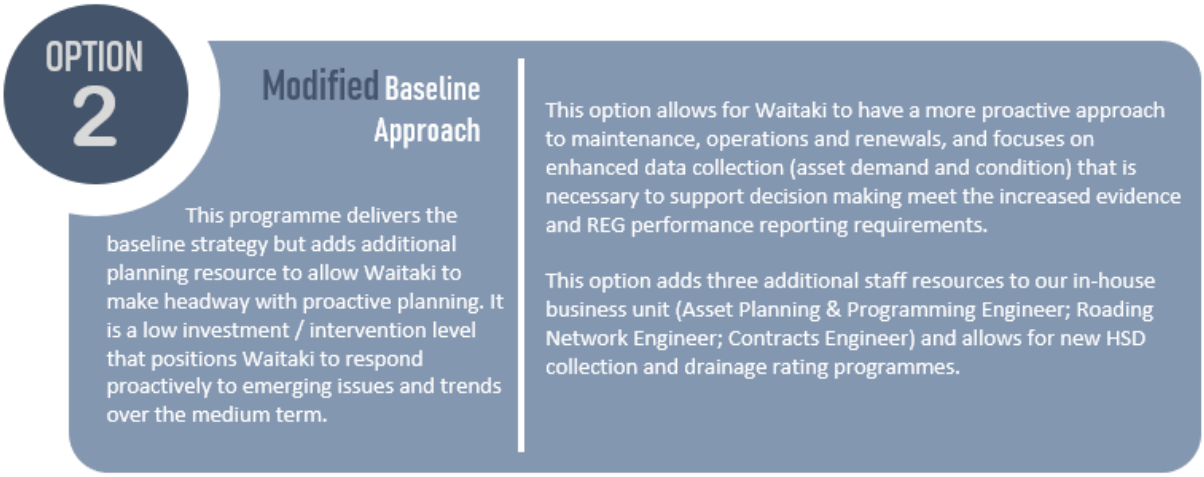
The do-nothing option continues to allow the progression of the overall deterioration of the WDC network. The option does not allow for increased costs for work and will allow the continued deterioration of safety, customer experience, resiliency and increase overall lifecycle costs.

Table 16: Option 1 Detailed Description

Asset Group	Baseline Strategy	Residual Risks
Sealed Roads	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.	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	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.	Low levels of customer satisfaction
Drainage	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.	Overall asset condition not known. Constrained budget may not provide a big enough boost to improve drainage significantly and may rely on Low Cost Low Risk Improvements to assist
Footpaths	The existing renewals strategy of improving the worst condition paths, identified through condition rating inspections and robust FWP, 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 and cycling. Unsafe environment for some vulnerable users.
Streetlighting	LED upgrade has been completed with Central Management System to be implemented in 2020/21. Ongoing routine maintenance.	Pole condition largely unknown. 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	Continuous improvements to roading network based on ONRC hierarchy and implementation of improved safety standards e.g. line marking completed more frequently, and regulatory signs upgraded to improved standards	Traffic services budgets constrained to deliver existing markings and signs only with reliance on Low Cost Low Risk Improvements to assist
Guardrails	Continuous improvements to roading network based on ONRC hierarchy. Barriers on bridge approaches to be installed in 2020/21	Structures maintenance budgets may not be large enough to cope and reliance on Low Cost Low Risk Improvements to assist
Bridges and other Structures	Bridge renewals are programmed based on condition assessments, with a 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.	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. Lack of resilience results in increasingly costly disruptions due to climate change.
Environmental	Cyclic vegetation control programmes. Otherwise reactive.	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.

Asset Group	Baseline Strategy	Residual Risks
LCLR Improvements	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.	Low Cost Low Risk Improvements budget may be constrained in the short term and safety improvements are not completed fast enough to give good effect to Road to Zero safety strategy.
Emergency Response	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 poorer levels of service

5.4 Option 2



Option 2 is very similar to Option 1 in terms of network outcomes but acknowledges that improved long-term outcomes will be achieved through more proactive, evidence-based decision making. This requires additional staff resource and additional data collection:

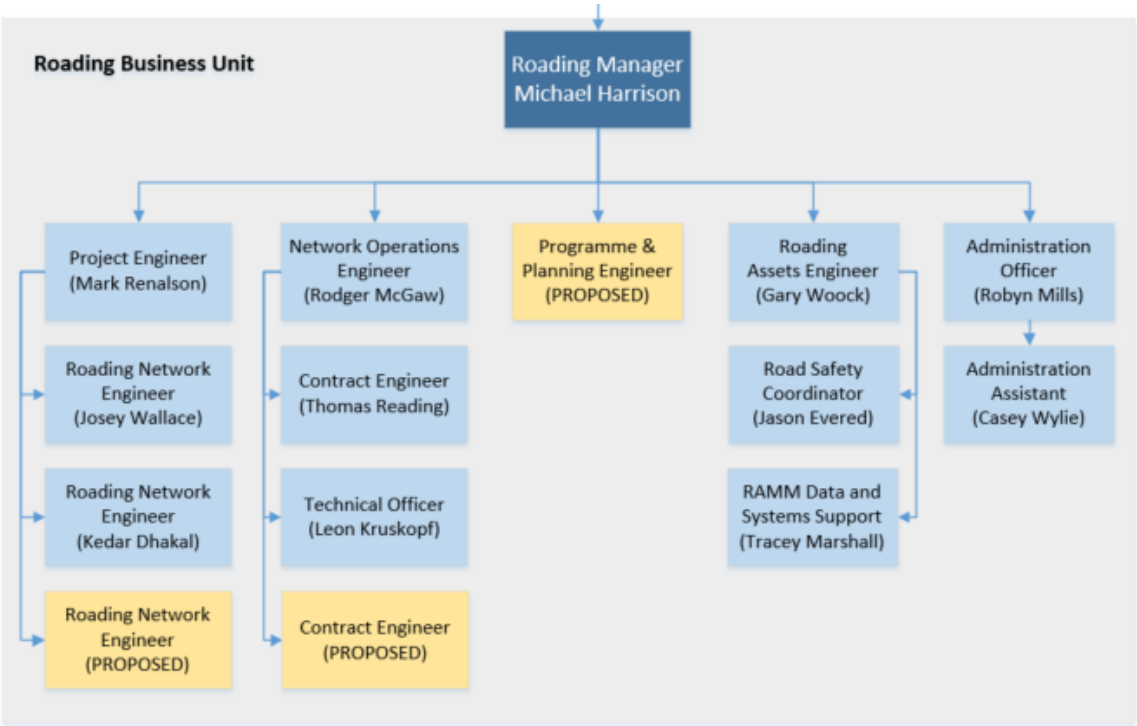
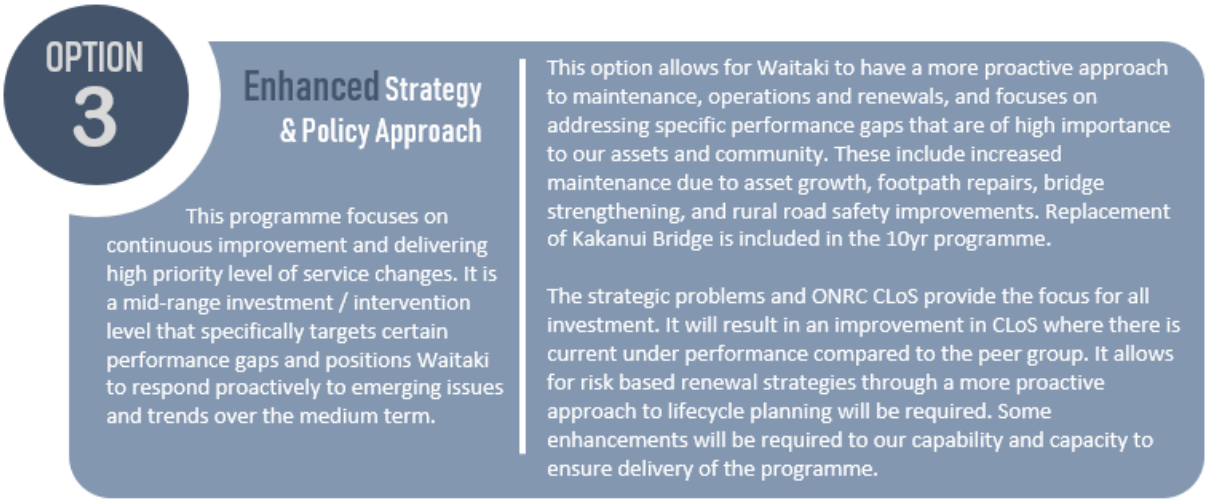


