

Land Transport Asset Management Plan 2021-31



PART B: ACTIVITY MANAGEMENT PLAN / PROGRAMME BUSINESS CASE

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Prepared by: Roading Unit
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Quality Assurance Statement

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1.0	Pre-consultation draft for 2021-24 NLTP planning period and 2021-31 Council LTP
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Acronyms & Abbreviations

Acronym	Meaning	Additional Notes
AM	Asset Management	
CCO	Council Controlled Organisation	
DIA	Department of Internal Affairs	<i>Sets mandatory performance measures for local government</i>
dTIMS	Deighton Total Infrastructure Management System	<i>Modelling software used to forecast pavement performance</i>
GPS	Government Policy Statement on Transport	
HPMV	High Productivity Motor Vehicle	
IIMM	International Infrastructure Management Manual	<i>Internationally accepted good practice guide for asset management</i>
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	<i>Replaces the ONRC for planning from 2024/27 LTP</i>
ONRC	One Network Road Classification	<i>National system for highway classification & setting of levels of service</i>
OSRLTP	Otago Southland Regional Land Transport Plan	
RAMM	Road Assessment and Maintenance Management	<i>asset inventory database with functionality to manage work, perform inspections, assessment, asset valuation, forward works programming</i>
REG	Road Efficiency Group	<i>Industry advisory group established by Waka Kotahi NZTA and Local Government New Zealand</i>
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:

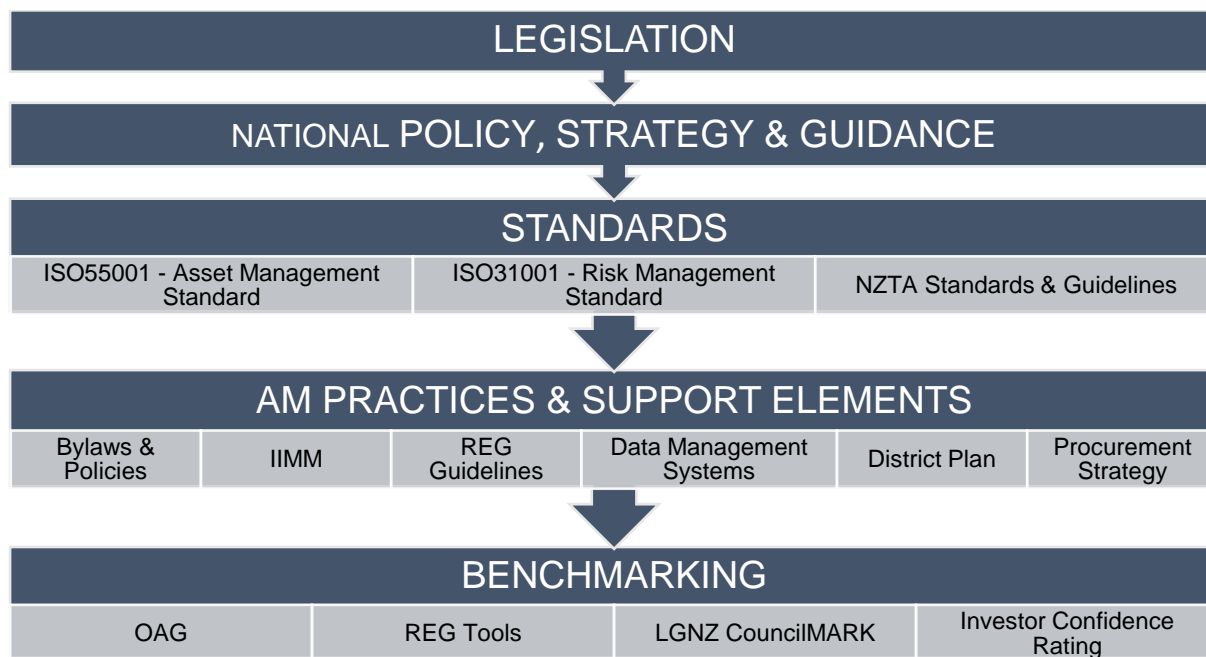


Figure 1: AM Document Hierarchy

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:

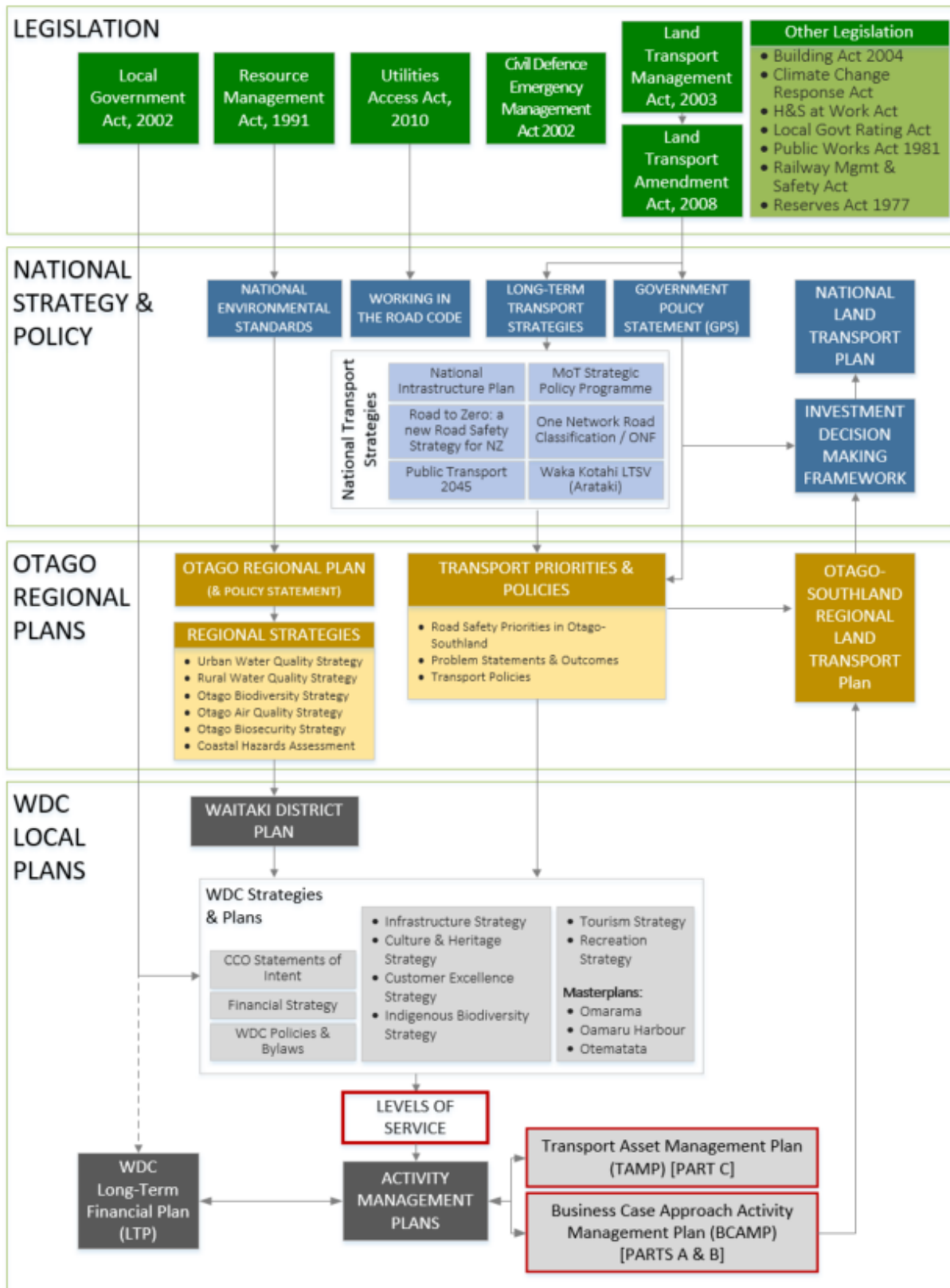


Figure 2: Asset Management Policy Framework

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: Roding 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 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.

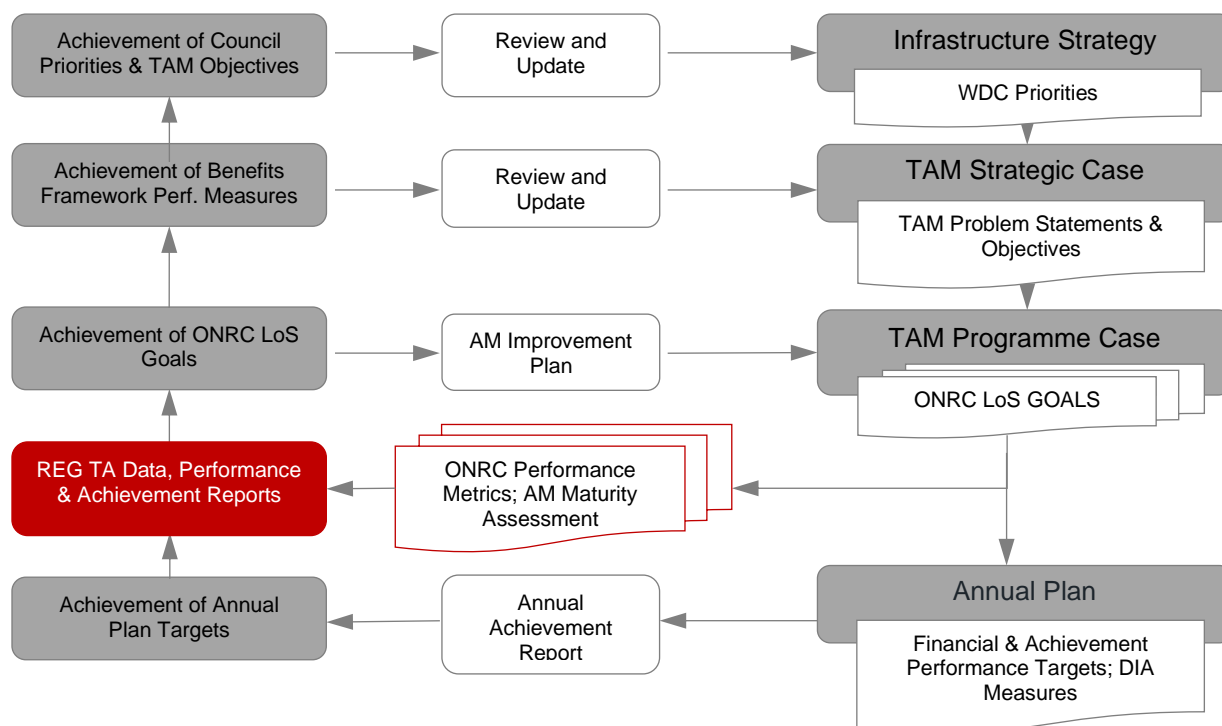


Figure 3: Performance Management Framework

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.

