Transportation Activity Management Plan

Assets and Services

Mahere Kawenga

2024–2034

Nelson City Council | Te Kaunihera o Whakatū

NDOCS-1833911234-1388

Document Control	Asset Management Plan
Document ID : NDOCS-1862260321-70797	

Rev No	Date	Revision Details	Author	Reviewer	Approver
0.1	30-8-23	Draft for TIO initial bids	KG	RP	DB
1	26-3-2024	Final for TIO bid	CP/KG		
2	31 July 2024	GPS and LTP updates	KG	LH	AL

Contents

1. EXECUTIVE SUMMARY

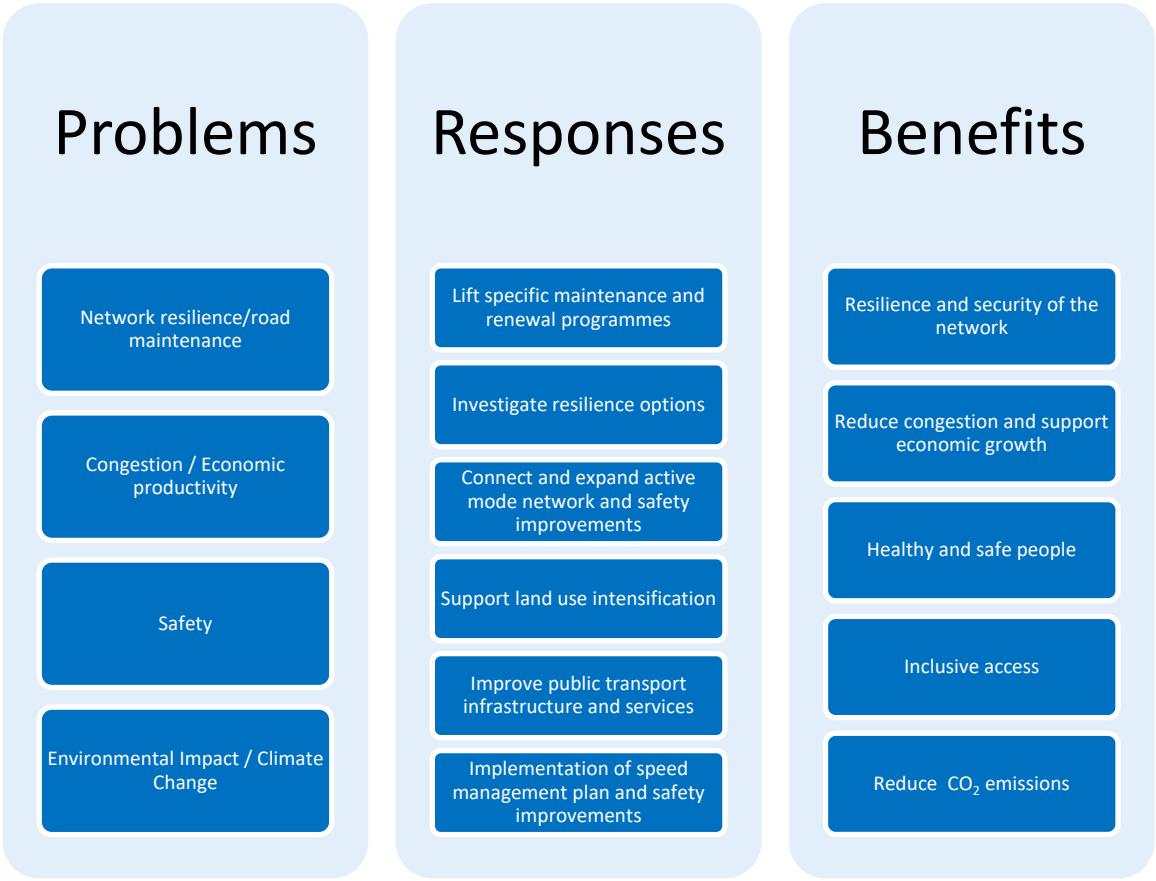
About this AMP

This Activity Management Plan (AMP) documents the condition, risks, liabilities and improvements required so people can use the transport system with confidence for the next 10 years and beyond. The transport activity has a budget of $152M for operations and capital expenditure over the next three years with approx. $71M subsidy from central government. Public Transport expenditure is expected to be $33M with $9M programmed for Parking and the CBD. Nelson City Council has prepared this AMP to outline our strategic options to meet desired levels of service, value for money and funding requirements.

The AMP is structured as a business case as required by New Zealand Transport Agency Waka Kotahi (NZTA). This format enables NZTA to assess the funding request of all councils in a consistent and evidence based way.

Problems, Responses and Benefits

This AMP discusses the problems (which are also the strategic priorities) facing the Nelson transport network, the responses and benefits of achieving our desired levels of service.



Strategic Context

This AMP aligns with both national strategic priorities and reflective of Nelson City Council regional policies and strategies. The strategic direction of this AMP is future focused and looks to address problems that will increase over time and continue to impact the network in a significant way in years to come.

Strategic priorities of the Government Policy Statement for Transport 2024-34 (GPS 2024) are:

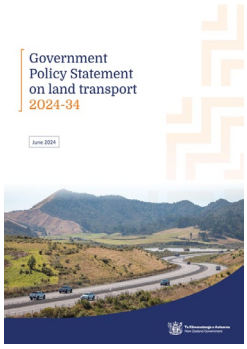
Strategic priorities of Nelson City Council Long Term Plan 2024 are:

Priorities

- Support our communities to be prosperous, connected, and inclusive
- Transform our city and commercial centres to be thriving, accessible and people-focused
- Foster a healthy environment and a climate resilient, low-emissions community

Key national policies and legislation influencing this AMP include:

- GPS 2024



- National Adaptation Plan and Emission Reduction Plan
- Land Transport Management Act 2003

Key Regional Policies influencing this AMP include:

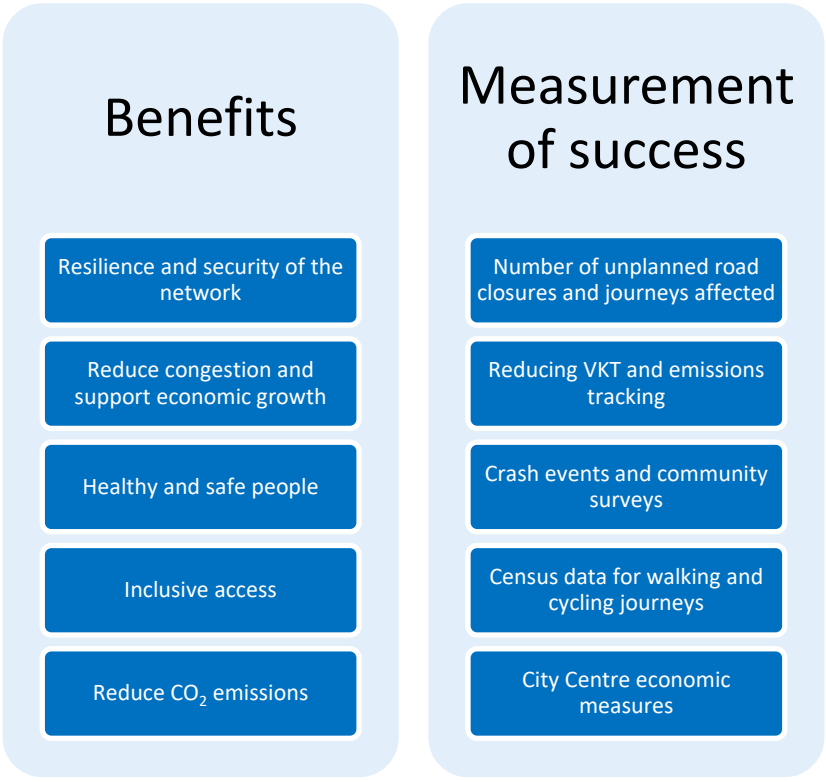
- Long Term Plan 2024
- E Tu Whakatū Nelson's Active Travel Strategy
- Nelson Future Access Study
- Nelson Tasman Future Development Strategy
- Regional Land Transport Plan and Regional Public Transport Plan

Proposed Responses

Nelson City Council has prioritised 6 key activity areas as responses to address the transport problems facing our city currently and into the future.