Figure 18: Proposed Internal Business Unit Structure

5.5 Option 3: Enhanced Strategy & Policy Approach



Option three includes the baseline strategy elements, adjusted and expanded to include high priority LoS improvements. This option provides for a rebalance of investment that follows the One Network Road Classification – there is a focus on recovering the road condition on secondary collector and urban roads while preserving access and primary collector roads.

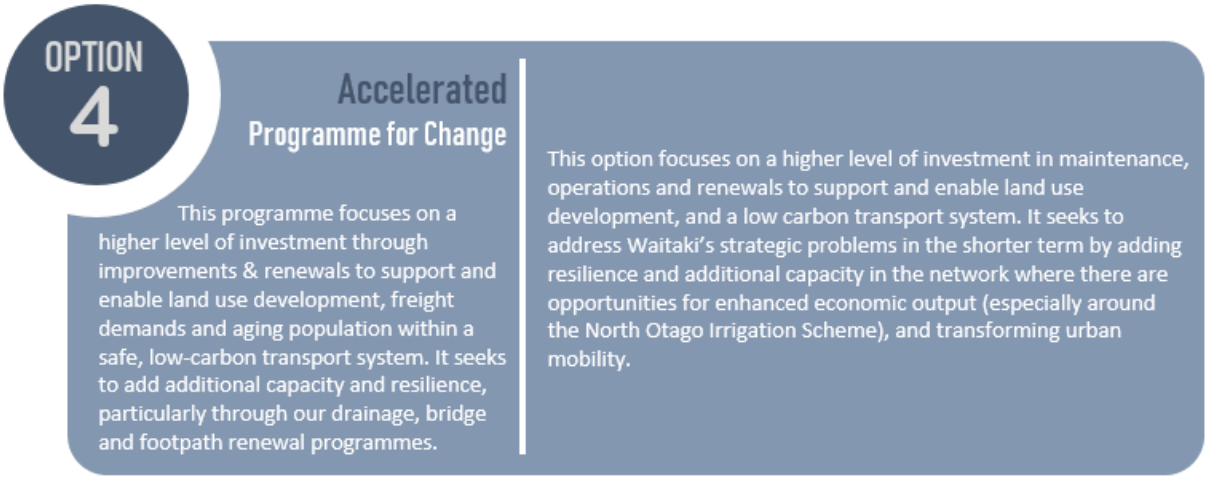
This option provides a higher level of safety benefit through additional recovery (footpaths) and preservation (resurfacing and drainage) and has added benefits of addressing some resiliency deficiencies (bridge condition & strength) and improving customer experience (noting some deterioration of lower-class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

Table 17: Option 3 Detailed Description

Work Category	Selected Options
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. Policy Approach: incorporate ONRC criteria and LoS in renewal of roading maintenance contract
Unsealed Roads	Risk Based Approach: Introduce performance grading but maintain current level of service. 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.
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.
Footpaths	Adjust Programme: Increased maintenance and renewals to arrest Levels of service decline. Limit cost though user of grinding and AC overlay programmes where possible.
Streetlighting	Baseline strategy
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
Guardrails	Baseline strategy
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.
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.
Network & Asset Management	Policy Approach: Develop and maintain District Transportation Plan to enable optimised network planning over the long term. Procurement Approach: increased resource (2 FTE) to allow for managing delivery of enhanced programme; and additional asset management 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 rive scour sites

Work Category	Selected Options
Emergency Response	Risk Based Approach: Increased focus on restoring service after minor events.
LCLR Improvements	Programme Approach: Safety - enhanced programme of intersection and mode neutral improvements Programme Approach: Resilience - enhanced programme of bridge strengthening upgrades and scour 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

5.6 Option 4: Enhanced Programme for Change



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

5.7 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 were:

Table 18: Criteria Used

Criteria	High [H]	Medium [M]	Low [L]
Alignment with GPS / Transport Outcomes	Strongly aligns / contributes to GPS and national Transport Outcomes	Some alignment / contribution to GPS and national Transport Outcomes	Limited alignment / contribution to GPS and national Transport Outcomes
Specifically addresses problem statements	Significant improvement expected during the NLTP period (i.e. will address problems over the short term)	Some improvement expected during the NLTP period (i.e. will address problems over the medium term)	Limited improvement expected during the NLTP period (i.e. will prevent deterioration and may address problems over the long term)
Reduces ONRC LoS gaps	Improved level of service	Maintains current level of service	Reduced level of service

Criteria	High [H]	Medium [M]	Low [L]
Affordable, achievable & VFM	Provides value for money, with limited impact on rates and debt. Appropriate local supplier capacity & capability available and it is achievable / feasible to complete work within the required timeframe	Provides moderate value for money solution. Potential minor increase in rates or debt.	Significant financial impact that is not sustainable. Contributes to significant rates increase or increased debt levels. Will be challenging to complete the work with available suppliers within the required timeframe
Optimises WoLC & preserves asset base	Provides significant opportunity to optimise long term costs and level of service. Proactive risk-based approach to maintenance and renewals	Provides some opportunity to optimise long term costs and level of service.	Reactive approach based on sound engineering judgment. Little opportunity for optimisation

The table below shows a summary of the assessment for each option based on the assessment criteria. Based on the assessment, the preferred option is OPTION 2 – Enhanced Strategy & Policy Approach.

Table 19: Assessment Summaries

Programme	Options 1 & 2 – Baseline Strategy & Policy Approach	Option 3 – Enhanced Strategy & Policy Approach	Option 4 – Accelerated Programme for Change
GPS Alignment	Will limit resilience and low carbon outcomes, and may contribute to increased safety issues not meeting Road to Zero objectives	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	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
	L	H	H
Specifically Addresses Problem Statements	Will only partially address problems identified, over the long term	Will address or limit the consequences of problems identified	Will fully address problems identified
	L	H	M
Reduces ONRC Los Gaps	Will not address safety, accessibility, resilience & amenity (STE) likely to deteriorate	CLoS will improve in some areas. Safety, accessibility, resilience and amenity will be addressed over the medium term.	CLoS will be improved in the areas required
	L	H	H
Affordable, Achievable & VFM	Programme is achievable and affordable. Represents good value for money in the short term.	Proactive approach will ensure value-for-money. Programme is achievable with focussed programming & monitoring	Will be challenging to achieve the full programme with current available resourcing (internal & external)
	H	M	L

Programme	Options 1 & 2 – Baseline Strategy & Policy Approach	Option 3 – Enhanced Strategy & Policy Approach	Option 4 – Accelerated Programme for Change
Optimises WoLC & Preserves Asset Base	Reactive approach may result in more costly repairs in the long term		Proactive approach, but may not be sweating the asset enough
	L	H	M
Comments	The Baseline Strategy has a reactive approach to strategic planning. While it ensures that the network does not significantly deteriorate in the short term, it does not take into account future demand impacts. Funding additional reactive costs may become unsustainable for the local community in future.	This option seeks to balance levels of service requirements, risk mitigation and affordability. The strategic problems will be addressed over the medium term (6 to 10 years). Requires some additional resource to deliver, but is manageable The Policy approach improvements will allow for enhancement of asset knowledge and will contribute to better strategic planning in future.	This option seeks to prioritise service requirements and enhanced risk mitigation. The strategic problems will be addressed over the short to medium term (up 4 to 6 years). However, this option will be difficult for council to deliver with available resources and capability.