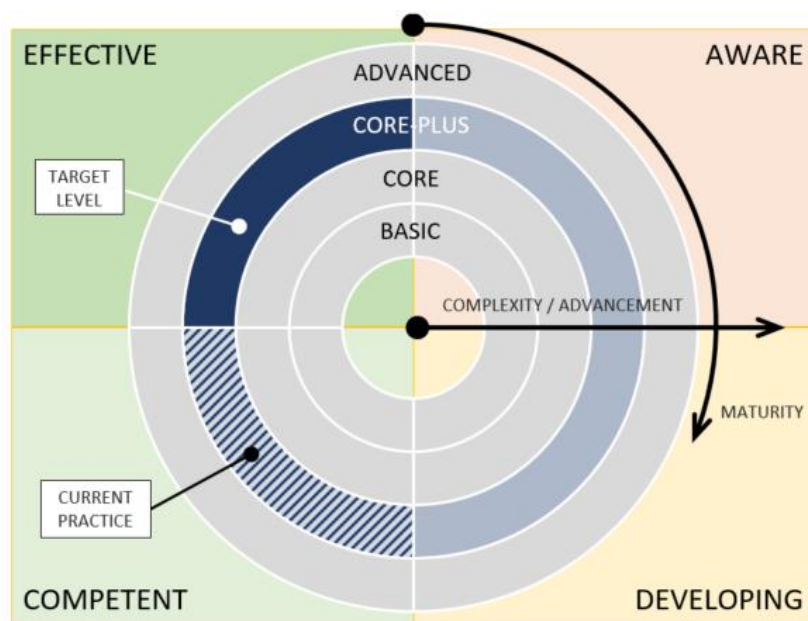


Figure 4: Asset Management Advancement & Maturity Assessment

2 The Services we Provide and How they are Delivered

2.1 Scope of the Activity and Description of Assets

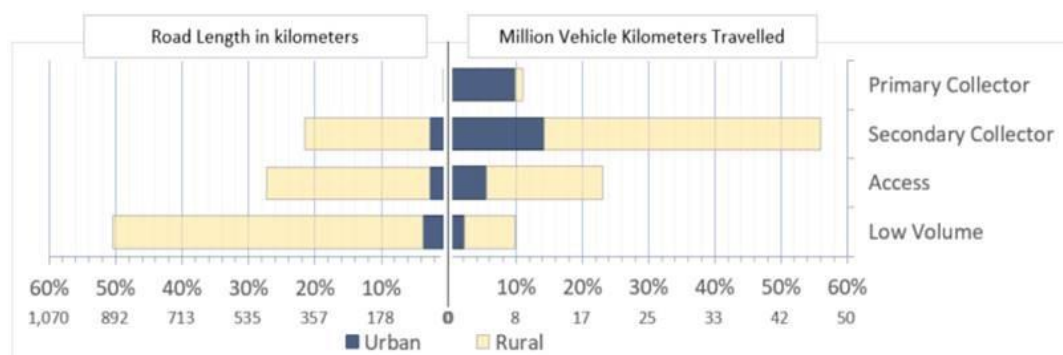
Council is responsible for most of the Land Transport system in the District other than state highways which are owned and operated by the New Zealand Transport Agency (NZTA). Our transport system includes:

- 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

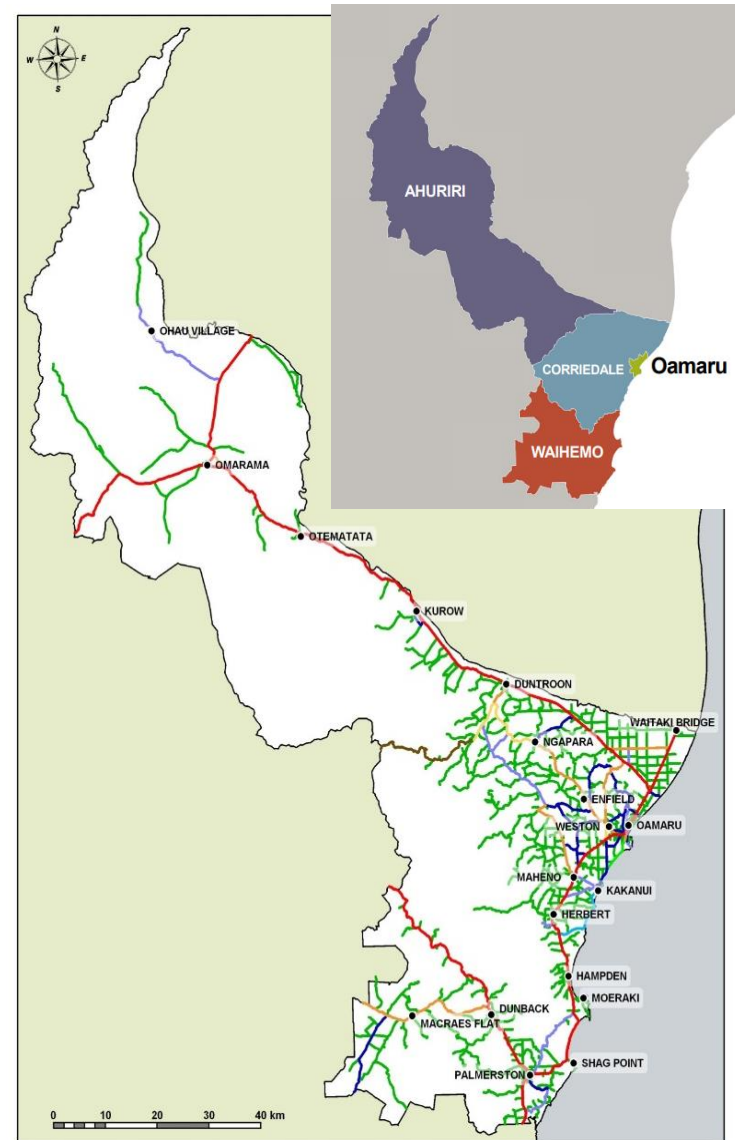


Figure 6: Transport Network in Waitaki

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
STEWART 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)

- 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).*
- Known flooding issue at the Alma rail over bridge highlights a detour via *Weston Road* and *White Rocks Road*.
- 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).
- Alternative routes for SH8 and SH83 near Omarama include *Prohibition Road*.
- 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).
- 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

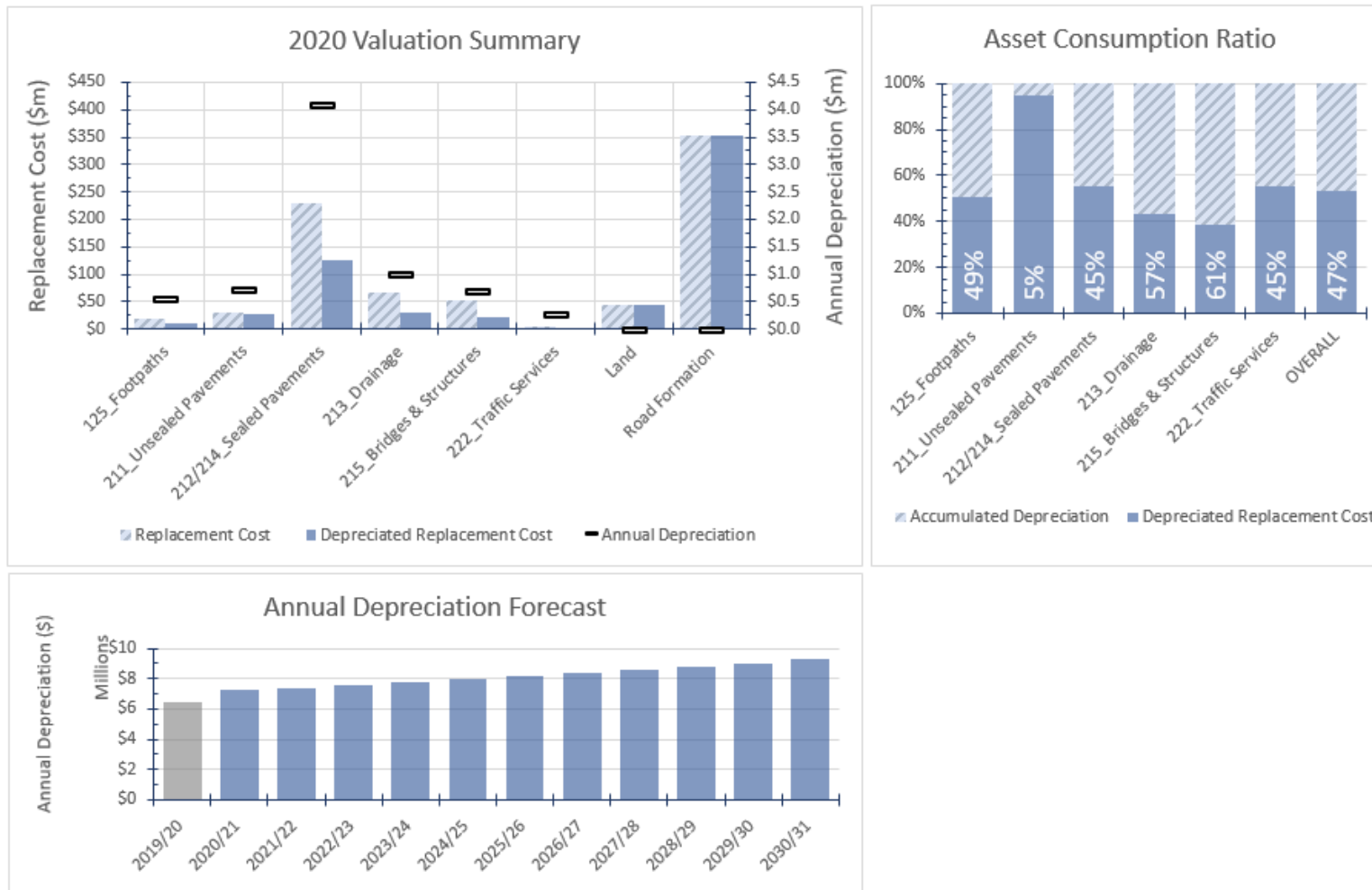
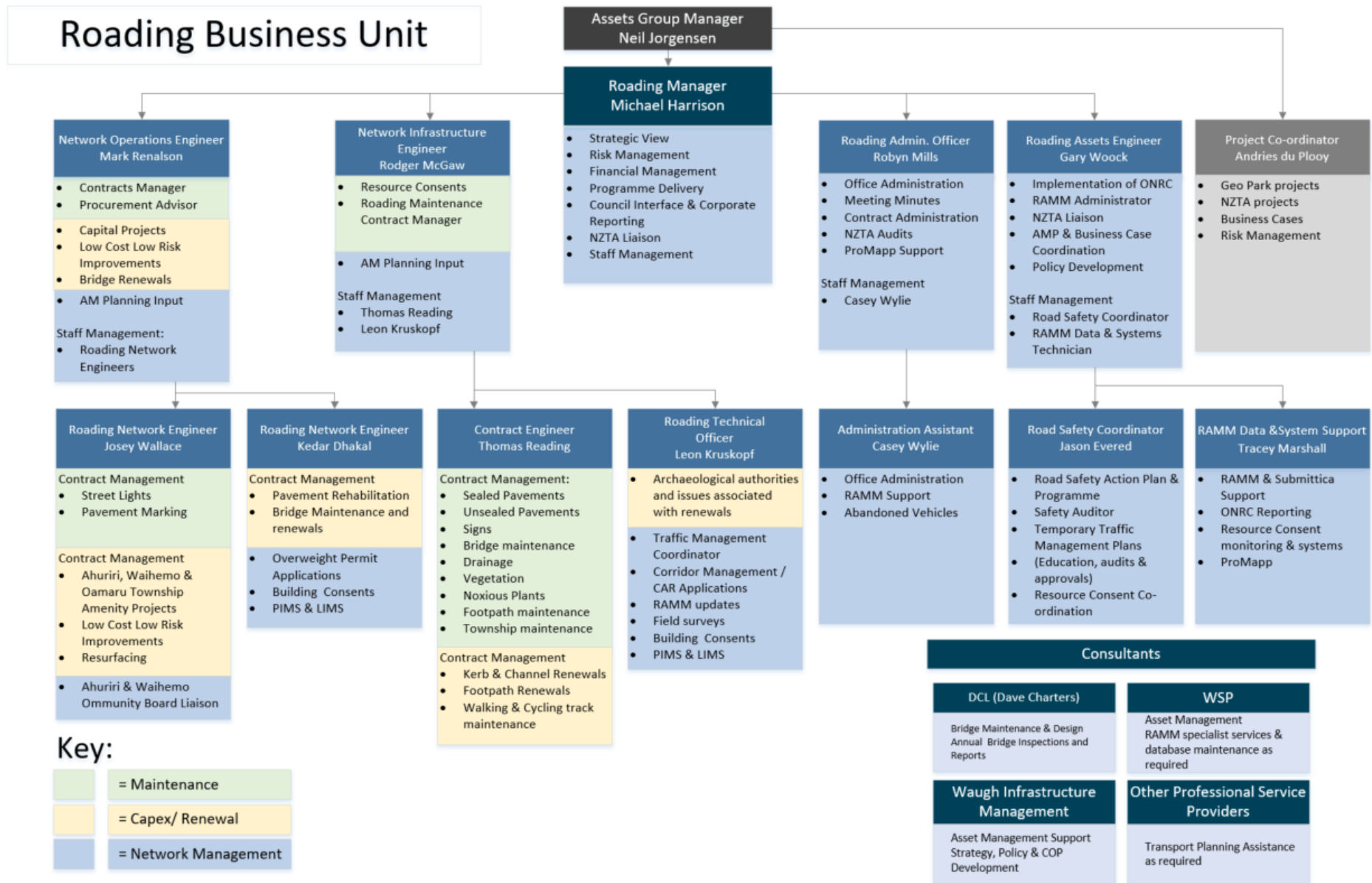