Benefits and Monitoring

If Nelson City Council, in partnership with NZTA, can deliver meaningful improvements in these response categories the community will see the desired benefits listed below. In order to ensure progress is being made Council has selected a range of measurements to track our progress and these are also listed below.



The Programme

The responses are delivered via programmes that either align with NZTA funding categories, are unsubsidised, or City Centre focused programmes. The drivers of cost escalations are discussed in detail in section 4. Lifecycle issues for the programmes are detailed in section 8.

What it will cost

Budgets are allocated in the Councils Long Term Plan to fund agreed programmes from this AMP as tabled below (excluding staff time, depreciation finance costs, vested assets, scope adjustment). NZTA funding for walking, cycling, road safety, and project programmes will not be announced until September 2024 so will require an addendum to the AMP at a later date.

Account	2021-24 3 year costs	2024-27 3 year proposed budgets
Transport	83,339,806	152,383,960
5001 Subsidised Roading	42,667,556	76,050,187
Expenses	17,908,445	14,174,208
Base Expenditure	9,316,595	11,383,880
Unprogrammed Expenses	6,210,985	0
Programmed Expenses	2,380,866	2,790,328
Capital Expenditure	24,759,111	61,875,979
Renewals	17,686,407	37,772,932
Capital Growth	39,104	1,608,396
Capital Increased LOS	7,033,600	22,494,651
5002 Unsubsidised Roading	11,953,188	29,060,846
Expenses	5,932,446	4,809,388
Base Expenditure	3,670,258	3,900,183
Unprogrammed Expenses	1,780,367	633,130
Programmed Expenses	481,821	276,075
Capital Expenditure	6,020,742	24,251,458
Renewals	275,082	115,115
Capital Growth	2,393,475	21,021,948
Capital Increased LOS	3,352,186	3,114,395
5560 Public Transport	15,385,199	32,873,080
Expenses	13,056,455	27,956,975
Base Expenditure	12,680,113	27,499,462
Unprogrammed Expenses	107,777	9,202
Programmed Expenses	268,565	448,311
Capital Expenditure	2,328,744	4,916,105
Renewals	0	92,055
Capital Growth	548,420	4,033,500
Capital Increased LOS	1,780,324	790,550
5570 Total Mobility	1,656,572	1,971,513
Expenses	1,656,572	1,971,513
Base Expenditure	1,656,572	1,935,838
Programmed Expenses	0	35,675

Account	2021-24 3 year costs	2024-27 3 year proposed budgets
5030 Roading Properties	378,459	253,572
Expenses	367,584	220,160
Base Expenditure	343,359	113,616
Unprogrammed Expenses	24,225	98,685
Programmed Expenses	0	7,859
Capital Expenditure	10,874	33,412
Renewals	10,874	33,412
5505 Parking Regulation	1,796,449	2,134,777
Expenses	1,796,449	2,118,229
Base Expenditure	1,796,449	2,118,229
Capital Expenditure	0	16,548
Capital Growth	0	16,548
5510 Parking and CBD Enhancement	5,715,504	9,296,056
Expenses	5,356,726	5,864,219
Base Expenditure	5,240,930	5,673,906
Unprogrammed Expenses	4,753	15,338
Programmed Expenses	111,043	174,975
Capital Expenditure	358,778	3,431,837
Renewals	358,778	635,444
Capital Increased LOS	0	2,796,393
5511 Millers Acre Centre	3,786,879	743,929
Expenses	480,555	653,133
Base Expenditure	343,631	476,627
Unprogrammed Expenses	67,389	92,025
Programmed Expenses	69,535	84,481
Capital Expenditure	3,306,324	90,796
Renewals	50,716	64,855
Capital Increased LOS	3,255,607	25,941

2. INTRODUCTION

This Activity Management Plan (AMP) communicates the requirements for the sustainable delivery of services through management of assets, compliance with regulatory requirements, and required funding to provide the appropriate levels of service over the long-term planning period.

The AMP is to be read with the Nelson City Council (Council) planning documents. This should include the Asset Management Policy and Long Term Plan (LTP) along with other key planning documents referenced at the back of this document.

The infrastructure assets covered by this AMP include roads and paths, public transport, total mobility and all their associated assets and services. For a detailed summary of the assets covered in this Activity Management Plan refer to figure 2-2 below.

These assets are used to provide transport services in Nelson.

The infrastructure assets included in this plan have a total replacement value of $747M and a depreciated value of $503M.

This AMP has been written in the business case format and builds on the 2021 AMP. It is the business case for subsidised funding from Council's funding partner, the New Zealand Transport Agency Waka Kotahi (NZTA), and guides Council's transport spending for the years 2024–2034 for subsidised and unsubsidised activities, as updated each year by the Annual Plan, and the three yearly Long Term Plan review cycle.

The AMP directs transport activities towards achieving Council's Community Outcomes, within the context of the Council's priorities, and reflects the long-term view outlined in the Infrastructure Strategy. It is a tactical, locally focused document. The subsidised programme has been developed around national and regional transport funding guidelines, as indicated by the requirements of NZTA and guided by Te Ringa Maimoa (formerly Road Efficiency Group REG), as well as the Government Policy Statement (GPS) on Land Transport Funding and Arataki. Arataki outlines NZTA's 10-year view of what is needed to deliver on the Government's priorities and long-term objectives for the land transport system.

Council acknowledges that Treaty of Waitangi obligations rest with the Crown and seeks to uphold the mana of the Treaty of Waitangi Settlements for Te Tauihu by continuing to build its relationship with iwi. There are numerous pieces of legislation under which Council operates that recognise the Treaty of Waitangi and recognise or acknowledge iwi and Māori.

Council believes that by working in partnership with iwi and Māori it will create benefits for the whole community.

2.1 Transport Asset and Services Register

Nelson City Council is responsible for connecting people and moving goods across Nelson. To do this well Council has a good knowledge of the network and gaps where further work is required. Current status is listed below.

Figure 2-1: Location of Nelson City Council transport assets

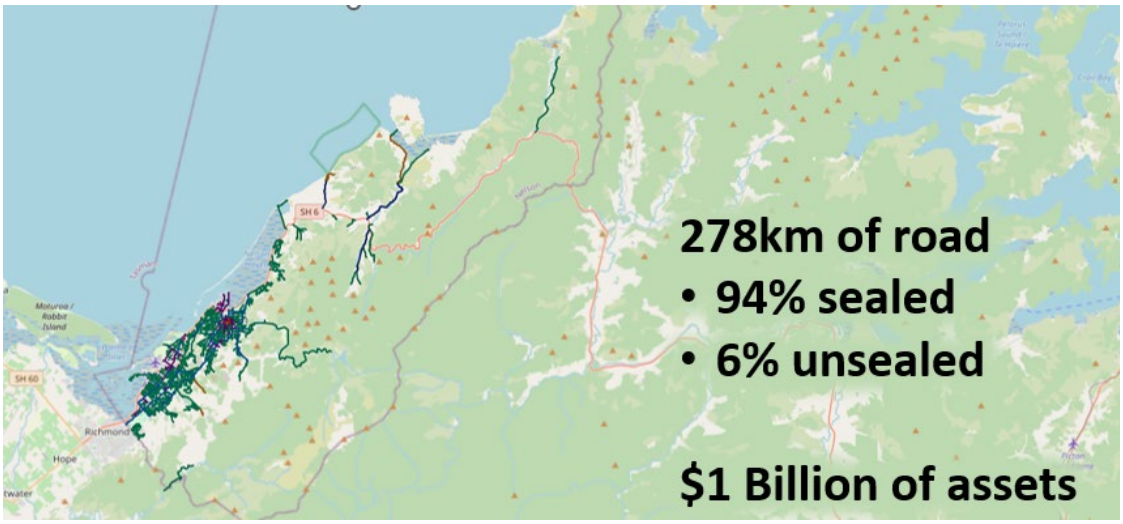


Figure 2-2: Financial and transport asset summary[1]

TRANSPORT		Replacement Value as at June 2022	Depreciated Value as at June 2022	Carbon Value	Data Reliability		
					Qty/Age reliability	**Condition**	**Performance**
$$$	Total Valuation	$1.01B	$766M				
	Property Land for legal road 6,630,000 m^2 Unformed road reserve	$262M	$262M	TBC	Reliable	Reliable	Uncertain
	Pavements and surfacing 278km of roads, (259km sealed and 19km unsealed, 91% urban) 22 roundabouts 20 Road humps	$265M	$222M	TBC	Variable reliability	Average	Variable performance
	Transport Activity 222 million vehicle kilometres travelled in 2021/22 Unknown walking and cycling trips	N/A	N/A	TBC	Good	Average	Average

[1] The valuations in this table do not represent the significant additional investment that has been made in public transport infrastructure as part of the eBus roll-out. This will be updated in the next asset valuation round.