6 Preferred Programme

6.1 Operations, Maintenance, Renewal and Improvement Programmes

Table 20: Operations, Maintenance, Renewal and Improvement Programmes

WC	Maintenance & Operations	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	LTP Total
	Financially Assisted												
111	**Sealed pavement maintenance**	**1,403,800**	**1,500,586**	**1,622,133**	**1,667,553**	**1,709,241**	**1,751,973**	**1,795,772**	**1,840,666**	**1,886,683**	**1,933,850**	**1,982,196**	**17,690,652**
	Sealed pavement repairs		968,308	1,046,740	1,076,049	1,102,950	1,130,524	1,158,787	1,187,757	1,217,451	1,247,887	1,279,084	11,415,538
	Pre-reseal repairs		131,458	142,106	146,085	149,737	153,481	157,318	161,251	165,282	169,414	173,649	1,549,780
	Edgebreak		178,938	193,431	198,848	203,819	208,914	214,137	219,490	224,978	230,602	236,367	2,109,524
	Low shoulder		221,883	239,855	246,571	252,735	259,054	265,530	272,168	278,972	285,947	293,095	2,615,810
112	**Unsealed pavement maintenance**	**508,000**	**519,430**	**561,504**	**577,226**	**591,657**	**606,448**	**621,609**	**637,149**	**653,078**	**669,405**	**686,140**	**6,123,647**
	Grading		390,595	422,233	434,056	444,907	456,030	467,431	479,116	491,094	503,372	515,956	4,604,789
	Spot metalling		128,835	139,271	143,170	146,749	150,418	154,179	158,033	161,984	166,034	170,184	1,518,857
113	**Routine drainage maintenance**	**437,000**	**446,833**	**483,026**	**496,551**	**508,964**	**521,689**	**534,731**	**548,099**	**561,801**	**575,847**	**590,243**	**5,267,783**
	Routine drainage maintenance		335,801	363,001	373,165	382,494	392,057	401,858	411,905	422,202	432,757	443,576	3,958,817
	High-lip removal & clearing roadside drains		53,988	58,361	59,995	61,495	63,032	64,608	66,223	67,879	69,576	71,315	636,473
	Kerb & channel repairs		37,935	41,007	42,156	43,210	44,290	45,397	46,532	47,695	48,888	50,110	447,219
	Street sweeping (30%)		19,108	20,656	21,235	21,766	22,310	22,867	23,439	24,025	24,626	25,241	225,273
114	**Structures (bridge) maintenance**	**234,000**	**274,265**	**283,533**	**291,472**	**298,759**	**306,228**	**313,883**	**321,730**	**329,774**	**338,018**	**346,468**	**3,104,130**
	Structures Inspections & Cyclic Maintenance		38,855	42,002	43,178	44,258	45,364	46,498	47,661	48,852	50,074	51,325	458,068
	Routine bridge & Guardrail maintenance		200,410	205,621	211,378	216,662	222,079	227,631	233,322	239,155	245,134	251,262	2,252,654
	Retaining Wall Maintenance		35,000	35,910	36,915	37,838	38,784	39,754	40,748	41,766	42,811	43,881	393,408
121	**Environmental maintenance**	**337,200**	**372,249**	**399,524**	**410,711**	**420,978**	**431,503**	**442,290**	**453,348**	**464,681**	**476,298**	**488,206**	**4,359,788**
	Vegetation control		304,033	328,660	337,862	346,309	354,967	363,841	372,937	382,260	391,817	401,612	3,584,298
	Winter Services Activities		10,664	11,528	11,851	12,147	12,451	12,762	13,081	13,408	13,743	14,087	125,722
	Stock Effluent Disposal		44,274	45,425	46,697	47,865	49,061	50,288	51,545	52,834	54,154	55,508	497,652
	Scada		8,050	8,260	8,491	8,703	8,921	9,144	9,372	9,607	9,847	10,093	90,488
	Abandoned Vehicles		-	-	-	-	-	-	-	-	-	-	-
	Dust mitigation		5,228	5,651	5,809	5,954	6,103	6,256	6,412	6,573	6,737	6,905	61,628
	Other		-	-	-	-	-	-	-	-	-	-	-