Figure 7: Waitaki District Transportation Asset Valuation Summary

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.



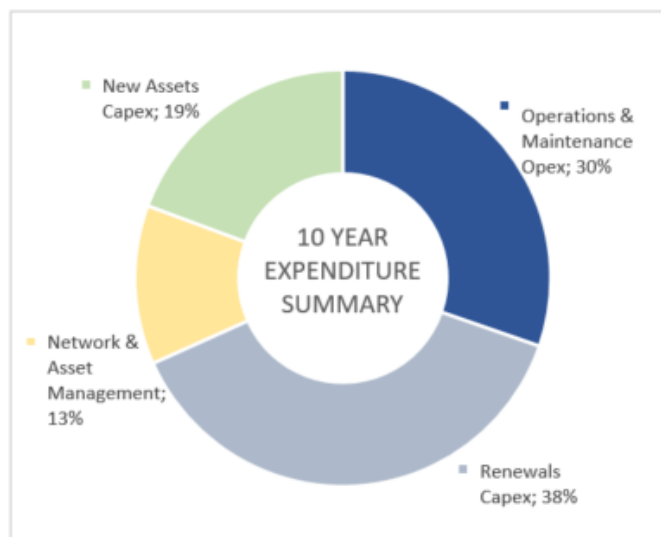
2.6 Managing Service Delivery

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 deprivation 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:

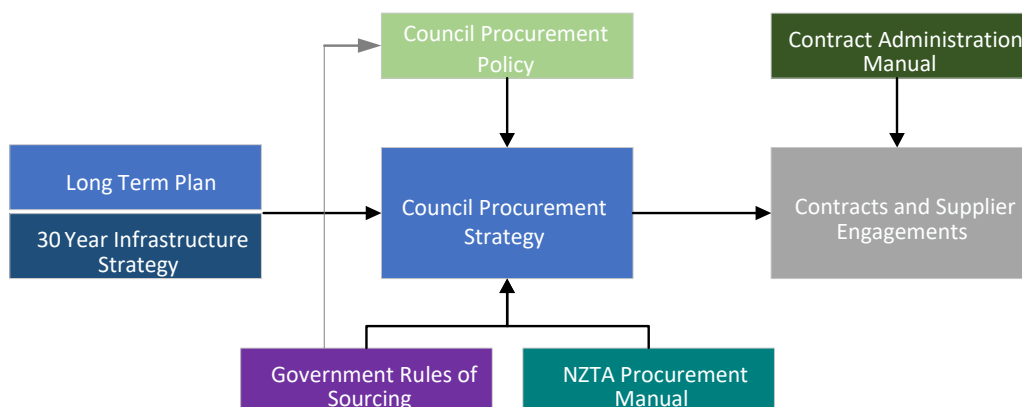


Figure 8: Council Procurement Strategy

Key strategies for achieving this include:

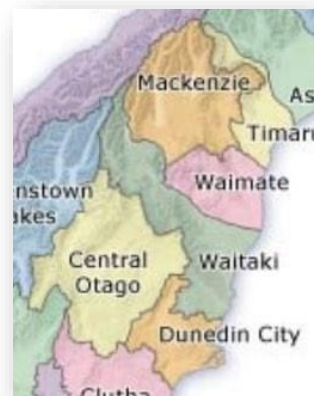
- i. **Focus on outcomes** – we make sure we are doing the right thing to meet our community outcomes and national transport outcomes, including the GPS Strategic Priorities and ONRC Customer Levels of Service
- ii. **Have a robust plan** – to identify an effective Forward Work Plan (FWP) over the long 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 Roothing 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 Roothing 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	↓
Council-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 Road Network	47	35	41	46	↑
Unsealed Road 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:

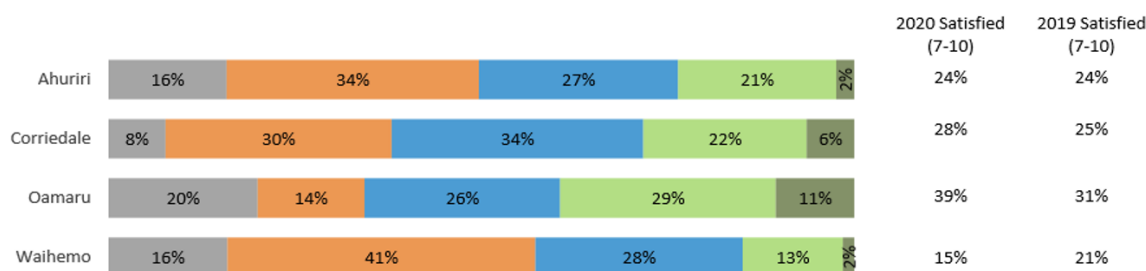


Figure 10: Roving Customer Satisfaction Splits

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:

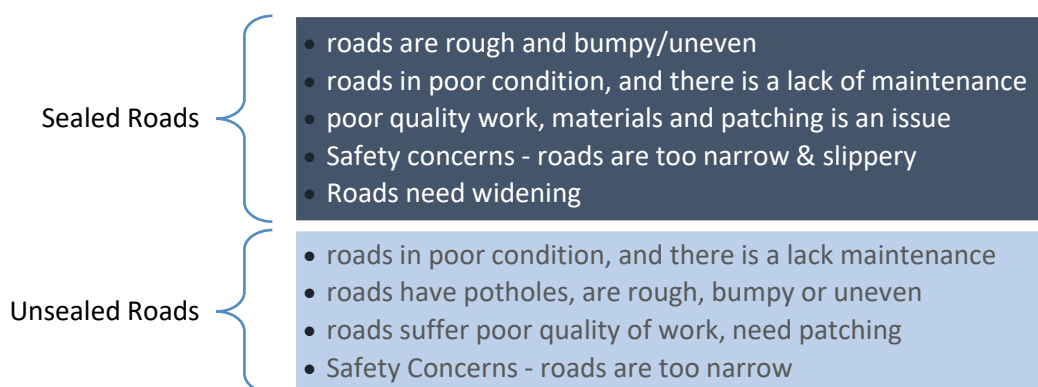


Figure 11: Main Roving Issues from Customer Feedback

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 road
	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 (95 TH %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

Part B: Activity Management Plan - Levels of Service and Performance

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:

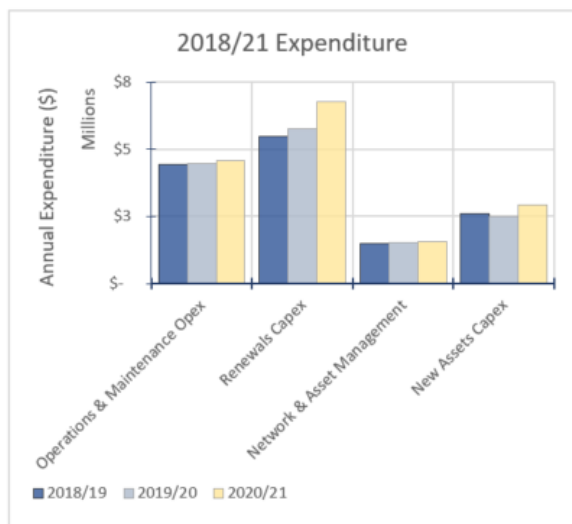


Figure 12: Expenditure profile for the last 3-years

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.

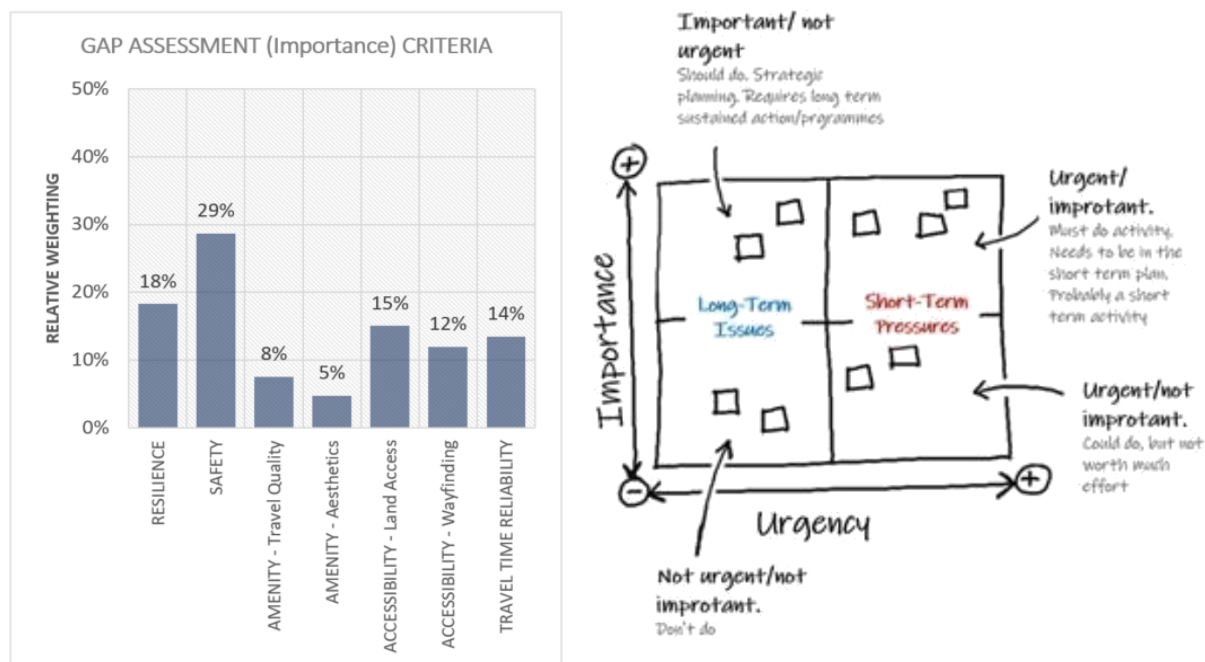


Figure 13: Transportation Level of Service Gap Assessment Criteria

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.
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.
	H H	Bridge strengthening: based on capacity assessment outcomes