TRANSPORT		Replacement Value as at June 2022	Depreciated Value as at June 2022	Carbon Value	Data Reliability		
					Qty/Age reliability	**Condition**	**Performance**
	Structures 98 bridges (including footbridges) 460 retaining walls comprising 34,363m2 area 12km handrails	 $45M $103M Not valued	 $25M $71M Not valued	TBC	Good	Good	Good
	Walking and Cycling 380km of footpaths, walkways, shared paths and separated cycleways 14km of on-road cycle lanes (refer pavements) Seats	$62M	$27M	TBC	Good Poor	Good Average	Average
	Car parking 6 off street car park areas 48,812m2 (1100 spaces) 2 off-site leased car parks (37 spaces) (On street parking is included in road assets)	$5.5M	$1.2M	TBC	Good	Average	Good
	Drainage 400km kerbs 65km Side drains 66km culverts and sump laterals 6,752 sumps/other drainage assets	$134M	$78M	TBC	Average Good	poor poor	Average Uncertain
	Environmental, City Centre and Unsubsidised 390km of road verges maintained for sightlines and trimming envelopes 27 street trees 251,540m^2 street gardens 2,460m^2 rain gardens 600 hanging baskets/year	No valuation	No valuation	TBC	Good	Good	Good
	Environmental 1 Stock Effluent Facility	$0.41M	$0.35M	TBC	Good	Good	Good
	Traffic Services 5,948 streetlights	$54M	$28M	TBC	Poor	Average	Average

TRANSPORT		Replacement Value as at June 2022	Depreciated Value as at June 2022	Carbon Value	Data Reliability		
					Qty/Age reliability	**Condition**	**Performance**
	Traffic Services 6,858 signs Line marking, raised pavement markers, and edge marker posts	 $6.7M $0.2M	 $3.3M $0.17M	TBC	 Good Poor	 Poor Good	 Average Average
	Total Mobility 6 service providers 1,386 registered users	N/A	N/A	TBC	n/a	Good	Good
	Public Transport 1 service provider 350,000 trips/year 67 bus shelters and 181 bus stops	N/A TBC	N/A TBC	TBC	 Good	 Average	 Average
	Operational Traffic Services 14 sets of traffic signal installations 14 traffic cameras 33 electronic and driver feedback signs 1 copper cable ring road circuit, including spare parts	$9.9M	$5.2M	TBC	Poor	Average	Good
	City Centre 19 CCTV Police security cameras (leased) Miscellaneous street furniture	 $0.12M $2.2M	 $0.02M $0.9M	TBC	Average	Average	Average

2.2 Strategic Framework

The relationship between the strategic planning documents that inform the AMP is shown in figure 2-3.

A list of further regulatory and informative controls that shape delivery of transport assets and services is given in Appendix B.

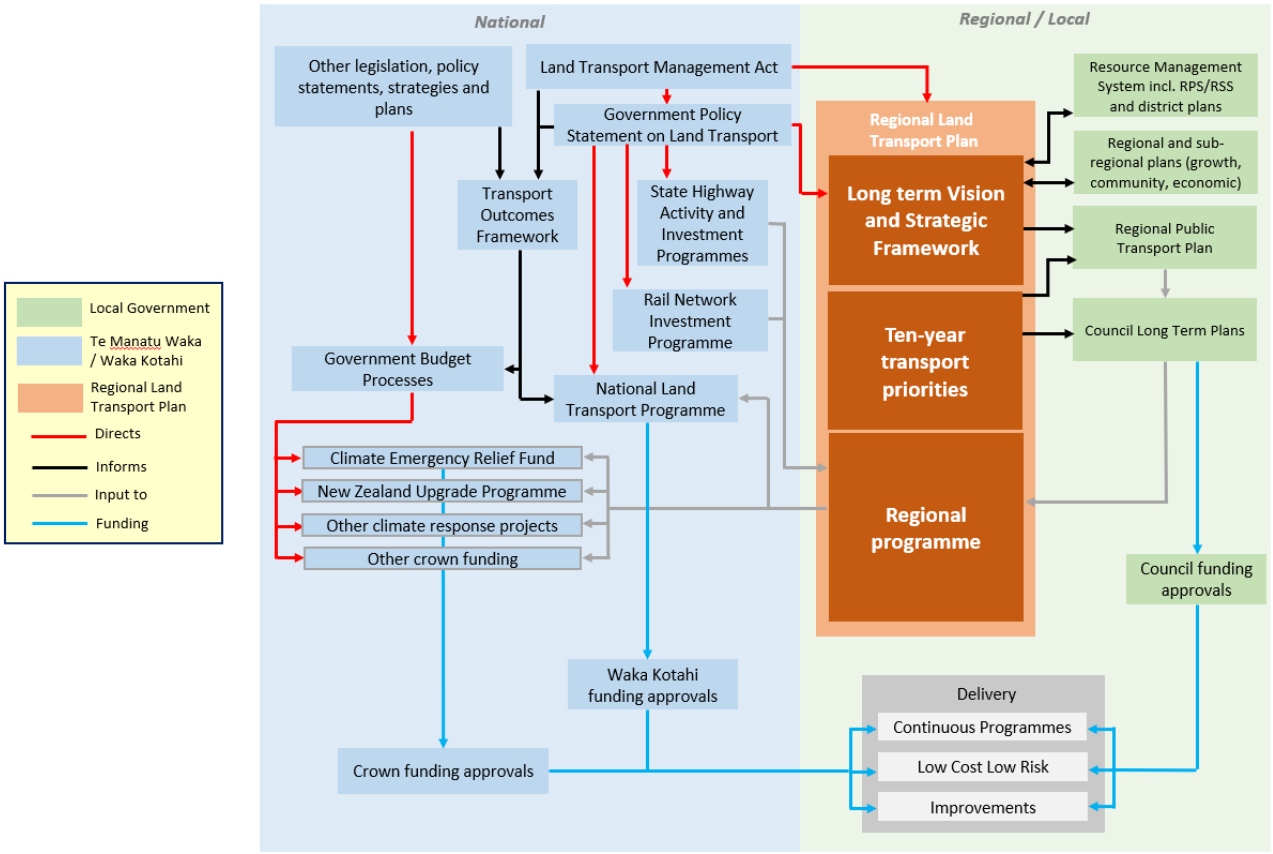


Figure 2-3: Strategic Planning Framework

2.3 Key Partners

Key partners in the preparation and implementation of this Asset Management Plan are shown in table 2-1 below. Of particular note is the developing relationship with Te Ohu Taiao iwi and progressing to incorporate Kaupapa - iwi asset management principles into future planning.

Council is developing work programmes in consultation with Tasman District Council (TDC) and NZTA for state highway works. This includes regular meetings and investment in the National Forward Works Viewer to have improved visibility of alignment opportunities and issues and a joint road safety programme. The local roads surfacing programme is delivered before and after the state highway programme for efficient use of the construction season. The transport team works closely with other teams in the Council and utility operators to coordinate programmes especially utility and parks and events.

Council collaborated closely with NZTA and TDC during the development and review of the road maintenance and electrical maintenance contracts resulting in a joint electrical maintenance contract for traffic signals maintenance across the region and transfer of Aniseed Valley maintenance responsibilities to the TDC contractors

for efficiency gains. There are ongoing discussions for joint dumpsite locations and management. The Nelson Stock Effluent facility continues to be jointly managed between Council and NZTA.