WC	Maintenance & Operations	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	LTP Total
	Financially Assisted												
122	**Traffic services maintenance**	**395,300**	**491,359**	**509,927**	**524,205**	**537,310**	**550,743**	**564,511**	**578,624**	**593,090**	**607,917**	**623,115**	**5,580,802**
	Streetlighting maintenance		67,815	69,578	71,526	73,315	75,147	77,026	78,952	80,926	82,949	85,022	762,256
	Roadmarking		203,128	208,409	214,244	219,600	225,090	230,718	236,486	242,398	248,458	254,669	2,283,199
	Signs		105,318	113,848	117,036	119,962	122,961	126,035	129,186	132,415	135,726	139,119	1,241,605
	Streetlight energy costs		115,099	118,092	121,398	124,433	127,544	130,733	134,001	137,351	140,785	144,305	1,293,742
123	**Operational traffic management**		**40,000**	**41,040**	**42,189**	**43,244**	**44,325**	**45,433**	**46,569**	**47,733**	**48,926**	**50,150**	**449,609**
	General		40,000	41,040	42,189	43,244	44,325	45,433	46,569	47,733	48,926	50,150	449,609
124	**Cycle path maintenance**	**11,600**	**11,861**	**12,822**	**13,181**	**13,510**	**13,848**	**14,194**	**14,549**	**14,913**	**15,286**	**15,668**	**139,831**
	General		11,861	12,822	13,181	13,510	13,848	14,194	14,549	14,913	15,286	15,668	139,831
125	**Footpath maintenance**	**300,000**	**306,898**	**331,757**	**341,046**	**349,572**	**358,311**	**367,269**	**376,451**	**385,862**	**395,508**	**405,396**	**3,618,069**
	Footpath maintenance		306,898	331,757	341,046	349,572	358,311	367,269	376,451	385,862	395,508	405,396	3,618,069
131	**Level crossing warning devices**	**41,600**	**41,600**	**42,682**	**43,877**	**44,974**	**46,098**	**47,250**	**48,432**	**49,642**	**50,884**	**52,156**	**467,593**
	General		41,600	42,682	43,877	44,974	46,098	47,250	48,432	49,642	50,884	52,156	467,593
141	**Minor Events**		**100,000**	**102,600**	**105,473**	**108,110**	**110,812**	**113,583**	**116,422**	**119,333**	**122,316**	**125,374**	**1,124,023**
	Resilience or emergency		100,000	102,600	105,473	108,110	110,812	113,583	116,422	119,333	122,316	125,374	1,124,023
151	**Network & asset mgmt (excl. admin)**	**1,563,600**	**2,183,806**	**2,240,585**	**2,303,321**	**2,360,904**	**2,419,927**	**2,480,425**	**2,542,435**	**2,605,996**	**2,671,146**	**2,737,925**	**24,546,469**
	Contractors (RAMM & traffic counting)		82,919	85,074	87,457	89,643	91,884	94,181	96,536	98,949	101,423	103,958	932,024
	Operations and maintenance (prof fees)		495,000	507,870	522,090	535,143	548,521	562,234	576,290	590,697	605,465	620,601	5,563,912
	$25k for NRRP's		27,172	27,878	28,659	29,375	30,110	30,863	31,634	32,425	33,236	34,067	305,418
	Admin		205,998	211,354	217,272	222,704	228,271	233,978	239,827	245,823	251,969	258,268	2,315,464
	Roading managers office - maint and ops		996,228	1,022,130	1,050,749	1,077,018	1,103,944	1,131,542	1,159,831	1,188,827	1,218,547	1,249,011	11,197,827
	Asset inventory systems		57,556	59,052	60,705	62,223	63,779	65,373	67,007	68,683	70,400	72,160	646,937
	Renewals		11,534	11,834	12,165	12,469	12,781	13,100	13,428	13,764	14,108	14,460	129,643
	2 additional staff resource		307,400	315,392	324,223	332,329	340,637	349,153	357,882	366,829	376,000	385,400	3,455,245
	Sub-TOTAL Maintenance	**5,232,100**	**6,288,886**	**6,631,131**	**6,816,803**	**6,987,223**	**7,161,903**	**7,340,951**	**7,524,475**	**7,712,587**	**7,905,401**	**8,103,036**	**72,472,395**
125R	**Footpath renewals**	**335,683**	**532,088**	**545,922**	**561,208**	**575,238**	**589,619**	**604,360**	**619,469**	**634,956**	**650,829**	**667,100**	**5,980,790**
	Footpath renewals		532,088	545,922	561,208	575,238	589,619	604,360	619,469	634,956	650,829	667,100	5,980,790
211	**Unsealed road metalling**	**678,300**	**693,562**	**711,594**	**731,519**	**749,807**	**768,552**	**787,766**	**807,460**	**827,647**	**848,338**	**869,546**	**7,795,791**
	Metalling renewal		623,725	639,942	657,860	674,307	691,164	708,444	726,155	744,308	762,916	781,989	7,010,810
	Crown reshape		69,837	71,653	73,659	75,500	77,388	79,322	81,306	83,338	85,422	87,557	784,981

WC	Maintenance & Operations	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	LTP Total
	Financially Assisted												
212	**Sealed road resurfacing**	**1,690,600**	**1,730,000**	**1,774,980**	**1,824,679**	**1,870,296**	**1,917,054**	**1,964,980**	**2,014,105**	**2,064,457**	**2,116,069**	**2,168,970**	**19,445,591**
	Urban Chipseals		800,000	820,800	843,782	864,877	886,499	908,661	931,378	954,662	978,529	1,002,992	8,992,181
	Rural Chipseals		800,000	820,800	843,782	864,877	886,499	908,661	931,378	954,662	978,529	1,002,992	8,992,181
	Asphalt Resurfacing		130,000	133,380	137,115	140,543	144,056	147,657	151,349	155,133	159,011	162,986	1,461,229
213	**Drainage renewals**	**498,300**	**509,512**	**522,759**	**537,396**	**550,831**	**564,602**	**578,717**	**593,185**	**608,015**	**623,215**	**638,795**	**5,727,027**
	Culvert replacements		248,979	255,452	262,605	269,170	275,899	282,797	289,867	297,113	304,541	312,155	2,798,577
	Lined channel renewal		149,183	153,062	157,347	161,281	165,313	169,446	173,682	178,024	182,475	187,036	1,676,848
	Reforming side drains		111,350	114,245	117,444	120,380	123,390	126,475	129,636	132,877	136,199	139,604	1,251,602
	New / Renew subsoil drains		-	-	-	-	-	-	-	-	-	-	-
214	**Pavement rehabilitation**	**1,456,400**	**1,756,400**	**1,802,066**	**1,852,524**	**1,898,837**	**1,946,308**	**1,994,966**	**2,044,840**	**2,095,961**	**2,148,360**	**2,202,069**	**19,742,333**
	Urban Rehabilitation		878,200	901,033	926,262	949,419	973,154	997,483	1,022,420	1,047,981	1,074,180	1,101,035	9,871,167
	Rural Rehabilitation		878,200	901,033	926,262	949,419	973,154	997,483	1,022,420	1,047,981	1,074,180	1,101,035	9,871,167
	Structural Asphalt			-	-	-	-	-	-	-	-	-	-
215	**Structures component replacements**	**353,700**	**200,000**	**184,300**	**211,891**	**244,438**	**228,249**	**233,956**	**239,805**	**245,800**	**251,945**	**258,243**	**2,298,627**
	Routine Bridge Component Replacements		30,000	30,780	31,642	32,433	33,244	34,075	34,927	35,800	36,695	37,612	337,207
	Structural Bridge Component Replacements		115,000	97,090	122,239	152,545	134,059	137,410	140,846	144,367	147,976	151,675	1,343,208
	Guardrail Replacements		30,000	30,780	31,642	32,433	33,244	34,075	34,927	35,800	36,695	37,612	337,207
	Other Structures Replacements		25,000	25,650	26,368	27,027	27,703	28,396	29,106	29,833	30,579	31,344	281,006
216	**Bridge renewals**	**-**	**250,000**	**276,100**	**610,000**	**3,438,000**	**3,465,000**	**220,375**	**225,884**	**231,531**	**237,320**	**243,253**	**9,197,463**
	Bridge renewals						215,000	220,375	225,884	231,531	237,320	243,253	1,373,363
	Br22_Beach Road Bridge		200,000										
	Br33_Rutherford Bridge			86,100									
	Br157_Teschmakers No.2			140,000	210,000								
	Br219_Cookhouse					110,000							
	Br259_Leicester St					78,000							
	Br_Kakanui Point		50000	50000	400000	3250000	3250000						
221	**Environmental renewals**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
	Environmental renewals		-	-	-	-	-	-	-	-	-	-	-
222	**Traffic services renewals**	**182,000**	**186,095**	**190,933**	**196,280**	**201,187**	**206,216**	**211,372**	**216,656**	**222,072**	**227,624**	**233,315**	**2,091,750**
	Signs renewals		93,048	95,467	98,140	100,593	103,108	105,686	108,328	111,036	113,812	116,657	1,045,875
	Streetlighting renewals		93,048	95,467	98,140	100,593	103,108	105,686	108,328	111,036	113,812	116,657	1,045,875
224	**Cycle Path Renewals**	**0**	**20,000**	**20520**	**21095**	**21622**	**22162**	**22717**	**23284**	**23867**	**24463**	**25075**	**224805**
	Cycle Path Renewals	0	20,000	20520	21095	21622	22162	22717	23284	23867	24463	25075	224805