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		
	AMTO1: Average / Median roughness		M	M	
			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:

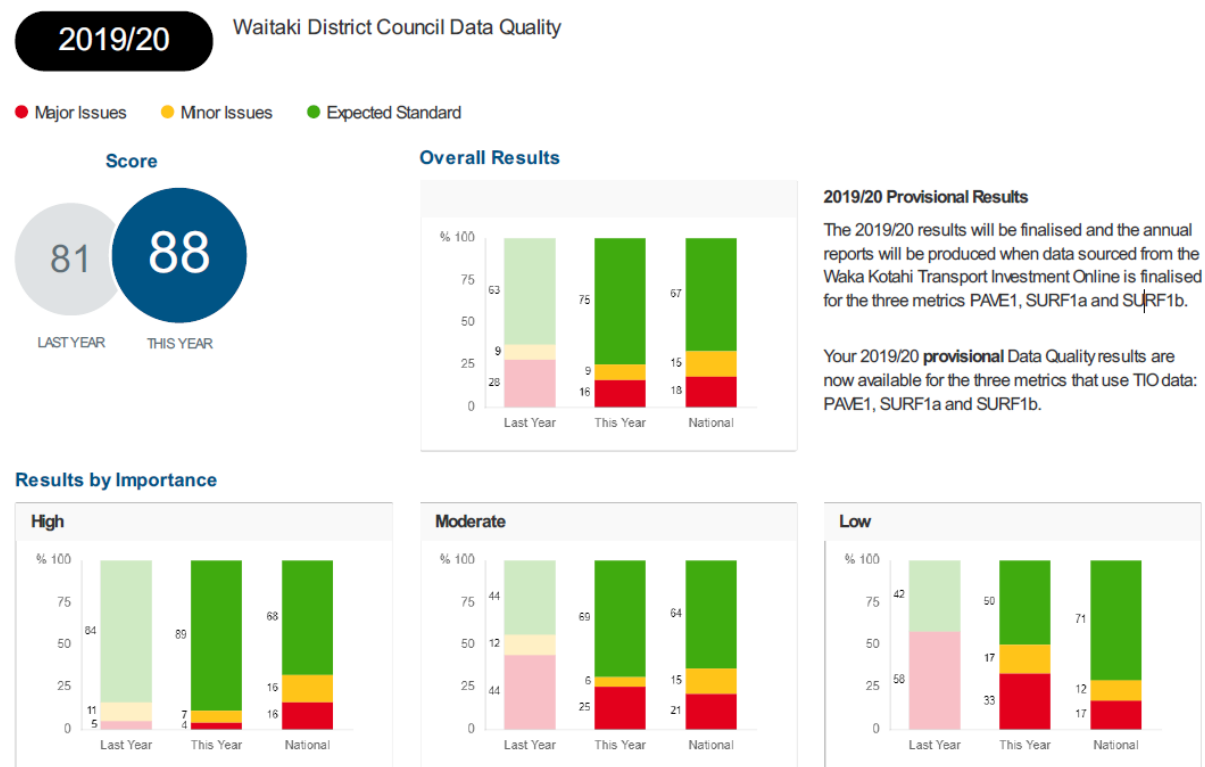


Figure 14: REG Data Quality Dashboard – Waitaki RAMM Data

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	

Strategic Case Problem	Evidence Gap [Importance / Urgency]		Tactical 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	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.		Cost of Service Analysis: Complete full review of maintenance and renewal costs and align with levels of service.
	H	L	
	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.		Drainage: review catchments and drainage capacity requirements in areas where flooding is common. Measure and monitor condition of high-risk slopes and scour sites.
	H	M	

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 shown below. An option shown as Council approval as at the end of May is shown and the option with the NZTA indicative allocation is shown as Option 1.



Figure 15: Four Primary Options with Council Approval for just less than a full option 3

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):

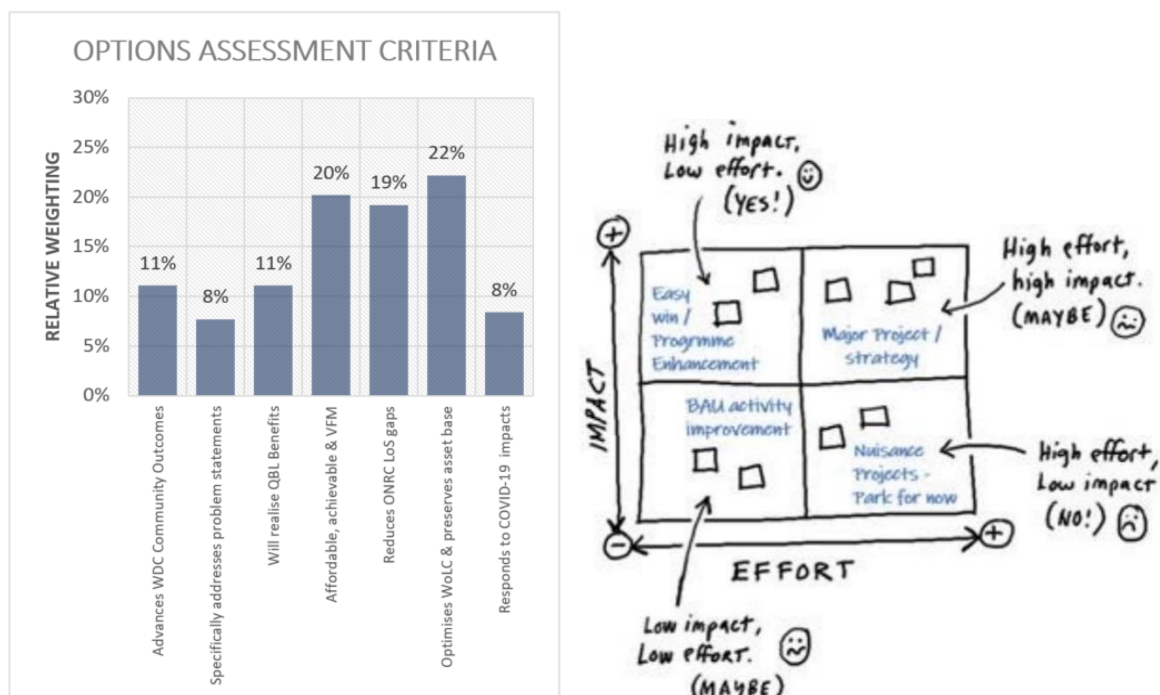


Figure 17: Investment Options Assessment criteria

5.3 Option 1: Baseline Strategy & Policy Approach

OPTION 1

Baseline Strategy & Policy Approach

This programme provides the lowest level of investment needed to ensure service delivery meets minimum compliance requirements. It aims to address the issues and problems across the network over the longer term, while also allowing for enhancement of asset knowledge and improvements in management processes.

The baseline programme of continuous activities is our standard intervention - a simple, repeatable solution that is well understood by Waitaki, and has been used efficiently and effectively for similar situations in the past and will continue to be used for those projects in the future.

This option continues to provide a generally sound, good practice approach to maintenance, operations and renewals, while enhancing our knowledge of the network through a policy approach.

The strategic problems would provide focus for investment, but does the identified gaps would only be addressed in a limited way. For low trafficked roads this is often appropriate, however it tends to be reactive to change and therefore less supportive of growth and development.

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**

**Modified Baseline
Approach**

This programme delivers the baseline strategy but adds additional planning resource to allow Waitaki to make headway with proactive planning. It is a low investment / intervention level that positions Waitaki to respond proactively to emerging issues and trends over the medium term.

This option allows for Waitaki to have a more proactive approach to maintenance, operations and renewals, and focuses on enhanced data collection (asset demand and condition) that is necessary to support decision making meet the increased evidence and REG performance reporting requirements.

This option adds three additional staff resources to our in-house business unit (Asset Planning & Programming Engineer; Roding Network Engineer; Contracts Engineer) and allows for new HSD collection and drainage rating programmes.

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:

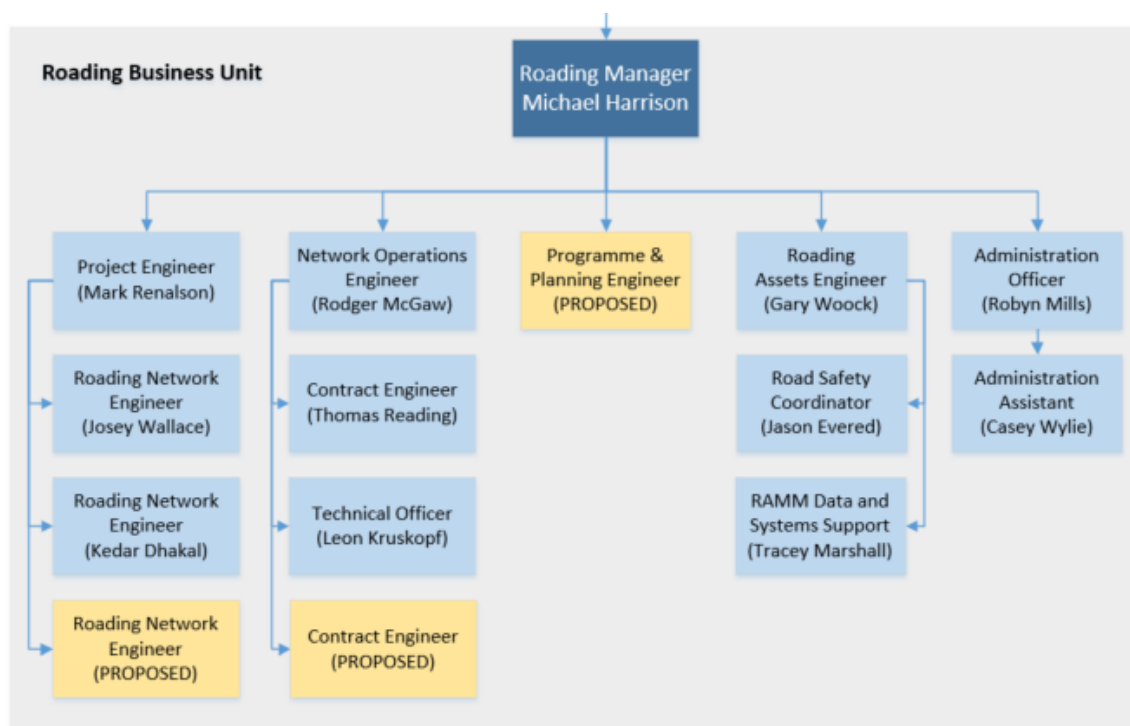


Figure 18: Proposed Internal Business Unit Structure

5.5 Option 3: Enhanced Strategy & Policy Approach

OPTION
3

Enhanced Strategy & Policy Approach

This programme focuses on continuous improvement and delivering high priority level of service changes. It is a mid-range investment / intervention level that specifically targets certain performance gaps and positions Waitaki to respond proactively to emerging issues and trends over the medium term.