Table 2-1: Key Partners/Stakeholders

Partners	Contribution
Nelson City Council Mayor and Councillors	• Governance guidance for developing this Strategic Case • Investor in land transport system
Nelson Tasman Joint Regional Transport Committee including: • **New Zealand Transport Agency** • **Tasman District Council**	• Regional and inter-regional transport strategic and governance guidance
NZTA • Senior Investment Advisors • Road safety programme advisors • Public Transport programme advisors • Walking and cycling subject matter experts	• Investor in land transport system • Provider and operator of adjacent State Highway network and partner in Boundary Agreement • Regulator of use of the land transport system • Developers of the Nelson Future Access business case that includes a Network Operating Framework and arterial traffic modelling and planning advice.
Te Tau ihu iwi	• Partner for local government planning • Environmental • Cultural
WSP	• Iwi consultant adviser
Tasman District Council Transport Activity Management team	• Joint responsibility for delivering transport outcomes in the Nelson Tasman region • Regional network operating framework • Public transport planning and delivery
Nelson City Council Utilities	• Joint responsibility for drainage and freshwater issues • Dynamic Adaptive Policy Pathways (DAPP) • Flood protection and secondary flow paths • Alignment of forward works programmes
Nelson City Council Environment & Science team	• Joint responsibilities for freshwater and environmental outcomes • Fish passage
Nelson City Council City Development team	• Planning for intensification and urban growth, FDS • City centre spatial planning and city palette
Nelson City Council Environmental Programmes Adviser (Transport and Solid Waste)	• Reducing transport-related emissions

Nelson City Council Climate Change Champion	• Climate change adaptation and mitigation
Nelson City Council Planning	• Whakamahere Whakatū Nelson Plan development and implementation
Maintenance Contractors	• Planning and delivery of maintenance and renewal programmes • Condition reporting and advice • Maintenance Management plans
Other suppliers, contractors and consultants	• Condition assessments and advice • Condition and traffic reporting • Specialist skills and advise as required

Council has collected transport-related feedback over the past three years as part of engagement with its community through a number of methods on a broad range of issues including:

- Residents Satisfaction Surveys
- E Tu Whakatu – Active Travel Strategy
- Service requests
- Urban Greening Strategy
- DAPP – sea level rise and adaption strategies (ongoing)
- Long Term Plan and Annual Plan
- Traffic and Parking Bylaw (ongoing)
- Road Encroachment Policy (ongoing)
- Flood recovery
- City Centre Spatial Plan - Te Ara ō Whakatū
- Future Development Strategy (FDS)
- Nelson Parking Strategy and parking management Plans for Central City, Tahunanui and Stoke

This community feedback has informed both the strategic direction and the detailed interventions.

2.4 Value for Money

Council can compare expenditure for select subsidised transport activities on a national basis using the Te Ringa Maimoa Insite tools.

Our total expenditure peaked in 2021-22 as a major Low Cost Low Risk (Capital works) programme was delivered. This peak can be seen in figure 2-4 below. This was timely to injected work into the local economy struggling with the effects of Covid lock downs. A lack of staff resources however caused a drop in delivery for the remainder of the 21-24 Capital works programme. This is not ideal for the local

civil construction market who would prefer a more even distribution in order to retain staff and equipment in the region.

For Maintenance, Operations and Renewals council was spending a similar amount per kilometre of road to its peer group from 2019 to 2021. This dropped significantly in 2022 as the road maintenance contract experienced delivery issues and was subsequently retendered. This had a budget and delivery impact for the 21-24 period.

Nelson and all other councils in the peer group operate at expenditure above the national average.

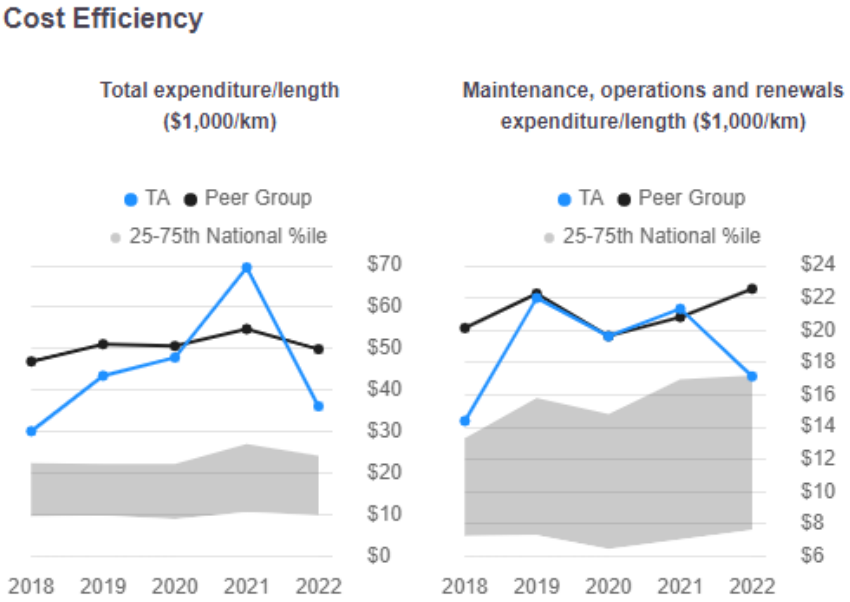


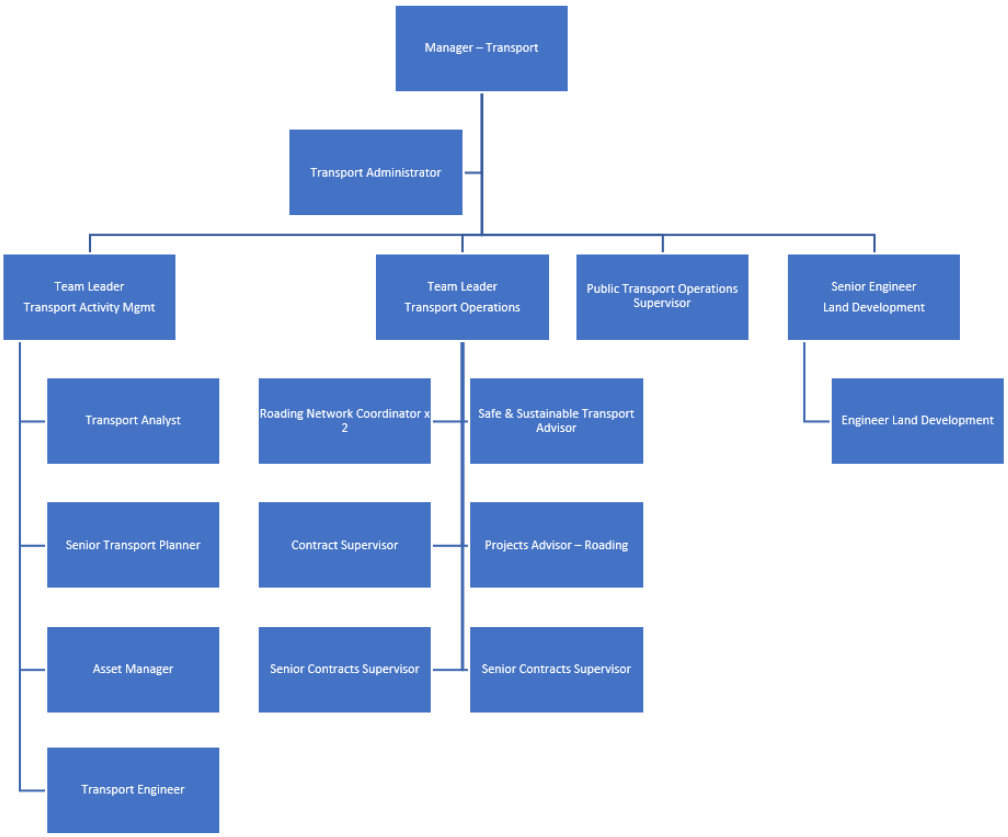
Figure 2-4 Cost Efficiency

2.5 Delivery Structure

Service Delivery is through the transport team shown in figure 2-5 below with support from capital projects, utilities, and wider council teams. Transport and Parks have reciprocal arrangements to look after Parks hard surfaces and vegetation and street trees on roads. Utilities and transport coordinate on forward work planning, flood protection, secondary flow path and drainage issues that cross road boundaries into private property. Capital projects deliver major works and low cost low risk projects.

Transport is increasingly managed across regional boundaries especially with Tasman and the local state highways teams. Many roles provide TDC services jointly with Councils service delivery. Nelson and Tasman have a joint Regional Transport Committee.

Figure 2-5: Delivery Structure



2.5.1 Professional Support

A wide range of professional services are engaged for the delivery of transport services from condition surveys and assessments, modelling, procurement advice, and investigations through to detailed design and construction supervision. Specialised services are typically directly appointed within the scope of the NZTA Procurement rules and project works are packaged and planned through the Transport Procurement Strategy prior to releasing to market.