WC	Maintenance & Operations	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	LTP Total
	Financially Assisted												
322	**Bridge replacements**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
	Single stage business case				Renewal	with NPV	Calculation in	WC216					-
	Kakanui River bridge renewal – Design					Design in	WC 216						-
	Kakanui River bridge renewal – Construction						Construction	in WC216					-
	Sub-TOTAL Renewals	**5,194,983**	**5,857,657**	**6,029,176**	**6,546,593**	**9,528,635**	**9,685,601**	**6,596,491**	**6,761,404**	**6,930,439**	**7,103,700**	**7,281,292**	**72,279,372**
	Sub-TOTAL Financially Assisted	**10,427,083**	**12,166,543**	**12,660,307**	**13,363,596**	**16,537,480**	**16,869,667**	**13,960,159**	**14,309,163**	**14,666,892**	**15,033,564**	**15,409,403**	**144,976,573**
													-
	Non-financially Assisted Maintenance & Renewals												
	General Maintenance	**225,416**	**265,816**	**275,180**	**282,885**	**289,957**	**297,206**	**304,636**	**312,252**	**320,058**	**328,060**	**336,261**	**3,012,312**
	Street cleaning (70% local share)	44,586	44586	48,198	49,547	50,786	52,056	53,357	54,691	56,058	57,460	5,8896	525,637
	Structures maintenance	26,250	26,250	26,933	27,687	28,379	29,088	29,815	30,561	31,325	32,108	32,911	295,056
	Pest plant management	40,600	56,000	57,456	59,065	60,541	62,055	63,606	65,196	66,826	68,497	70,209	629,453
	Carpark maintenance	88,980	88,980	91,293	93,850	96,196	98,601	101,066	103,593	106,182	108,837	111,558	1,000,155
	Road legalisation	25,000	50,000	51,300	52,736	54,055	55,406	56,791	58,211	59,666	61,158	62,687	562,011
	Township Maintenance	**562,994**	**596,028**	**611,525**	**628,647**	**644,364**	**660,473**	**676,985**	**693,909**	**711,257**	**729,038**	**747,264**	**6,699,489**
	Ahuriri	98,634	99,982	102,582	105,454	108,090	110,792	113,562	116,401	119,311	122,294	125,351	1,123,820
	Corriedale	56,409	63,902	65,563	67,399	69,084	70,811	72,582	74,396	76,256	78,162	80,117	718,273
	Oamaru & Weston	278,598	316,205	324,426	333,510	341,848	350,394	359,154	368,133	377,336	386,770	396,439	3,554,216
	Waihemo	129,353	115,939	118,953	122,284	125,341	128,475	131,687	134,979	138,353	141,812	145,357	1,303,181
	Rural General	**45,150**	**45,150**	**46,324**	**47,621**	**48,811**	**50,032**	**51,283**	**52,565**	**53,879**	**55,226**	**56,606**	**507,496**
	Ahuriri	11,288	11,288	11,581	11,905	12,203	12,508	12,821	13,141	13,470	13,806	14,152	126,874
	Corriedale	11,288	11,288	11,581	11,905	12,203	12,508	12,821	13,141	13,470	13,806	14,152	126,874
	Oamaru & Weston	11,288	11,288	11,581	11,905	12,203	12,508	12,821	13,141	13,470	13,806	14,152	126,874
	Waihemo	11,288	11,288	11,581	11,905	12,203	12,508	12,821	13,141	13,470	13,806	14,152	126,874
	Targeted maintenance	**20,000**	**20,000**	**20,520**	**21,095**	**21,622**	**22,162**	**22,717**	**23,284**	**23,867**	**24,463**	**25,075**	**224,805**
	Targeted maintenance	20,000	20,000	20,520	21,095	21,622	22,162	22,717	23,284	23,867	24,463	25,075	224,805
	Recoverable Works	**186,865**	**186,865**	**191,723**	**197,092**	**202,019**	**207,070**	**212,246**	**217,552**	**222,991**	**228,566**	**234,280**	**2,100,405**
	General	186,865	186,865	191,723	197,092	202,019	207,070	212,246	217,552	222,991	228,566	234,280	2,100,405
	Sub-TOTAL	**1,040,425**	**1,113,859**	**1,145,272**	**1,177,340**	**1,206,773**	**1,236,942**	**1,267,866**	**1,299,563**	**1,332,052**	**1,365,353**	**1,399,487**	**12,544,507**

WC	Maintenance & Operations	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	LTP Total
	Non-Financially Assisted												
	Renewals	**55,000**	**55,000**	**56,430**	**58,010**	**59,460**	**60,947**	**62,470**	**64,032**	**65,633**	**67,274**	**68,956**	**618,212**
	Carpark renewals	55,000	55,000	56,430	58,010	59,460	60,947	62,470	64,032	65,633	67,274	68,956	618,212
	Sub-TOTAL	**55,000**	**55,000**	**56,430**	**58,010**	**59,460**	**60,947**	**62,470**	**64,032**	**65,633**	**67,274**	**68,956**	**618,212**
													-
	Sub-TOTAL	**1,095,425**	**1,168,859**	**1,201,702**	**1,235,350**	**1,266,233**	**1,297,889**	**1,330,337**	**1,363,595**	**1,397,685**	**1,432,637**	**1,468,443**	**13,162,720**
WC	**Financially Assisted Capital Works**												
341	**LCLR Improvements**	**2,411,000**	**3,000,000**	**3,000,000**	**3,000,000**	**3,000,000**	**3,000,000**	**3,000,000**	**3,000,000**	**3,000,000**	**3,000,000**	**3,000,000**	**30,000,000**
	Safety Improvements		2,146,300	2,146,300	2,146,300	2,146,300	2,146,300	2,146,300	2,146,300	2,146,300	2,146,300	2,146,300	21,463,000
	Resilience Improvements		300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	3,000,000
	Efficiency Improvements		300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	3,000,000
	Associated Improvements		100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	1,000,000
	1 additional contract management staff resource		153,700	153,700	153,700	153,700	153,700	153,700	153,700	153,700	153,700	153,700	1,537,000
432	**Community focussed activities**	**170,200**	**174,132**	**178,659**	**183,662**	**188,253**	**192,960**	**197,784**	**202,728**	**207,797**	**212,991**	**218,316**	**1,957,283**
	General		174,132	178,659	183,662	188,253	192,960	197,784	202,728	207,797	212,991	218,316	1,957,283
003	**Transport planning**	**74,180**	**194,180**	**91,109**	**93,660**	**96,001**	**98,401**	**100,861**	**103,383**	**105,967**	**108,617**	**111,332**	**1,103,511**
	District Transportation Plan		120,000	15,000	15,420	15,806	16,201	16,606	17,021	17,446	17,882	18,330	269,711
	General		74,180	76,109	78,240	80,196	82,201	84,256	86,362	88,521	90,734	93,002	833,800
	Sub-TOTAL	**2,655,380**	**3,368,312**	**3,269,768**	**3,277,322**	**3,284,255**	**3,291,361**	**3,298,645**	**3,306,111**	**3,313,764**	**3,321,608**	**3,329,648**	**33,060,794**
													-
	Non-Financially Assisted Capital Works												
	General	**1,056,506**	**249,158**	**116,314**	**88,585**	**390,469**	**202,981**	**110,556**	**113,194**	**115,899**	**118,672**	**121,514**	**1,017,441**
	Aggregate Supplies	24,058	24,058	24,684	25,375	26,009	26,659	27,326	28,009	28,709	29,427	30,162	270,417
	Carpark renewals	55,000	55,000	56,430	58,010	59,460	60,947	62,470	64,032	65,633	67,274	68,956	618,212
	Seal extensions	55,000	55,000	56,430	58,010	59,460	60,947	62,470	64,032	65,633	67,274	68,956	618,212
	Cycle Safety	5,200	5,200	5,335	5,485	5,622	5,762	5,906	6,054	6,205	6,360	6,519	58,449
	Targeted Maintenance	217,248	-	-	-	-	-	-	-	-	-	-	-
	Harbour Area Development	700,000	-	-	-	-	-	-	-	-	-	-	-
	Oamaru Blue Penguin Colony bus park sealing and marking					190,000							190,000
	Turning Circle upgrade		30,000										30,000