This option allows for Waitaki to have a more proactive approach to maintenance, operations and renewals, and focuses on addressing specific performance gaps that are of high importance to our assets and community. These include increased maintenance due to asset growth, footpath repairs, bridge strengthening, and rural road safety improvements. Replacement of Kakanui Bridge is included in the 10yr programme.

The strategic problems and ONRC CLoS provide the focus for all investment. It will result in an improvement in CLoS where there is current under performance compared to the peer group. It allows for risk based renewal strategies through a more proactive approach to lifecycle planning will be required. Some enhancements will be required to our capability and capacity to ensure delivery of the programme.

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	<p><u>Adjust Programme</u>: 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.</p> <p><u>Risk Based Approach</u>: add a smoothing programme to high volume urban roads to address deteriorating roughness trends and low customer satisfaction.</p> <p><u>Policy Approach</u>: incorporate ONRC criteria and LoS in renewal of roading maintenance contract</p>
Unsealed Roads	<p><u>Risk Based Approach</u>: Introduce performance grading but maintain current level of service.</p> <p><u>Adjust Programme</u>: Introduce an increased crown in conjunction with remetalling programme to achieve better drainage and resilience to damage from the effects of climate change.</p>
Drainage	<p><u>Policy Approach</u>: 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.</p> <p><u>Adjust Programme</u>: More proactive drainage renewals, particularly on Lifeline routes.</p>
Footpaths	<p><u>Adjust Programme</u>: Increased maintenance and renewals to arrest Levels of service decline. Limit cost though user of grinding and AC overlay programmes where possible.</p>
Streetlighting	<p><u>Baseline strategy</u></p>
Signs and Markings	<p><u>Adjust Programme</u>: 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</p>
Guardrails	<p><u>Baseline strategy</u></p>
Environmental	<p><u>Risk Based Approach</u>: Move to performance mowing to offset increased control requirements due to climate change. Focus on intersection LoS to assist with tackling crash trends.</p> <p><u>Policy Approach</u>: Increase frost gritting programme to manage safety with increased winter rainfall due to climate change</p> <p><u>Policy Approach</u>: Responsible disposal of sump debris as a contaminated waste</p> <p><u>Adjust Programme</u>: Added costs for management of new stock effluent dumpsite in Omarama</p> <p><u>Adjust Programme</u>: Hazardous tree removal programme to proactively limited road closures.</p>
Bridges and other Structures	<p><u>Programme Adjustment</u>: Kakanui Bridge replacement added to programme to increase network resilience (including for SH1S)</p> <p><u>Programme Adjustment</u>: Like for like bridge replacements moved from LCLR funding category</p> <p><u>Policy Approach</u>: Focussed condition and capacity assessments, seismic screening, HPMV permitting, materials testing and painting screening.</p>
Network & Asset Management	<p><u>Policy Approach</u>: Develop and maintain District Transportation Plan to enable optimised network planning over the long term.</p> <p><u>Procurement Approach</u>: increased resource (2 FTE) to allow for managing delivery of enhanced programme; and additional asset management processes</p> <p><u>Programme Approach</u>: Optimise condition rating strategies and decision models/processes to make space for collection of HSD for optimised management of pavement and surfacing programmes.</p> <p><u>Policy Approach</u>: Support increased support for TTM through TMC responsibilities and supplier requirements to align with CoPTTM changes.</p> <p><u>Procurement Approach</u>: Enhance routine maintenance contracts to ensure that road maintenance contracts collect and maintain asset condition data.</p> <p><u>Policy Approach</u>: 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.</p> <p><u>Policy Approach</u>: Proactive monitoring of high-risk slopes, coastal erosion and river scour sites</p>

Work Category	Selected Options
Emergency Response	<u>Risk Based Approach</u> : Increased focus on restoring service after minor events.
LCLR Improvements	<u>Programme Approach</u> : Safety - enhanced programme of intersection and mode neutral improvements <u>Programme Approach</u> : Resilience - enhanced programme of bridge strengthening upgrades and scour <u>Programme Approach</u> : Efficiency - enhanced programme of seal widening programme (rural secondary collectors) and sealing of unsealed approaches (accessways, intersections and bridges) <u>Procurement Approach</u> : increased resource (1 FTE) to manage delivery of enhanced LCLR programme

5.6 Option 4: Enhanced Programme for Change

**OPTION
4**

Accelerated Programme for Change

This programme focuses on a higher level of investment through improvements & renewals to support and enable land use development, freight demands and aging population within a safe, low-carbon transport system. It seeks to add additional capacity and resilience, particularly through our drainage, bridge and footpath renewal programmes.

This option focuses on a higher level of investment in maintenance, operations and renewals to support and enable land use development, and a low carbon transport system. It seeks to address Waitaki's strategic problems in the shorter term by adding resilience and additional capacity in the network where there are opportunities for enhanced economic output (especially around the North Otago Irrigation Scheme), and transforming urban mobility.

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]
<u>Alignment with GPS / Transport Outcomes</u>	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
<u>Specifically addresses problem statements</u>	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)
<u>Reduces ONRC LoS gaps</u>	Improved level of service	Maintains current level of service	Reduced level of service

Criteria	High [H]	Medium [M]	Low [L]
<u>Affordable, achievable & VFM</u>	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
<u>Optimises WoLC & preserves asset base</u>	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	<p>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.</p>	<p>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</p> <p>The Policy approach improvements will allow for enhancement of asset knowledge and will contribute to better strategic planning in future.</p>	<p>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.</p>

6 Preferred Programme

6.1 Operations, Maintenance, Renewal and Improvement Programmes

Table 20: Operations, Maintenance, Renewal and Improvement Programmes – Approved by Council 25/05/2021. Total budgets will be inserted below. Indicative allocations for Maintenance, Operations and Renewal will be available from Waka Kotahi NZTA at the end of the month of May. Councils Roding Unit will then make adjustments to individual activities within work categories. The Programme is adjusted as at 30 June 2021 to reflect Councils current LTP approvals.

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	1,376,300	1,386,622	1,393,555	1,745,366	1,795,982	1,848,065	1,901,659	1,956,808	2,013,555	2,071,948	17,489,861
112	Unsealed pavement maintenance	508,000	498,000	501,735	504,244	942,343	969,671	997,791	1,026,727	1,056,502	1,087,141	1,118,668	8,702,822
113	Routine drainage maintenance	437,000	428,400	431,613	433,771	538,809	554,434	570,513	587,058	604,083	621,601	639,627	5,409,909
114	Structures (bridge) maintenance	234,000	229,500	231,221	232,377	321,495	330,819	340,412	350,284	360,443	370,895	381,651	3,149,098
121	Environmental maintenance	337,200	330,600	333,080	334,745	375,074	385,853	396,942	408,341	420,069	432,135	444,539	3,861,377
122	Traffic services maintenance	395,300	488,232	491,893	494,353	753,171	773,145	793,666	814,571	836,047	858,109	880,589	7,183,776
123	Operational traffic management		0	0	0	0	0	0	0	0	0	0	0
124	Cycle path maintenance	11,600	11,600	11,687	11,745	13,658	14,054	14,462	14,881	15,313	15,757	16,214	139,371
125	Footpath maintenance	300,000	215,000	216,613	217,696	256,791	264,238	271,900	279,786	287,899	296,248	304,840	2,611,010
131	Level crossing warning devices	41,600	41,600	41,912	42,122	45,457	46,776	48,132	49,528	50,964	52,442	53,963	472,896
141	Minor Events	0	0	0	0	109,273	112,442	115,702	119,058	122,510	126,063	129,719	834,767
151	Network & Asset Management	1,563,600	1,532,900	1,544,397	1,552,119	1,555,215	1,615,598	1,739,942	1,856,542	1,934,458	1,951,603	2,023,615	17,306,388
	Sub-TOTAL Maintenance	5,232,100	5,152,132	5,190,773	5,216,727	6,656,652	6,863,012	7,137,527	7,408,435	7,645,096	7,825,549	8,065,373	67,161,275
125R	Footpath renewals	335,683	429,560	432,782	434,946	1,018,640	1,054,108	1,090,753	1,128,613	1,167,728	1,208,136	1,249,878	9,215,143
211	Unsealed road metalling	678,300	628,300	633,012	636,177	757,873	779,852	802,467	825,739	849,685	874,326	899,682	7,687,114

212	Sealed road resurfacing	1,690,600	1,690,600	1,703,280	1,711,796	1,890,416	1,945,238	2,001,650	2,059,698	2,119,429	2,180,893	2,244,138	19,547,137
213	Drainage renewals	498,300	498,300	502,037	504,547	556,757	572,902	589,517	606,613	624,205	642,307	660,934	5,758,120
214	Pavement rehabilitation	1,456,400	1,456,400	1,467,323	1,474,660	1,482,051	1,519,102	1,557,080	1,596,007	1,635,907	1,676,805	1,718,725	15,584,060
215	Structures component replacements	353,700	200,000	179,525	226,858	550,449	639,115	242,434	250,347	258,510	266,933	275,622	3,089,792
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
221	Environmental renewals	-	227,417	315,046	324,497	334,881	346,602	359,426	373,084	387,635	403,527	420,476	3,492,591
222	Traffic services renewals incl. streetlights and signs	182,000	160,000	161,200	162,006	203,352	209,248	215,316	221,562	227,986	234,598	241,402	2,036,670
224	Cycle Path Renewals	0	0	0	0	21,855	22,488	23,140	23,812	24,502	25,213	25,944	166,954
322	Bridge replacements	-	-	-	-	-	-	-	-	-	-	-	0
	Sub-TOTAL Renewals	5,194,983	5,540,577	5,670,305	6,085,486	10,254,274	10,553,655	7,102,158	7,311,359	7,527,118	7,750,058	7,980,054	75,775,044
													0
	Sub-TOTAL Financially Assisted	10,427,083	10,692,709	10,861,077	11,302,213	16,910,926	17,416,667	14,239,685	14,719,794	15,172,214	15,575,607	16,045,427	142,936,319

	Non-financially Assisted Maintenance & Renewals												
	General Maintenance incl. rural general, targeted maintenance, reserve transfers & overheads	225,416	622,285	630,637	641,794	651,136	668,886	684,763	699,600	732,487	754,712	766,646	6,852,946
	Township Maintenance	562,994	545,284	559,461	575,126	589,504	604,242	619,348	634,832	650,703	666,970	683,644	6,129,114
	Recoverable Works		222,943	229,691	236,444	243,337	250,442	257,952	265,647	273,426	281,231	289,436	2,550,549
	Rural General		39,250	41,073	41,847	42,617	44,794	45,609	46,449	48,806	49,694	50,608	450,747
	Targeted maintenance		5,155	5,310	5,464	5,622	5,785	5,953	6,126	6,303	6,486	57,204	109,408
	Sub-TOTAL	1,040,425	1,434,917	1,466,172	1,500,675	1,532,216	1,574,149	1,613,625	1,652,654	1,711,725	1,759,093	1,847,538	16,092,764
	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
	TOTAL	55,000	1,489,917	1,522,602	1,558,685	1,591,676	1,635,096	1,676,095	1,716,686	1,777,358	1,826,367	1,916,494	16,710,976
													-