2.5.2 Contractor Support

Service delivery is through a number of supplier contracts as listed below. All contracts will require review to realign deliverables to LOS where increased or decreased to suit LTP budgets.

Services	Contract period	Performance Monitoring
Road maintenance and renewals	2022-2027, with option to extend	Operational performance measures aligned to LOS and a governance structure. Renewal work is measure and value
Electrical maintenance	2022-2027	Operational performance measures aligned to LOS. Renewal work and new works are measure and value
Traffic surveys	2024-2029	Measure and value programme delivery

Line marking	2022-2024 with option to extend	Measure and value programme delivery
Roadside vegetation	2024-2029	Operational performance measures aligned to LOS and a governance structure
Street sweeping and sump cleaning	2024-2027	Cyclic and on call emergency response
Footpath and drainage renewals	New contract to be let for 2025-2027 period	Measure and value programme delivery
Pavement rehabilitation or strengthening	TBC	Provision to tender site specific works if required
Public transport services	2022-2032	Scheduled services

2.6 Goals and Objectives of Asset Ownership and Service Delivery

Our goal in managing assets and services is to meet the defined level of service (as amended from time to time) in the most cost-effective manner for present and future consumers. Key elements are:

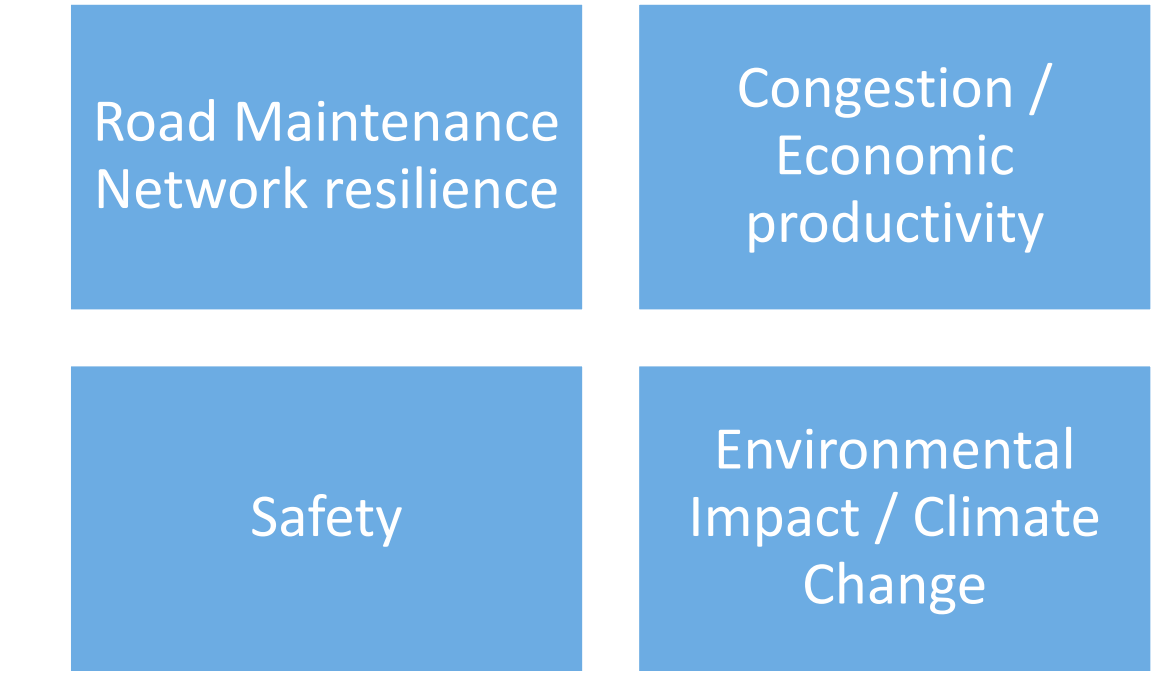
- Providing a defined level of service and monitoring performance to know if that is being achieved or when changes are required.
- Managing the impact of growth through demand management and infrastructure investment.
- Lifecycle Management to developing cost-effective strategies for the long-term.
- Identifying, assessing and appropriately controlling risks.
- Prioritising and developing value for money interventions to demand pressures and problems.
- Linking to a Long-Term Financial Plan which identifies required, affordable forecast costs and budget allocation.

Key elements of the planning framework set out in this AMP are:

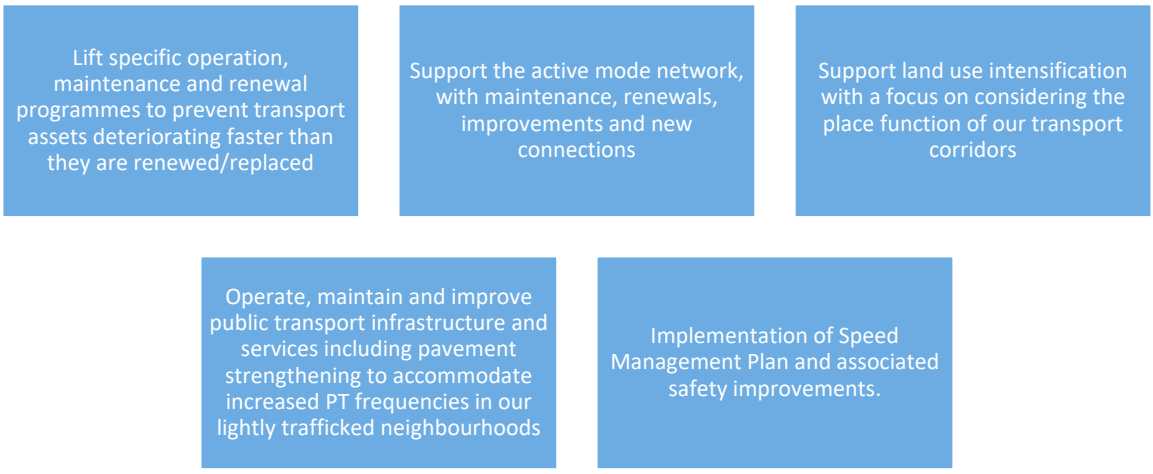
- Levels of service – specifies the services and levels of service to be provided.
- Future demand – how this will impact on future service delivery and how this is to be met.
- Lifecycle management – how to manage existing and future assets to provide defined levels of service.
- Financial summary – what funds are required to provide the defined services.
- Asset management practices – how we manage provision of the services.
- Monitoring – how the plan will be monitored to ensure objectives are met.
- Asset management improvement plan – how we increase asset management maturity.

3. STRATEGIC DIRECTION

Nelson City Council has identified four strategic problems affecting the Nelson transport system. They are:



These priorities align well with national and regional priorities which are discussed below. However, there are local and national pressures on funding and resources that will mean our response to the priorities and level of service achievement may be over a longer period of time than our community would prefer. More information on levels of service can be found in section 7. The key strategic responses to the problems are:

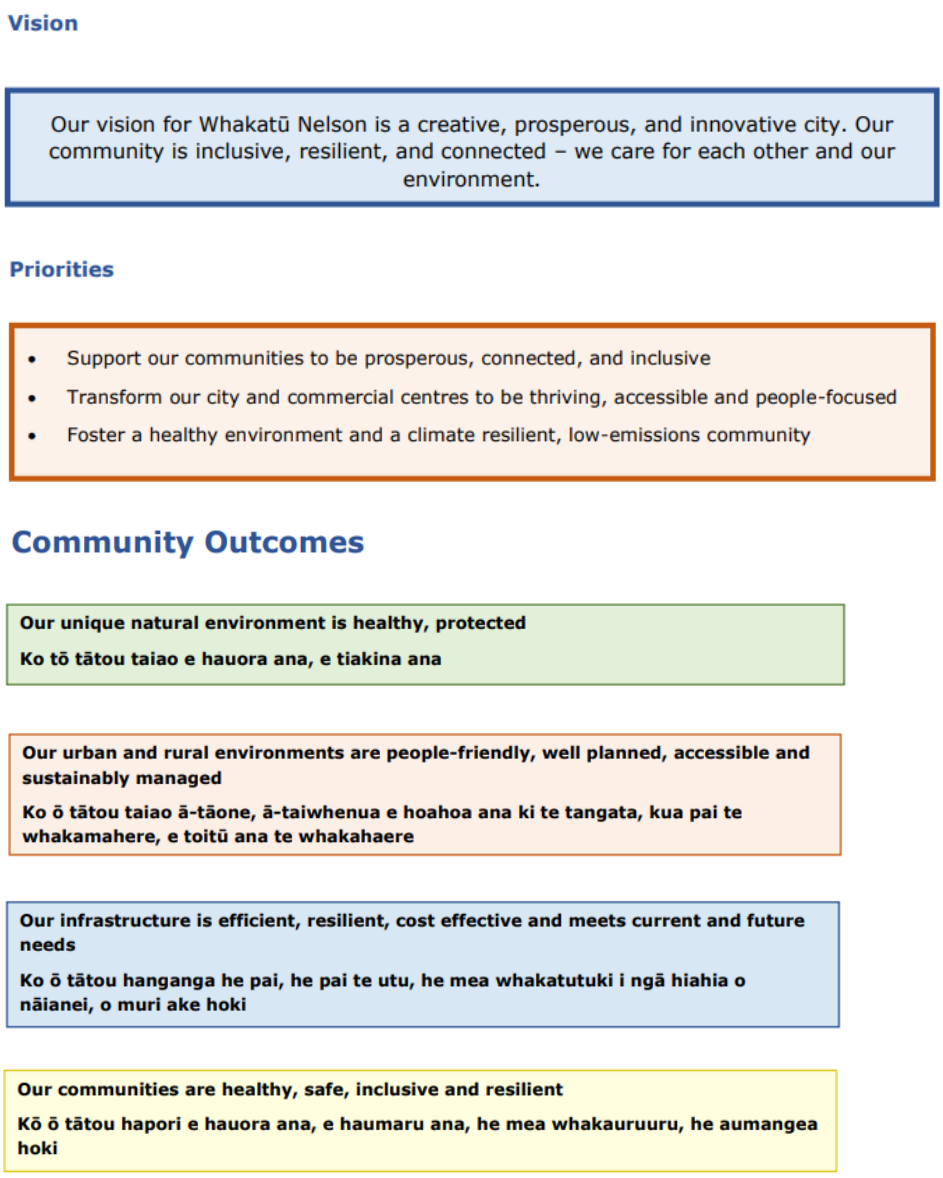


3.1 Informing Transport Strategy and Council Objectives

Council strategic drivers, values, and vision from the 2024 LTP are pictured below in figure 3-1. The community outcomes provide a long-term focus for the decisions and activities, and are a basis for accountability to the community. As such they inform transport planning activities.

The strategic priorities and responses listed above stem from:

- the Councils overarching strategic framework which is reflected in the Councils long term plan
- Regional Land Transport Plan
- Regional Public Transport Plan
- Range of other strategic policies and strategies, both regional and national which are summaries below.



Our communities have opportunities to celebrate and explore their heritage, identity and creativity

Kei ō tātou hapori ngā ara hei whakanui, hei torohē i ō rātou taonga tuku iho, tuakiri, auahatanga hoki

Our communities have access to a range of social, cultural, educational and recreational facilities and activities

E āhei ana ō tātou hapori ki te whānuitanga o ngā hanganga ā-pāpori, ā-mātauranga, ā-rēhia hoki

Our Council provides leadership and fosters partnerships, including with iwi, fosters a regional perspective, and encourages community engagement

Kei te tuku tō tātou Kaunihera i te ārahitanga, kei te whakatītina hoki i ngā ngātahitanga, i te tirohanga ā-takiwā, i te tūhononga ā-hapori hoki

Our region is supported by an innovative and sustainable economy

Kei te tautokona tō tātou rohe e tētahi ohaoha toitū, auaha hoki

Figure 3-1: 2024 LTP Strategic Direction

3.1.1 Te Tauihu Intergenerational Strategy Outcomes

Nelson has 8 iwi groups. Their joint intergenerational outcomes are shown below in figure 3-2.

Figure 3-2: Te Tauihu Intergenerational Outcomes

3.1.2 Nelson Tasman Future Development Strategy

The Nelson Tasman Future Development Strategy is a 30-year high-level strategic plan that outlines areas in our region where there is potential for future housing and business growth. The strategy also provides us with an evidence base to inform the development of this AMP, in particular target areas of future growth to ensure that supporting transport infrastructure is delivered at the right place and at the right time as development/land use change occurs.

3.1.3 Emission Reduction Plan

Transport emissions need to reduce 41% by 2035 to fully decarbonise by 2050. To reach net zero emissions by 2050, Aotearoa New Zealand's transport emissions need to fall 41 percent from 2019 levels by 2035, according to the pathway modelled by the Climate Change Commission. This is currently a formal target set by the Emission Reduction Plan. Beyond 2035, transport will need to be almost fully decarbonised by 2050 for us to meet our target.

Not meeting these targets will have unacceptably high costs and impacts. If we don't meet these 2035 targets, we will need to find ways to make more rapid and significant cuts to emissions, either by making more drastic changes to the transport system later, or by shifting the burden onto other sectors of our economy.

Council requires its maintenance contractors to monitor and report carbon footprint and encourages improvement actions. Good lifecycle planning also contributes to sustainability and minimising carbon. This is addressed in section 0 - Network and Asset Management. This is a basis for asset management practices. The forward works programme does not commit Council to traditional high carbon/high emissions practices but identifies that the asset exists and will require maintenance, renewal or improvement to sustain a LOS – where this is the desired outcome. Disposal costs, reduction in asset valuation or LOS are alternatives. Technology and options will develop with time and be accommodated in the delivery to reduce Councils emissions.