WC	Maintenance & Operations	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	LTP Total
	Holmes Wharfe road/moll surface upgrade					95,000	95,000						190,000
	Roading Incidental projects					5,000	5,000	5,000	5,000	5,000	5,000	5,000	35,000
	Footpath Connections		165,000										165,000
	Oamaru recreational / urban cycle connection – Eden Street along Ardgowan Road and to the school	Included in Low Cost Low Risk	5,962	5,962	5,962	5,962	5,962	193,883	193,883				416,226
	Oamaru recreational/urban cycle connection – Pukeuri to Waitaki Avenue, Oamaru	Included in Low Cost Low Risk	5,962	5,962	5,962	5,962	5,962	373,883	373,883				776,226
	Oamaru recreational/urban cycle connection – Redcastle Road up Buckleys Hill and into and along Reservoir Road, Oamaru	Included in Low Cost Low Risk		5,962	5,962	5,962	5,962	151,383	226,383				400,534
	Oamaru recreational/urban cycle connection – SH1 Weston to Saleyards Road	Included in Low Cost Low Risk						40,692	40,692				81,384
	Oamaru recreational/urban cycle connection –Saleyards Road to Essex Street, Weston	Included in Low Cost Low Risk		5,962	5,962	5,962	5,962	123,192	123,192				269,152
	Oamaru urban mobility - North-end shops Oamaru to Ouse Street, Oamaru (SH1)	Included in Low Cost Low Risk		303,458	303,458	303,458	303,458	303,458	303,458	303,458	303,458	303,458	2,731,122
	Oamaru urban mobility - Observatory Retirement Village, Eden Street to Oamaru town centre	Included in Low Cost Low Risk		303,458	303,458	303,458	303,458	303,458	303,458	303,458	303,458	303,458	2,731,122
	Amenity Activities	**173,600**	**173,600**	**178,114**	**183,101**	**187,678**	**192,370**	**197,180**	**202,109**	**207,162**	**212,341**	**217,649**	**1,951,303**
	Duntroon	1,500	1,500	1,539	1,582	1,622	1,662	1,704	1,746	1,790	1,835	1,881	16,860
	Hampden	10,000	10,000	10,260	10,547	10,811	11,081	11,358	11,642	11,933	12,232	12,537	112,402
	Herbert	1,500	1,500	1,539	1,582	1,622	1,662	1,704	1,746	1,790	1,835	1,881	16,860
	Kakanui	5,000	5,000	5,130	5,274	5,405	5,541	5,679	5,821	5,967	6,116	6,269	56,201
	Kurow	17,600	17,600	18,058	18,563	19,027	19,503	19,991	20,490	21,003	21,528	22,066	197,828
	Maheno	1,500	1,500	1,539	1,582	1,622	1,662	1,704	1,746	1,790	1,835	1,881	16,860
	Moeraki	5,000	5,000	5,130	5,274	5,405	5,541	5,679	5,821	5,967	6,116	6,269	56,201

WC	Maintenance & Operations	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	LTP Total
	Oamaru & Weston	50,000	50,000	51,300	52,736	54,055	55,406	56,791	58,211	59,666	61,158	62,687	562,011
	Ohau	3,000	3,000	3,078	3,164	3,243	3,324	3,407	3,493	3,580	3,669	3,761	33,721
	Omarama	11,000	11,000	11,286	11,602	11,892	12,189	12,494	12,806	13,127	13,455	13,791	123,642
	Otematata	20,000	20,000	20,520	21,095	21,622	22,162	22,717	23,284	23,867	24,463	25,075	224,805
	Palmerston	30,000	30,000	30,780	31,642	32,433	33,244	34,075	34,927	35,800	36,695	37,612	337,207
	Shag Point	1,500	1,500	1,539	1,582	1,622	1,662	1,704	1,746	1,790	1,835	1,881	16,860
	Weston	16,000	16,000	16,416	16,876	17,298	17,730	18,173	18,628	19,093	19,571	20,060	179,844
	Township Improvements		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
	Ahuriri	-	-	-	-	-	-	-	-	-	-	-	-
	Corriedale	-	-	-	-	-	-	-	-	-	-	-	-
	Oamaru & Weston	-	-	-	-	-	-	-	-	-	-	-	-
	Waihemo	-	-	-	-	-	-	-	-	-	-	-	-
	Sub-TOTAL	**1,230,106**	**312,858**	**320,992**	**329,980**	**338,230**	**346,685**	**355,352**	**364,236**	**373,342**	**382,676**	**392,243**	**3,516,595**
													-
	Financially Assisted TOTAL	**13,082,463**	**15,534,855**	**15,930,075**	**16,640,717**	**19,794,484**	**20,155,396**	**17,253,031**	**17,609,357**	**17,974,591**	**18,348,955**	**18,732,979**	**177,974,138**
	Non - Financially Assisted TOTAL	**2,325,531**	**1,571,717**	**1,475,609**	**1,485,941**	**1,822,759**	**1,671,078**	**1,615,355**	**1,655,614**	**1,696,879**	**1,739,176**	**1,782,531**	**15,906,660**
	TOTAL	**15,407,994**	**17,106,572**	**17,405,684**	**18,126,657**	**21,617,243**	**21,826,474**	**18,868,386**	**19,264,971**	**19,671,470**	**20,088,132**	**20,515,210**	**194,490,798**

Our financial statements are prepared in accordance with generally accepted accounting practice in New Zealand. Our accounts are audited annually by Audit New Zealand and we continue to receive a clear audit report.

6.2 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 21: 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

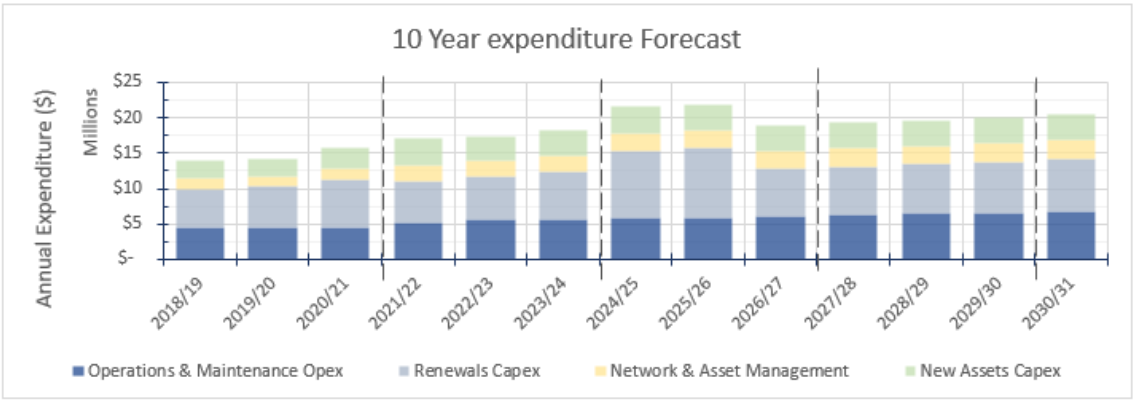
Risk Area	Risk Description	Likelihood (L/M/H)	Consequence (L/M/H)	Risk Management Strategy
				tender box, and the impact of increased TTM requirements through CoPTTM developments.
Traffic loading and growth are higher than expected	Historically, traffic loading impact has been significant. This is especially 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.