WC	Financially Assisted Capital Works												
341	LCLR Improvements	2,411,000	1,670,200	2,734,212	2,832,169	2,919,766	3,004,437	3,091,565	3,164,256	3,246,834	3,343,194	3,440,148	29,446,781
432	Community focussed activities	170,200	158,776	157,637	157,178	156,959	162,701	175,393	187,169	194,698	195,584	202,368	1,748,463
3	Transport planning	74,180	91,208	91,744	198,757	95,753	99,216	221,272	111,601	115,917	243,593	121,629	1,390,690
	Sub-TOTAL	2,655,380	1,920,184	2,983,593	3,188,104	3,172,478	3,266,354	3,488,230	3,463,026	3,557,449	3,782,371	3,764,145	32,585,934
													-
	Non-Financially Assisted Capital Works												
	Amenity Activities	173,600	21,000	59,150	97,300	135,450	173,600	173,600	173,600	173,600	173,600	173,600	1,354,500
	Projects	1,056,506	195,000	0	0	305,000	115,375	20,759	21,153	21,557	21,971	22,395	723,211
	Sub-TOTAL	173,600	216,000	59,150	97,300	440,450	288,975	194,359	194,753	195,157	195,571	195,995	2,077,711
													-
	Financially Assisted TOTAL	13,082,463	12,612,893	13,844,670	14,490,317	20,083,404	20,683,021	17,727,915	18,182,820	18,729,663	19,357,978	19,809,572	175,522,253
	Non - Financially Assisted TOTAL	55,000	1,705,917	1,581,752	1,655,985	2,032,126	1,924,071	1,870,455	1,911,440	1,972,515	2,021,938	2,112,489	18,788,688
	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	194,490,799

Table 21a: Operations, Maintenance, Renewal and Improvement Programmes – Proposed Option 3 submitted to Council and Waka Kotahi New Zealand Transport Agency

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		1,376,300	1,386,622	1,393,555	1,745,366	1,795,982	1,848,065	1,901,659	1,956,808	2,013,555	2,071,948	17,489,861
	Sealed pavement repairs		968,308	975,570	980,448	1,321,931	1,361,961	1,403,193	1,445,666	1,489,415	1,534,477	1,580,893	13,061,861
	Pre-reseal repairs		131,458	132,444	133,106	136,434	139,845	143,341	146,924	150,597	154,362	158,221	1,426,733
	Edgebreak		151,438	152,573	153,336	157,170	161,099	165,126	169,254	173,486	177,823	182,268	1,643,573
	Low shoulder		125,097	126,035	126,665	129,832	133,078	136,405	139,815	143,310	146,893	150,565	1,357,696
112	Unsealed pavement maintenance		498,000	501,735	504,244	942,343	969,671	997,791	1,026,727	1,056,502	1,087,141	1,118,668	8,702,822
	Grading		307,331	309,636	311,184	744,457	766,837	789,886	813,625	838,072	863,251	889,180	6,633,459
	Spot metalling		190,669	192,099	193,060	197,886	202,833	207,904	213,102	218,429	223,890	229,487	2,069,358
113	Routine drainage maintenance		428,400	431,613	433,771	538,809	554,434	570,513	587,058	604,083	621,601	639,627	5,409,909
	Routine drainage maintenance		272,782	274,828	276,202	361,552	372,747	384,283	396,172	408,426	421,052	434,064	3,602,109
	High-lip removal & clearing roadside drains		53,988	54,393	54,665	61,495	63,032	64,608	66,223	67,879	69,576	71,315	627,175
	Kerb & channel repairs		37,935	38,219	38,410	43,210	44,290	45,397	46,532	47,695	48,888	50,110	440,686
	Street sweeping (30%)		19,109	19,252	19,348	21,766	22,310	22,867	23,439	24,025	24,626	25,241	221,982
	Street sweeping (70%)		44,587	44,921	45,146	50,786	52,056	53,357	54,691	56,058	57,460	58,896	517,958
114	Structures (bridge) maintenance		229,500	231,221	232,377	321,495	330,819	340,412	350,284	360,443	370,895	381,651	3,149,098
	Structures Inspections & Cyclic Maintenance		38,855	39,146	39,342	114,532	114,532	114,532	114,532	114,532	114,532	114,532	919,068
	Routine bridge & Guardrail maintenance		155,645	156,812	157,596	169,125	178,449	188,042	197,914	208,073	218,525	229,281	1,859,460
	Retaining Wall Maintenance		35,000	35,263	35,439	37,838	37,838	37,838	37,838	37,838	37,838	37,838	370,570
121	Environmental maintenance		330,600	333,080	334,745	375,074	385,853	396,942	408,341	420,069	432,135	444,539	3,861,377
	Vegetation control		259,561	261,508	262,815	291,701	302,480	313,569	324,968	336,696	348,762	361,166	3,063,230
	Winter Services Activities		10,664	10,744	10,798	12,147	12,147	12,147	12,147	12,147	12,147	12,147	117,235

Part B: Activity Management Plan - Preferred Programme

	Stock Effluent Disposal		52,325	52,717	52,981	56,568	56,568	56,568	56,568	56,568	56,568	56,568	553,997
	Scada		8,050	8,111	8,151	8,703	8,703	8,703	8,703	8,703	8,703	8,703	85,235
	Abandoned Vehicles		-	-	-	-	-	-	-	-	-	-	0
	Dust mitigation		0	0	0	5,954	5,954	5,954	5,954	5,954	5,954	5,954	41,681
	Other		-	-	-	-	-	-	-	-	-	-	-
	Financially Assisted												
122	Traffic services maintenance		488,232	491,893	494,353	753,171	773,145	793,666	814,571	836,047	858,109	880,589	7,183,776
	Streetlighting maintenance		67,815	68,324	68,665	73,315	73,315	73,315	73,315	73,315	73,315	73,315	718,006
	Roadmarking		200,000	201,500	202,508	291,701	311,675	332,196	353,101	374,577	396,639	419,119	3,083,017
	Signs		105,318	106,107	106,638	215,073	215,073	215,073	215,073	215,073	215,073	215,073	1,823,570
	Streetlight energy costs		115,099	115,962	116,542	173,083	173,083	173,083	173,083	173,083	173,083	173,083	1,559,183
123	Operational traffic management		0	0	0	0	0	0	0	0	0	0	0
	General		0	0	0	0	0	0	0	0	0	0	0
124	Cycle path maintenance		11,600	11,687	11,745	13,658	14,054	14,462	14,881	15,313	15,757	16,214	139,371
	General		11,600	11,687	11,745	13,658	14,054	14,462	14,881	15,313	15,757	16,214	139,371
125	Footpath maintenance		215,000	216,613	217,696	256,791	264,238	271,900	279,786	287,899	296,248	304,840	2,611,010
	Footpath maintenance		215,000	216,613	217,696	256,791	264,238	271,900	279,786	287,899	296,248	304,840	2,611,010
131	Level crossing warning devices		41,600	41,912	42,122	45,457	46,776	48,132	49,528	50,964	52,442	53,963	472,896
	General		41,600	41,912	42,122	45,457	46,776	48,132	49,528	50,964	52,442	53,963	472,896
141	Minor Events		0	0	0	109,273	112,442	115,702	119,058	122,510	126,063	129,719	834,767
	Resilience or emergency		0	0	0	109,273	112,442	115,702	119,058	122,510	126,063	129,719	834,767
151	Network & Asset Management		1,532,900	1,544,397	1,552,119	1,555,215	1,615,598	1,739,942	1,856,542	1,934,458	1,951,603	2,023,615	17,306,388
	Contractors (RAMM & traffic counting)		82,919	83,541	83,958	86,057	88,209	90,414	92,674	94,991	97,366	99,800	899,928
	Operations and maintenance (prof fees)		415,364	418,479	420,572	448,349	481,061	577,041	664,569	712,685	730,503	771,987	5,640,610
	\$25k for NRRP's		0	0	0	0	0	0	0	0	0	0	0
	Admin		0	0	0	0	0	0	0	0	0	0	0

	Roading managers office - maint and ops		965,528	972,769	977,633	949,105	972,833	997,153	1,022,082	1,047,634	1,042,609	1,068,674	10,016,022
	Asset inventory systems		57,556	57,987	58,277	59,734	61,227	62,758	64,327	65,935	67,584	69,273	624,658
	Renewals		11,534	11,620	11,678	11,970	12,270	12,576	12,891	13,213	13,543	13,882	125,178
	Sub-TOTAL Maintenance		5,152,132	5,190,773	5,216,727	6,656,652	6,863,012	7,137,527	7,408,435	7,645,096	7,825,549	8,065,373	67,161,275
125R	Footpath renewals		429,560	432,782	434,946	1,018,640	1,054,108	1,090,753	1,128,613	1,167,728	1,208,136	1,249,878	9,215,143
	Footpath renewals		429,560	432,782	434,946	1,018,640	1,054,108	1,090,753	1,128,613	1,167,728	1,208,136	1,249,878	9,215,143
211	Unsealed road metalling		628,300	633,012	636,177	757,873	779,852	802,467	825,739	849,685	874,326	899,682	7,687,114
	Metalling renewal		558,463	562,651	565,465	582,547	600,143	618,266	636,932	656,159	675,962	696,358	6,152,945
	Crown reshape		69,837	70,361	70,713	175,326	179,709	184,201	188,807	193,526	198,364	203,324	1,534,168
212	Sealed road resurfacing		1,690,600	1,703,280	1,711,796	1,890,416	1,945,238	2,001,650	2,059,698	2,119,429	2,180,893	2,244,138	19,547,137
	Urban Chipseals		840,100	846,401	850,633	1,007,724	1,040,478	1,074,271	1,109,135	1,145,102	1,182,208	1,220,486	10,316,538
	Rural Chipseals		720,500	725,904	729,533	747,772	766,466	785,628	805,268	825,400	846,035	867,186	7,819,691
	Asphalt Resurfacing		130,000	130,975	131,630	134,921	138,294	141,751	145,295	148,927	152,650	156,467	1,410,909
213	Drainage renewals		498,300	502,037	504,547	556,757	572,902	589,517	606,613	624,205	642,307	660,934	5,758,120
	Culvert replacements		237,767	239,550	240,748	286,363	295,748	305,434	315,428	325,740	336,381	347,359	2,930,517
	Lined channel renewal		149,183	150,302	151,053	154,829	158,700	162,668	166,734	170,903	175,175	179,555	1,619,102
	Reforming side drains		111,350	112,185	112,746	115,565	118,454	121,415	124,451	127,562	130,751	134,020	1,208,500
	New / Renew subsoil drains		-	-	-	-	-	-	-	-	-	-	-
214	Pavement rehabilitation		1,456,400	1,467,323	1,474,660	1,482,051	1,519,102	1,557,080	1,596,007	1,635,907	1,676,805	1,718,725	15,584,060
	Urban Rehabilitation		906,600	913,400	917,966	911,441	934,227	957,582	981,522	1,006,060	1,031,211	1,056,992	9,617,001
	Rural Rehabilitation		549,800	553,924	556,693	570,610	584,876	599,498	614,485	629,847	645,593	661,733	5,967,059
	Structural Asphalt			-	-	-	-	-	-	-	-	-	-
215	Structures component replacements		200,000	179,525	226,858	550,449	639,115	242,434	250,347	258,510	266,933	275,622	3,089,792
	Routine Bridge Component Replacements		30,000	30,225	30,376	31,136	31,914	32,712	33,530	34,368	35,227	36,108	325,594
	Structural Bridge Component Replacements		115,000	93,888	140,792	462,232	548,692	149,751	155,346	161,134	167,123	173,317	2,167,275
	Guardrail Replacements		30,000	30,225	30,376	31,136	31,914	32,712	33,530	34,368	35,227	36,108	325,594