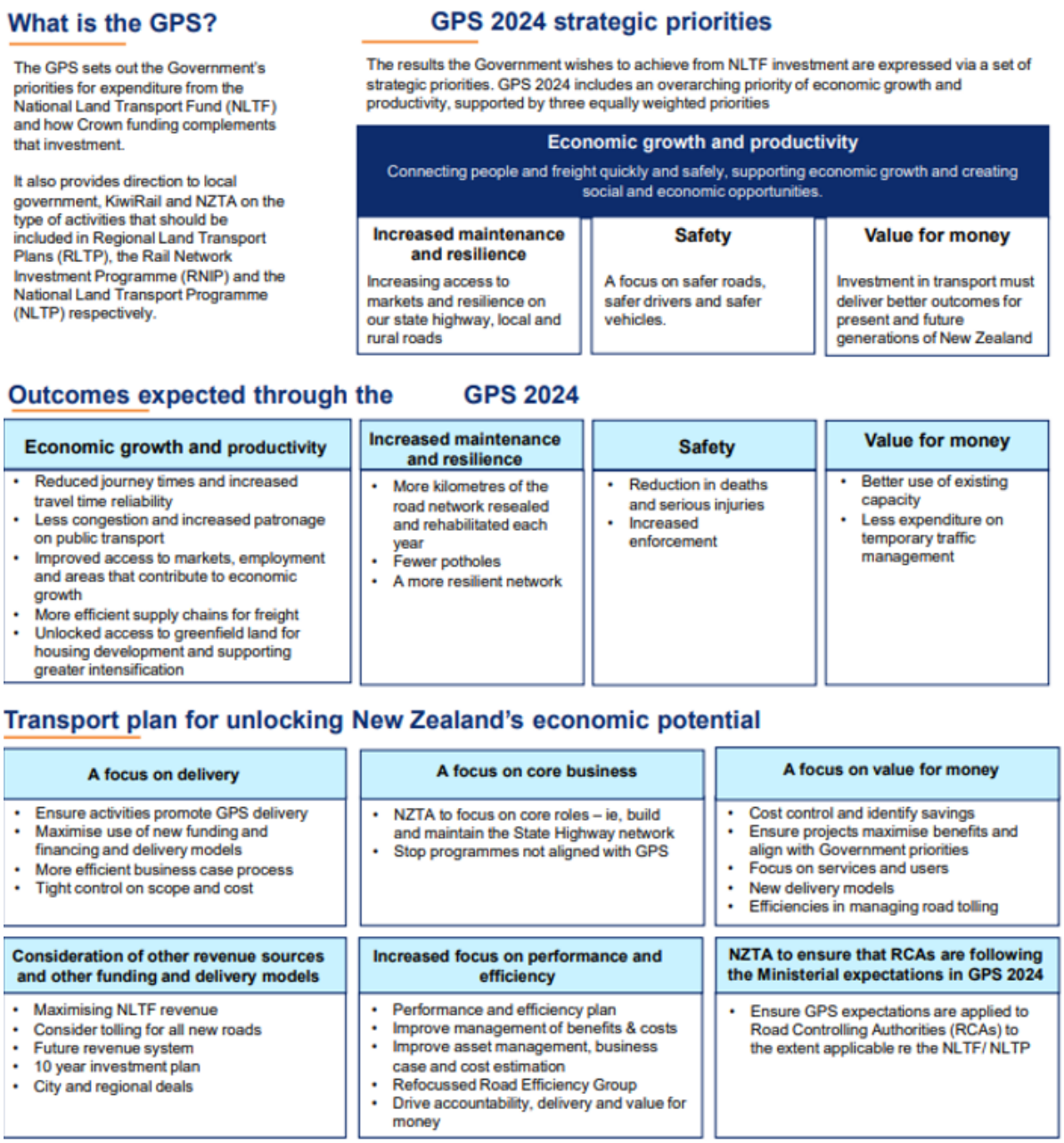
3.1.4 Land Transport Management Act

The Land Transport Management Act 2003 provides the legal framework for managing and funding land transport activities. The purpose of the LTMA is to contribute to the aim of achieving an affordable, integrated, safe, responsive and sustainable land transport system.

3.1.5 Government Policy Statement

The Government Policy Statement on Land Transport (GPS) sets the direction for how money from the National Land Transport Fund is allocated towards achieving the Government's transport priorities. The 2024 GPS has and overarching strategic priority of economic growth and productivity.

The supporting strategic priorities of increased maintenance and resilience, safety and value for money all align Councils direction. These are key factors in the maintenance, renewal and network and asset management programmes. Council is developing a strong improvement programme to deliver value for money outcomes.



Councils priorities for active transport align with the GPS 2024 focus for value for money – reduced maintenance demands, safety – reduced DSI for cyclists and vulnerable road users increased resilience and as well as economic growth and productivity. Public transport facilities give people options to travel differently for short trips freeing up road space for economically sensitive trips and improving travel time reliability in the face of population growth.

3.1.6 Regional Land Transport Plan

The Regional Land Transport Plan (RLTP) presents the priorities for the region and is prepared jointly by Nelson City Council, Tasman District Council, and NZTA (for state highways) to combine the respective Activity Management Plans into a regional focus.

The AMP priorities and RLTP priorities align.

The vision of the RLTP 2021-2031 is to have a safe and connected region that is liveable, accessible and sustainable.

3.1.7 Regional Public Transport Plan

The Regional Public Transport Plan (RPTP) presents the regional operating framework for public transport, and Total Mobility services. It is a six-year plan jointly prepared by Nelson City Council and Tasman District Council. This AMP is aligned with the RPTP.

The 2021-2031 RPTP underwent a substantial change with the inclusion of the step change in public transport service, called eBus that was delivered in 2023. The 2024-2034 RPTP is being prepared at the time of writing this Activity Management Plan and is envisaged to be only a minor update, but include a 1 year review of the new eBus service.

3.1.8 Infrastructure Strategy

The purpose of an infrastructure strategy is to identify significant infrastructure issues during the period covered by the strategy (which needs to be at least 30 years), the principal options for managing those issues, and the implications of those options.

The 4 objectives considered in the 2021 infrastructure strategy that affect the transport activity include:

- Increase resilience to natural hazards and climate change.
- Maintain, renew and upgrade existing assets in a cost-effective way.
- Provide infrastructure to enable growth and development.
- Maintain or improve public health and safety, and environmental outcomes.

3.1.9 Nelson Future Access Study

The Future Access Business Case seeks to provide a future-proofed transport system which considers the needs of all users — whether they are behind the wheel of a car or truck, on foot, going by bike, or using public transport. The Future Access Strategy is closely aligned with the Nelson Tasman Future Development Strategy which encourages a greater level of intensification rather than continuing to develop on the fringes of the urban area.

A business case was published in 2021 that has guided transport system investment proposed in this AMP for the local road network, but also includes recommendations for NZTA for State Highway 6.

The Recommended Programme, designed with stakeholders, includes investment in a range of different activities within Nelson City over the next 30 years. The programme increases the availability of attractive walking and cycling paths and public transport options close to areas of planned dense urban living, focuses on reliable journeys to support regional economic development, improves safety for everyone and makes urban neighbourhoods more liveable. Overall, the programme when compared against the status quo of no NFAP investment will:

- Have a core focus on shifting people to alternative modes to private vehicles by encouraging the uptake of walking, cycling and public transport.
- Make it easier for people to choose to ride a bike, walk or catch PT. We estimate we can shift 6-8% from private vehicle trips to other lower carbon and healthier modes by 2048.
- (NZTA) Bring forward the replacement of the seawall along Rocks Road in order to provide for the active mode corridor which has secondary benefits of reducing the risks of climate change sea level rise and improving resilience of this key freight route to the Port.
- (NZTA with some contribution expected from Council) Significantly improve the amenity of the waterfront along SH6 Rocks Road by widening for walking and cycling. Heritage and cultural values will also be respected through the design of the upgraded facilities, and the appeal of the waterfront will be enhanced for active mode users recognising its place as an outstanding landscape.
- Reduce greenhouse gas emissions by reducing private vehicle use. Our modelling based on existing behaviours has forecast a 12% daily reduction in CO2 in the first ten years increasing to 16% by 2048. Changing behaviours outside of the modelling provides an opportunity to further achieve a much greater CO2 reduction potential.
- Prioritise buses through the use of priority lanes to maintain a 40 minute journey time between Richmond and Nelson into the future. This builds on the shorter-term investment in Public Transport Services as outlined in the NCC Regional Public Transport Plan. This plan reduces fares, increases frequency and the number of people living within 500 metres of a bus stop.
- Increase the overall accessibility between residential suburbs with the CBD, hospital campus, schools and the waterfront with the completion of the key walking and cycling networks. This includes 12.5km of new cycle paths plus improvements to 6.5km of existing cycle facilities plus many new and improved crossing points using refuges and signals to facilitate easier and safer crossing.
- Increasing CBD amenity and safety by reducing the number of private vehicles entering, moving and parking close to the city centre during the commuter peaks.
- Provide a strong focus on integrating land use and the transport system to provide high-quality transport choices and a liveable city.
- Address safety issues on the network by targeting the high safety risk routes on the two key arterials for all modes to achieve a significant reduction in crashes resulting in death and serious injuries. This includes addressing perceived safety risks as this is just as important as safety performance.
- Make travel times for general traffic on SH6 and Waimea Road slower in the order of 1-3 minutes but more reliable. These increases can be largely attributed to the additional delay incurred by new traffic signals for through traffic, however those signals will enable people to cross and access the arterials easier and safer.

The recommended programme of investment has a BCR of 1.6. The majority of the economic benefits for the recommended programme are derived from vehicle and public transport travel time savings across the network (64%) followed by the health benefits from increased uptake in active mode trips (21%). Delivery of NFAS is expected through the Minor works (LCLR) programme and stand alone projects over $2M. Minor works projects would be prioritised along with all other network demands across the city for funding and delivery. Projects over $2M require further business case development to determine scope, timing, criticality and budget.

Delivered in Stages Implementation of the programme has been sequenced to match the increasing transport demand and assist with value for money as follows:

- **Near-term (Years 0-3)** - The near-term programme focusses on optimisation improvements to improve efficiency, connectivity and safety on the network. Near term activities have a high priority with a lower cost and complexity for delivery. Further reductions can be expected through the adoption of new technologies such as EV's, and social changes such as technology that promotes remote working reducing travel demand.
- **Short -term (Years 4 -10)** - The short -term activities further embed optimisation improvements on the network with a focus on active mode provision to capitalise on the significant number of short journeys within the study area that could be shifted to alternative modes.
- **Medium to Long -term (Years 11 -30)** - The medium to long term programme focuses on improving the efficiency of public transport journeys across the network including the provision of priority lanes in select locations on the two arterial routes, and continued investment to provide for active mode trips.

The network will be monitored, and the programme has flexibility to be sequenced overtime should the growth assumptions, transport demand or funding constraints or opportunities change significantly.