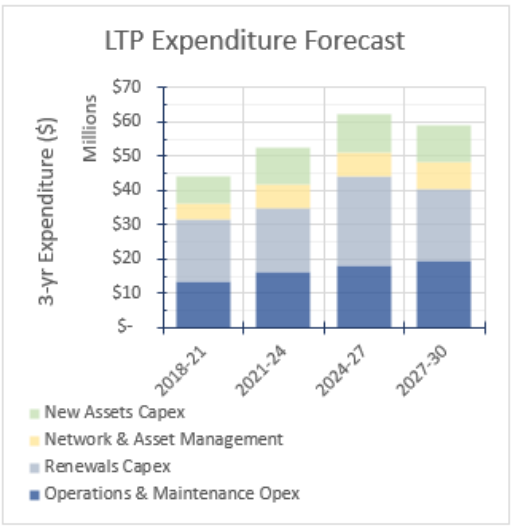
6.3 What It Will Cost

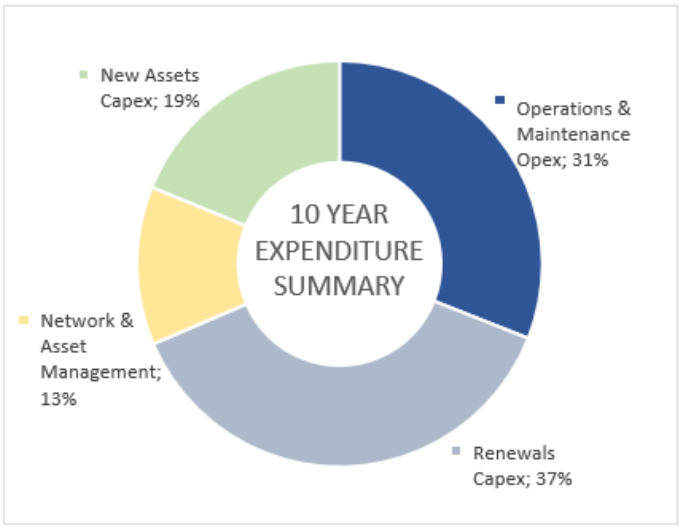
The programmes included in the AMP seeks funding for a Core Programme level of investment with no significant step change in the level of investment from the previous plan. Therefore, there is no commentary included to demonstrate the rationale and evidence of the value proposition for an enhanced funding request.

$402.01m	$195.10m	$51.82m	$26.97m
Total network GCRC (excluding land and formation)	10-year expenditure forecast (25% change from 2018-28 forecast)	3-year budget (7% change from 2018-21 NLTP)	Subsidies (NZTA and others) for the 2021-24 NLTP (52% of total budget).

Figure 19: Expenditure







6.4 Programme Sustainability

Sustainability of the forward works programme is illustrated in the following figures. The charts show that over the 10-year period, the renewal programme represents approximately 94% of total asset depreciation over the same period:

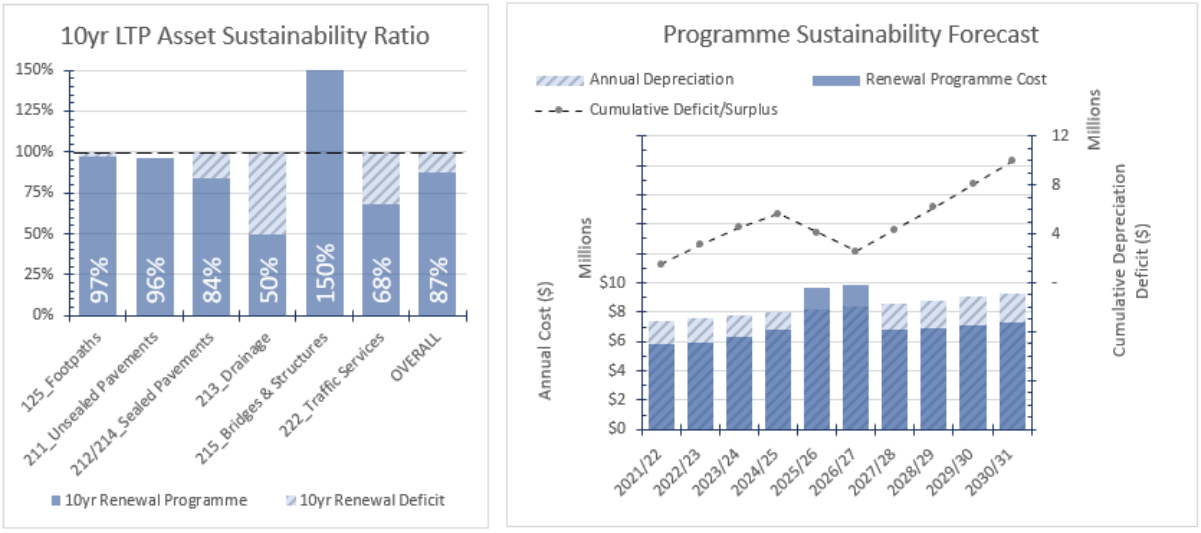


Figure 20: Programme Sustainability

6.5 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.

Our transport investment is funded by ratepayers and the National Land Transport Fund via the NZ Transport Agency. The Agency sets the financial assistance rate for different Councils. Currently we receive 57% of the funding for approved activities (roading maintenance and renewal activities) from The Agency.

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 Agency subsidy.

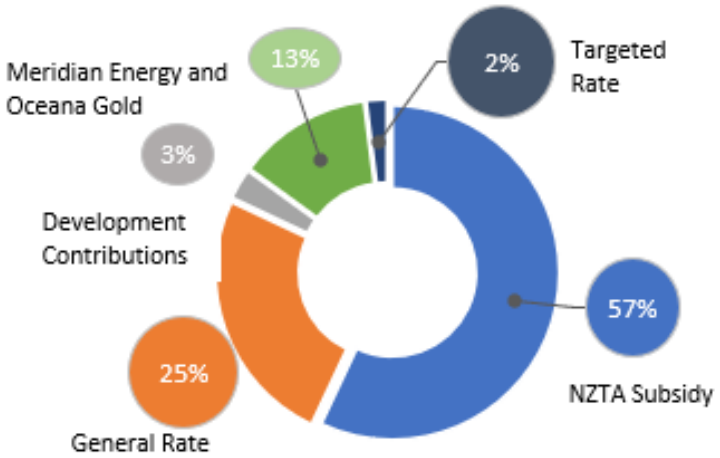


Figure 21: Our Revenue Plan

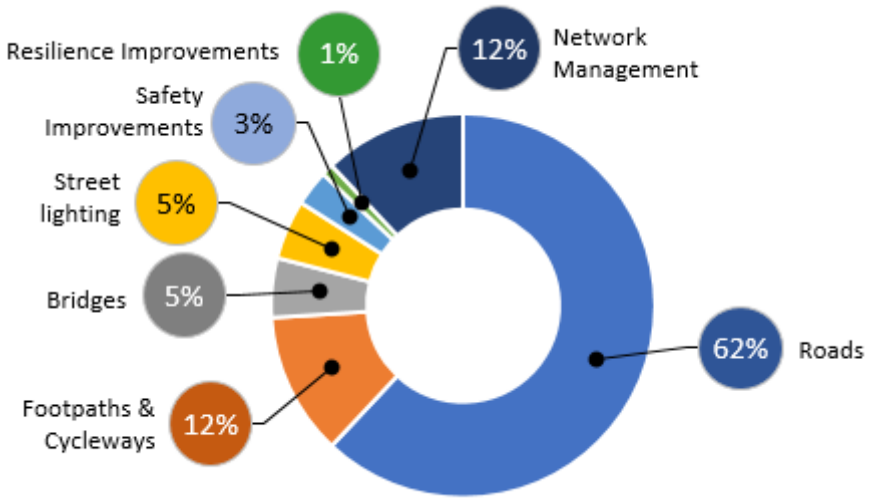


Figure 22: How we will Spend the General Rate on Transportation Services

WDC does not currently have any transportation loans or reserves.