Part B: Activity Management Plan - Preferred Programme

	Other Structures Replacements		25,000	25,188	25,313	25,946	26,595	27,260	27,941	28,640	29,356	30,090	271,329
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										200,000
	Br33_Rutherford Bridge			86,100									86,100
	Br157_Teschmakers No.2			140,000	210,000								350,000
	Br219_Cookhouse					110,000							110,000
	Br259_Leicester St					78,000							78,000
	Br_Kakanui Point		50000	50000	400000	3250000	3250000						7,000,000
221	Environmental renewals		227417	315046	324497	334881	346602	359426	373084	387635	403527	420476	3,492,591
	Environmental renewals		227417	315046	324497	334881	346602	359426	373084	387635	403527	420476	3,492,591
222	Traffic services renewals		160,000	161,200	162,006	203,352	209,248	215,316	221,562	227,986	234,598	241,402	2,036,670
	Signs renewals		80,000	80,600	81,003	101,676	104,624	107,658	110,781	113,993	117,299	120,701	1,018,335
	Streetlighting renewals		80,000	80,600	81,003	101,676	104,624	107,658	110,781	113,993	117,299	120,701	1,018,335
224	Cycle Path Renewals		0	0	0	21,855	22,488	23,140	23,812	24,502	25,213	25,944	166,954
	Cycle Path Renewals		0	0	0	21855	22488	23140	23812	24502	25213	25944	166,954
	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		5,540,577	5,670,305	6,085,486	10,254,274	10,553,655	7,102,158	7,311,359	7,527,118	7,750,058	7,980,054	75,775,044
	Sub-TOTAL Financially Assisted	10,427,083	10,692,709	10,861,077	11,302,213	16,910,926	17,416,667	14,239,685	14,719,794	15,172,214	15,575,607	16,045,427	142,936,319
													-
	Non-financially Assisted Maintenance & Renewals												
	General Maintenance	225,416	622,285	630,637	641,794	651,136	668,886	684,763	699,600	732,487	754,712	766,646	6,852,946

Part B: Activity Management Plan - Preferred Programme

	Pest Control		45,600	47,014	48,424	49,828	51,273	52,760	54,290	55,865	57,485	59,152	521,691
	Retaining Structures		26,250	27,542	28,006	28,468	30,037	30,526	31,030	32,727	33,259	33,808	301,653
	Carpark maintenance		88,980	93,209	94,610	95,997	101,151	102,597	104,064	109,608	111,155	112,727	1,014,098
	Footpath Maintnace		now financially assisted		0	0	0	0	0	0	0	0	0
	Road Legalisation	44,586	15,000	15,465	15,929	16,391	16,866	17,355	17,859	18,377	18,909	19,458	171,609
	General Operations	26,250	10,007	9,776	16,536	16,670	16,653	16,426	16,022	30,088	46,638	47,500	226,316
	Coastal Erosion	40,600	now financially assisted		0	0	0	0	0	0	0	0	0
	Reserve Transfer out	88,980	287,214	287,250	287,250	287,250	287,250	287,250	287,250	287,250	287,250	287,250	2,872,464
	Overreads charged	25,000	104,984	104,153	103,882	108,451	115,240	126,455	136,683	143,640	144,019	149,657	1,237,164
	Township Maintenance	545,284	545,284	559,461	575,126	589,504	604,242	619,348	634,832	650,703	666,970	683,644	6,129,115
	Ahuriri	85,838	85,838	88,070	90,536	92,799	95,119	97,497	99,935	102,433	104,994	107,619	964,839
	Corriedale	56,981	56,981	58,463	60,099	61,602	63,142	64,721	66,339	67,997	69,697	71,439	640,479
	Oamaru & Weston	279,515	279,515	286,782	294,812	302,183	309,737	317,481	325,418	333,553	341,892	350,439	3,141,812
	Waihemo	122,950	122,950	126,147	129,679	132,921	136,244	139,650	143,141	146,720	150,388	154,147	1,381,986
	Rural General	45,152	39,250	41,073	41,847	42,617	44,794	45,609	46,449	48,806	49,694	50,608	450,747
	Ahuriri	11,288	9,813	10,268	10,462	10,654	11,199	11,402	11,612	12,202	12,424	12,652	112,687
	Corriedale	11,288	9,813	10,268	10,462	10,654	11,199	11,402	11,612	12,202	12,424	12,652	112,687
	Oamaru & Weston	11,288	9,813	10,268	10,462	10,654	11,199	11,402	11,612	12,202	12,424	12,652	112,687
	Waihemo	11,288	9,813	10,268	10,462	10,654	11,199	11,402	11,612	12,202	12,424	12,652	112,687
	Targeted maintenance	5,000	5,155	5,310	5,464	5,622	5,785	5,953	6,126	6,303	6,486	57,204	109,408
	Targeted maintenance	5,000	5,155	5,310	5,464	5,622	5,785	5,953	6,126	6,303	6,486	57,204	109,408
	Recoverable Works	186,865	222,943	229,691	236,444	243,337	250,442	257,952	265,647	273,426	281,231	289,436	2,550,549
	General	186,865	222,943	229,691	236,444	243,337	250,442	257,952	265,647	273,426	281,231	289,436	2,550,549
	Sub-TOTAL	1,040,425	1,434,917	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	12,865,565
	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	1,489,917	1,201,702	1,235,350	1,266,233	1,297,889	1,330,336	1,363,595	1,397,685	1,432,627	1,468,443	13,483,777
WC	Financially Assisted Capital Works												
341	LCLR Improvements	2,411,000	1,670,200	2,734,212	2,832,169	2,919,766	3,004,437	3,091,565	3,164,256	3,246,834	3,343,194	3,440,148	29,446,781
	Safety Improvements		175,000	1,152,970	1,250,927	1,250,927	1,250,927	1,250,927	1,250,927	1,250,927	1,250,927	1,347,881	11,432,340
	Resilience Improvements		1,465,200	1,510,621	1,510,621	1,598,218	1,682,889	1,770,017	1,842,708	1,925,286	2,021,646	2,021,646	17,348,852
	Efficiency Improvements		10,000	50,621	50,621	50,621	50,621	50,621	50,621	50,621	50,621	50,621	465,589
	Associated Improvements		10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	100,000
	1 additional contract management staff resource		10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	100,000
432	Community focussed activities	170,200	158,776	157,637	157,178	156,959	162,701	175,393	187,169	194,698	195,584	202,368	1,748,463
	Road Safety		158,776	157,637	157,178	156,959	162,701	175,393	187,169	194,698	195,584	202,368	1,748,463
3	Transport planning	74,180	91,208	91,744	198,757	95,753	99,216	221,272	111,601	115,917	243,593	121,629	1,390,690
	District Transportation Plan		17,028	15,635	120,517	15,557	17,015	137,016	25,239	27,396	152,859	28,627	556,890
	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	1,920,184	2,983,593	3,188,104	3,172,478	3,266,354	3,488,230	3,463,026	3,557,449	3,782,371	3,764,145	32,585,934
													-
	Non-Financially Assisted Capital Works												
	General	1,056,506	195,000	0	0	305,000	115,375	20,759	21,153	21,557	21,971	22,395	723,211
	Aggregate Supplies	24,058	0	0	0	0	0	0	0	0	0	0	0
	Seal extensions	55,000	0	0	0	15,000	15,375	15,759	16,153	16,557	16,971	17,395	113,211
	Cycle Safety	5,200	0	0	0	0	0	0	0	0	0	0	0
	Targeted Maintenance	217,248	-	-	-	-	-	-	-	-	-	-	-
	Harbour Area Development	700,000	-	-	-	-	-	-	-	-	-	-	-
	Oamaru Blue Penguin					190,000							190,000
	Colony bus park sealing												

Part B: Activity Management Plan - Preferred Programme

	and marking												
	Turning Circle upgrade	30,000											30,000
	Holmes Wharfe road/moll				95,000	95,000							190,000
	Roading Incidental projects				5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	35,000
	Footpath Connections	165,000											165,000
	Township Improvements & Amenity Activities	173,600	21,000	59,150	97,300	135,450	173,600	173,600	173,600	173,600	173,600	173,600	1,354,500
	Dunroon	1,500	0	375	750	1,125	1,500	1,500	1,500	1,500	1,500	1,500	16,860
	Hampden	10,000	0	2,500	5,000	7,500	10,000	10,000	10,000	10,000	10,000	10,000	112,402
	Herbert	1,500	0	375	750	1,125	1,500	1,500	1,500	1,500	1,500	1,500	16,860
	Kakanui	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	56,201
	Kurow	17,600	0	4,400	8,800	13,200	17,600	17,600	17,600	17,600	17,600	17,600	197,828
	Maheno	1,500	0	375	750	1,125	1,500	1,500	1,500	1,500	1,500	1,500	16,860
	Moeraki	5,000	0	1,250	2,500	3,750	5,000	5,000	5,000	5,000	5,000	5,000	56,201
	Oamaru & Weston	50,000	0	12,500	25,000	37,500	50,000	50,000	50,000	50,000	50,000	50,000	562,011
	Ohau	3,000	0	750	1,500	2,250	3,000	3,000	3,000	3,000	3,000	3,000	33,721
	Omarama	11,000	0	2,750	5,500	8,250	11,000	11,000	11,000	11,000	11,000	11,000	123,642
	Otematata	20,000	0	5,000	10,000	15,000	20,000	20,000	20,000	20,000	20,000	20,000	224,805
	Palmerston	30,000	0	7,500	15,000	22,500	30,000	30,000	30,000	30,000	30,000	30,000	337,207
	Shag Point	1,500	0	375	750	1,125	1,500	1,500	1,500	1,500	1,500	1,500	16,860
	Weston	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	179,844
	Sub-TOTAL	1,230,106	216,000	59,150	97,300	440,450	288,975	194,359	194,753	195,157	195,571	195,995	2,077,711
													-
	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	177,974,440
	Non - Financially Assisted TOTAL	2,325,531	1,705,917	1,581,752	1,655,985	2,032,126	1,924,071	1,870,455	1,911,440	1,972,515	2,021,938	2,112,489	18,788,688
	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	194,490,799

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 22: Risks

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

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	\$198.2m	\$47.13	\$26.9
Total network GCRC (excluding land and formation)	10-year expenditure forecast (18% change from 2018-28 forecast)	3-year budget (20% change from 2018-21 NLTP)	Subsidies (NZTA and others) for the 2021-24 NLTP (53% of total budget).