6.6 How It Will Be Delivered / Procurement Strategy

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.

6.6.1 Our Capacity and Capability

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

Our Roading Unit does not have the capacity and capability to provide professional engineering and management services to all asset-based and planning activities related to the increased programme and external requirements. 3 additional FTEs are required and included within the budgets.

The in-house team will continue to need to be complemented when necessary by a range of professional services providers for technical input, design and investment planning capability.

6.6.2 Smart Procurement

Smart procurement continues to be a crucial focus for Council going forward, as escalation and programme delivery issues affect all of our core maintenance and renewal contracts. With the completion of the Smart Buyer's Self-Assessment and the update of Council's Procurement Strategy in March 2020 to reflect the key criteria for successful procurement and delivery of services, we are well placed to take advantage of opportunities to provide Value for Money.

Re-tendering of the roading maintenance contract in 22/23 is a key milestone for continued service delivery within the current LTP.

6.7 Benefits of Investing

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

Table 22: 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 deaths and serious injuries (DSIs) on all land transport modes and their social costs. Achieved through improvements & better maintained roads, especially secondary collectors.	1.1.1 (ONRC Safety CO2) - Collective Risk
				1.1.2 – Crashes by severity
				1.1.3 – Deaths and serious injuries
				1.1.4 (ONRC Safety CO3) - Personal risk
	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.	10.1.5 (ONRC Amenity CO1) – Smooth Travel Exposure (STE)
				ONRC Amenity CO2 – Peak Roughness
				ONRC Amenity TO1 – Roughness of the road (median and average)
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	5.2.1 (ONRC Accessibility CO1) – Spatial coverage - freight
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.	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
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 deaths and serious injuries (DSIs) on all land transport modes and their social costs.	1.1.1 (ONRC Safety CO2) - Collective Risk
				1.1.2 – Crashes by severity
				1.1.3 – Deaths and serious injuries
				1.1.4 (ONRC Safety CO3) - Personal risk

Investment Area	Benefit Cluster	Benefit	Description	Performance Measures
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.			

6.8 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

6.8.1 Resilience & Security

- Without targeted investment on the network bridges and drainage, sections of the network are inaccessible to heavy vehicles. These restrictions can result in direct impacts of regional growth and productivity

6.8.2 Economic Prosperity

- Without targeted investment in maintenance of the road surfaces and corridors, some roads may become impassable or present safety issues under certain conditions, particularly for heavy vehicles and motorcycles. Given the importance of primary industry to the District and the need to get goods to market, this reduction in level of service is considered unacceptable to the Council and the community
- Without improvement to tourist facilities on tourist routes there is a risk that the District does not benefit from the anticipated increases in this growth industry

6.8.3 Healthy & Safe People

- Without targeted investment in safety improvements, the frequency or seriousness of crashes within the District is unlikely to improve and the commitments to the community within the LTP will not be met

6.8.4 Environmental Sustainability

- Without targeted investment in transport planning and footpaths, investment will be less efficient and opportunity to reduce GHG emissions will be lost.

6.9 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 and vehicle emissions. This Land Transport Asset Management Plan identifies a number of objectives and priority actions over the next ten years that seek to mitigate these negative effects.

Table 23: 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 mtce 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.
	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.	

Driver of Effects	Issue	Asset	Impact to Well-Beings	Possible Resolution	Status of Resolution
	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 storm water 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 ONRC 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.

6.10 Meeting the Investment Assessment Criteria

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

Table 24: Meeting the Investment Assessment Criteria

Assessment Criteria	How the Criteria are being met
Strategic Case	
Strategic Alignment	Contributes to all national Transport Outcomes and the strategic drivers in the GPS particularly, the key areas of focus for regions to support regional New Zealand by reflecting the enabling role of regional transport to regional development. Freight Network – Improving Freight network for primary industries Maintaining the Network – Sufficient funding to maintain networks to the condition required to ensure a safe, resilient and accessible network. Road to Zero – Implementing the Road to Zero Strategy Full alignment with other key national and regional strategies has also been achieved including implementation of the ONRC. ONRC has been applied throughout the AMP and funding development process. Renewals have been prioritised based on ONRC and in general a higher risk appetite has been accepted for maintenance on lower classification roads.
Strategic Direction	We have reviewed the national and regional Strategic Direction provided in Arataki and the Draft RLTP. This has been incorporated into the levels of service gap assessment.
Problem Identification	Clear problem statements have been identified as well as our key Investment Objectives and Strategic Responses to drive change. We have outlined the consequences of not investing and the impact over 0-3 years, 3-10 years and 10+ years.
Objectives and benefits identified	Our key Investment Objectives provide firm direction for the development of our programme. We have clearly identified the Benefits aligned to our Problems and appropriate performance measures to track future achievement. We have also reported on performance against ONRC levels of Service.
Economic Case	
Core Programme	This Programme Business Case sets out the full list of options considered and provides Multi-Criteria Assessment of these options to achieve a preferred programme which optimises level of service and affordability.
Evidence	Evidence has been gathered to support the Strategic Case through the development of the Programme and Detailed Business Cases. In some areas, there are evidence gaps and these have been identified as improvement items.

Assessment Criteria	How the Criteria are being met
Programme expenditure	Our AMP document fully aligns with our funding application to Waka Kotahi.
Financial Case	
Overall network base preservation costs	The analysis has identified that the overall network base preservation level required for the respective ONRC classes cannot be achieved at the current investment level. The options considered reflect the impact of different investment levels on level of service.
Affordability	A review of funding sources and affordability has been completed for the proposed programme.
Commercial Case	
Procurement	Our latest Procurement Strategy has been fully endorsed by Waka Kotahi. 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 asset management approaches, selecting appropriate contract models and shared services.
Maintenance contracts	Maintenance contracts will be retendered as the current contract terms expire. WDC is drafting a new maintenance contract with a greater emphasis on ONCR alignment, customer service, works quality and operational asset management.
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.
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 strong condition of road surfaces and road pavements that 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	We have taken into account other agencies programmes and activities through the RLTP development process. Our team has been fully involved in regional workshops and we have considered regional projects that will impact on WDC. We have also included details of our external delivery partners including contractors and professional services provides and how we work together to ensure delivery.
Performance Management	Our Improvement Programme provides key improvement initiatives along with proposed timing and resourcing for completion. We have also included details of our external delivery partners including contractors and professional services provides and how we work together to ensure delivery. We have also included details on how we will monitor programme delivery.
Confidence in Delivery / Risk Management	We have outlined our capability and capacity to deliver the programme, including details of our external delivery partners including contractors and professional services provides and how we work together to ensure delivery. We have provided details on our Asset Management Maturity and areas where we intend to focus on improving our internal expertise. Risk Management has been incorporated throughout the development of the programme, particularly from an asset criticality perspective.

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