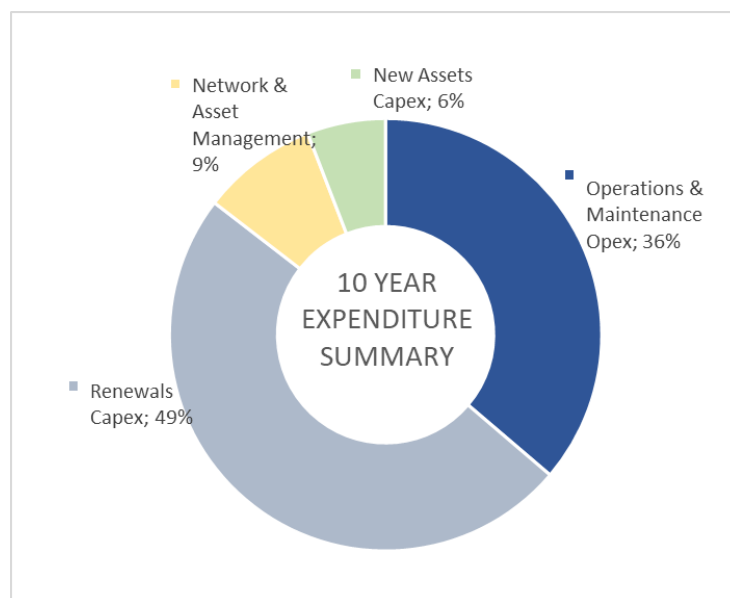
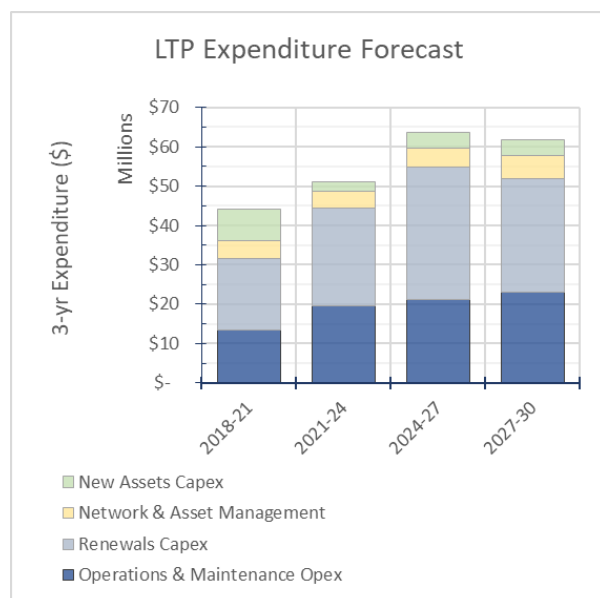
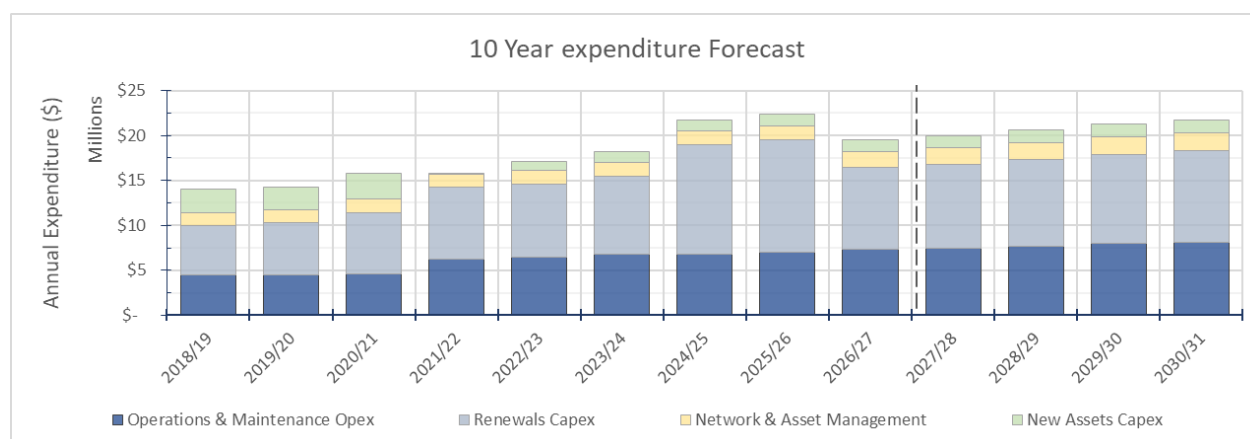


Figure 19: Expenditure

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:

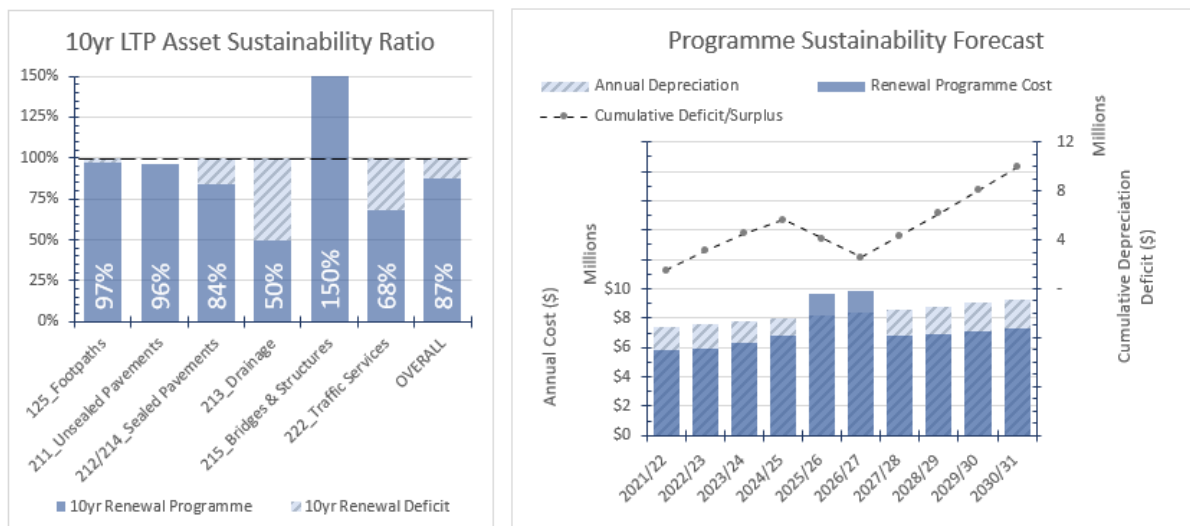


Figure 20: Programme Sustainability

6.5 How We Will Pay for It

Council's Revenue and Financing policy has been developed to comply with section 102 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.

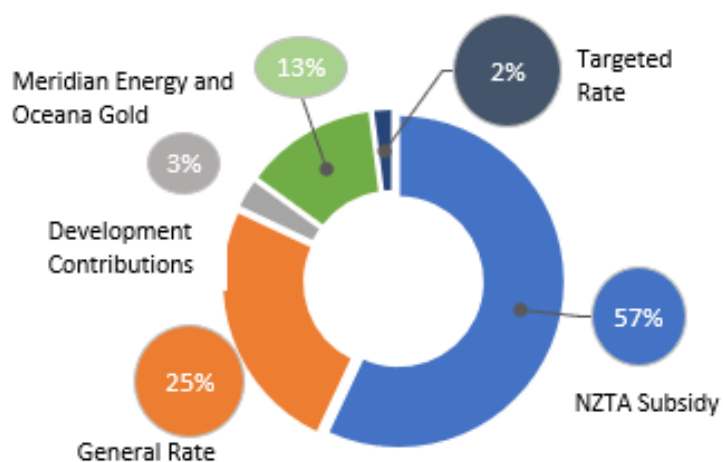


Figure 21: Our Revenue Plan

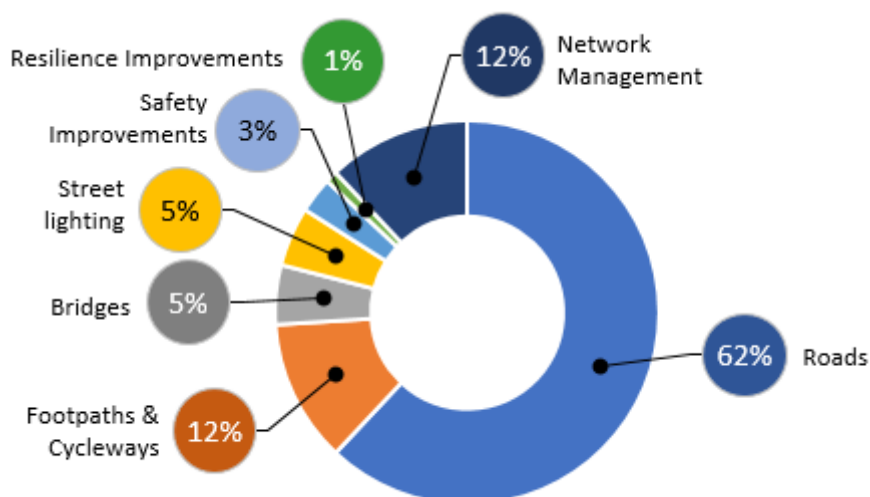


Figure 22: How we will Spend the General Rate on Transportation Services

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 Roding 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 23: 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 24: Residual Risk

Driver of Effects	Issue	Asset	Impact to Well-Beings	Possible Resolution	Status of Resolution
General Rooding Activity	Gravel loss to adjacent land	Unsealed Roads	Storm water drain blockages.	<ul style="list-style-type: none"> Increased numbers of drainage cut-outs, culverts, and rock lining. 	Increase drainage mtce within maintenance contract
			Decline in service potential.	<ul style="list-style-type: none"> 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.	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Liaise with Regional council about vegetation & pest management strategies 	Yet to start
Activity changes due to business growth	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.	<ul style="list-style-type: none"> Not a common occurrence in the district. Measures to address this to be raised as and when needed. 	On-going.
	Dust	Unsealed Roads	Dust can cause respiratory illness in livestock, impact on viticulture quality and general nuisance to people in the vicinity.	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Programme of seal widening planned. 	On-going
	Vehicle Emissions	Rural and Urban Roads	Increase in CO2 and PM10 emissions.	<ul style="list-style-type: none"> 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.	<ul style="list-style-type: none"> 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.	<ul style="list-style-type: none"> 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.	<ul style="list-style-type: none"> 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.	<ul style="list-style-type: none"> Enforced speed limits. Promote use of bypasses. 	Review Bylaws for speed limits. Use of Rooding Network Plan and ONRC to define main routes
	New Roads	All roads	Environmental impact of new road and increased activity into new area.	<ul style="list-style-type: none"> 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 25: Meeting the Investment Assessment Criteria

Assessment Criteria	How the Criteria are being met
Strategic Case	
Strategic Alignment	<p>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.</p> <p>Freight Network – Improving Freight network for primary industries</p> <p>Maintaining the Network – Sufficient funding to maintain networks to the condition required to ensure a safe, resilient and accessible network.</p> <p>Road to Zero – Implementing the Road to Zero Strategy</p> <p>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.</p>
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	<p>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.</p> <p>We have also reported on performance against ONRC levels of Service.</p>
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.