In refining the proposal significant risks posed by consenting in the coastal marine area, the degree of uncertainty in relation to sea level rise and earthquakes in the long term (beyond 2050) were considered. The project scope excluded considerations beyond 2050 for the current State Highway 6 corridor between Tāhunanui and QEII Drive. These three risks support the retention of the Inland Route as a 'Transport Corridor' in the long term. Accordingly, included in the Recommended Programme is retention of the Inland Route. The Inland Route is the future long term resilience option. It would be considered only after the network is optimised and the priority lane work is completed, and associated land use, parking and transport price tension has been applied. The programme is shown graphically on maps at this link.

3.1.10 E Tū Whakatū - Nelson's Active Travel Strategy 2022 - 2032

Creating a sustainable transport culture is a key priority in Nelson City Council's 2021-31 Long Term Plan, written after Council declared a Climate Emergency in 2019. Encouraging people to walk, cycle or use public transport is one of the keyways in which we can reduce the greenhouse gas emissions associated with transport. E Tū Whakatū - Nelson's Active Travel Strategy is part of a suite of

transport and planning strategies that aim to support the zero carbon emissions by 2050 target.

E Tū Whakatū – Active Nelson focuses on providing the framework and guidance to change the way we travel. It includes a programme of investment in walking and cycling over the next 10-15 years, that will change the way we travel so it is more sustainable, reducing carbon emissions and private car use and has been used to inform the programming of this AMP.

3.1.11 Te Ara ō Whakatū – Nelson City Centre Spatial Plan

Te Ara ō Whakatū - the pathway for Whakatū Nelson – is a guide to moving our city centre and fringe further on its journey to becoming a people-first place, full of dynamic activity and spaces people want to be. Te Ara ō Whakatū identifies eight actions which bring together our culture, environment, streets, precincts, developments, places and links into one framework.

3.1.12 Arataki

Arataki is NZTA's long term strategic view of transport in New Zealand, including Nelson. It particularly informs NZTA investment in the state highway network and may be used to inform the National Land Transport Fund (NLTF) investment in the local network. Arataki is available here:

The regional, Te Tauihu – Top of the South direction from Arataki is summarised here:

The Te Tauihu – Top of the South focus areas from Arataki the most important issues to be resolved over the next 10 years to make progress towards transport outcomes are:

- Apply a multi-outcome approach to the delivery of programmes and planning. This includes principles such as fairness, equity, safety, and light vehicle kilometre reduction.
- Begin to reduce vehicle kilometres travelled (VKT) in a way that's fair, equitable, and improves quality of life.
- Enable and support the region's transition to a low-carbon economy.
- Maintain and improve the resilience and efficiency of interregional connections to the North Island and to the west and east coasts.
- Improve access to social and economic opportunities, especially by public transport, walking, and cycling.
- Significantly reduce the harm caused by the region's transport system, especially through improved road safety and reduced pollutants that are dangerous to people's health.
- Actively support, enable, and encourage growth and development in areas that already have good travel choices and shorter average trip lengths.

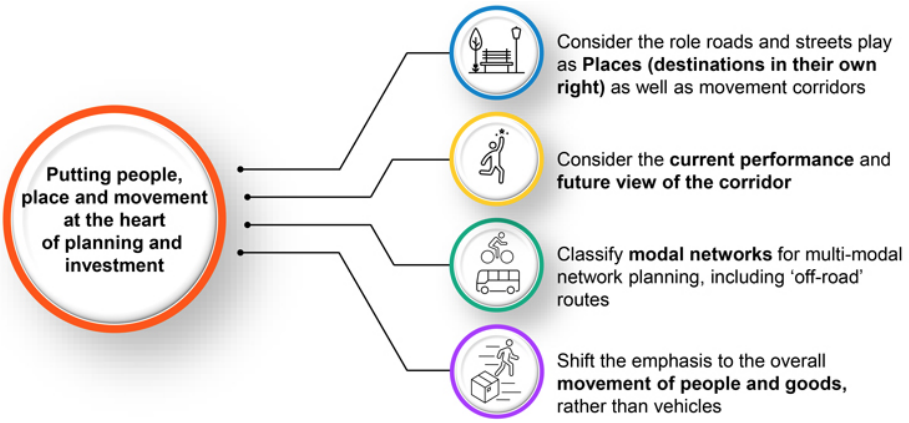
- Rapidly accelerate the delivery of walking and cycling networks, predominantly through reshaping existing streets, to make these options safe and attractive.
- Explore the potential for new and emerging technologies, such as on-demand services, to improve access to social and economic opportunities.
- Better understand the impact of future economic transformation on travel patterns and freight volumes.
- Explore opportunities to move to a more multimodal freight system with greater use of rail and coastal shipping.
- Confirm how key resilience risks will be addressed over time, and work with communities to identify plans for when to defend, accommodate, or retreat.
- Continue to implement road safety plans and programmes including those focused for iwi Māori.
- Improve or maintain, as appropriate, physical access to marae, papakāinga, wāhi tapu, and wāhi taonga.

3.1.13 One Network Framework

Traditionally, roads and streets are considered as movement corridors only to get us from A to B.

Many of our roads are constrained by existing infrastructure, we need to consider how these roads can meet growing demand. A new national approach to classify our transport networks has been created that enables better design, planning and delivery of a modern transport system to meets the increasing needs of people, businesses, communities and our climate. The One Network Framework (ONF) recognises that streets not only keep people and goods moving, but they're also places for people to live, work and enjoy. The ONF is designed to contribute to improving road safety and build more vibrant and liveable communities.

As Nelson grows and its land use intensifies getting the balance right between movement and place will become increasingly more important. Movement and Place has many uses at the strategic network planning and development level, as well as at the detailed project level. It marries network-wide and local considerations. At its heart, the ONF organises transport links by their place and movement roles into road and street types. The ONF is a tool to help establish maintenance priorities, service delivery, network function, performance measures, operating gaps and potential interventions for each road and street type. This is illustrated in the high level graphic below.



Councils progress in adopting the One Network Framework is in its infancy. This is addressed in section 0. More information can be found in appendix C and at the following link.

3.1.14 Nelson-Tasman Lifelines Vulnerability Study, 2016

The lifelines vulnerability study compiled by the Nelson-Tasman Lifelines Group provides a summary of information on the vulnerability of Nelson and Tasman's critical lifelines infrastructure to hazards, including those resulting from events such as earthquake and flooding through to hazards resulting from the increasing interdependence of all infrastructure services. Infrastructure vulnerability can lead to substantial community impacts with recent experiences during the 2011, 2013, and recent Aug 2022 floods and slips providing ample evidence of this.

The lifelines study is due for review in the 2024-27 period.

3.1.15 National Policy Statement on Freshwater

Transport assets need to be maintained with consideration of the National Policy Statement on Freshwater and Councils resource management plan. Fish passage facilities have been added to many culverts where waterways cross under roads, but recent floods and lack of maintenance mean these are now in poor condition. A stocktake of facilities and condition and maintenance requirements is required to create and sustain a programme to retain compliance with the act.

3.1.16 Waste Minimisation Act

Waste minimisation charges will be passed onto operators and ultimately the council. These are increasing the minimum cost of providing base maintentance, renewal and construction activities on the network.

3.1.17 Resource Management Act (RMA)

Council has obligations to manage the transport system within the requirements of the RMA and holds consents where specific conditions are required. These are listed in section 9.1.5.

3.1.18 Legislative Requirements

The key pieces of legislation are listed below in Table 3-4: Legislation that influences Transportation along with how it relates to the Councils transportation activity. For the latest Act information, refer to http://www.legislation.govt.nz/

Table 3-4: Legislation that influences Transportation

Legislation	How it relates to Transportation Activity
Local Government Act 2002	The Local Government Act requires local authorities to prepare a ten-year Long Term Plan and 30-year Infrastructure Strategy, which are to be reviewed every three years. The Act requires local authorities to be rigorous in their decision-making by identifying all practicable options and assessing those options by considering the benefits and costs in terms of the present and future well-being of the community. This activity management plan provides information to support the decisions considered in the Long Term Plan
Land Transport Management Act 2003	Defines how transportation is organised in New Zealand. This includes: • Planning and funding of the land transport system; • Strategic documents; • National transport agency; • Regional transport committees; Specifically, the funding of the Tasman local road network by NZTA is defined by this Act.
Land Transport Act 1998	This Act defines the types of transportation that can be undertaken on the Tasman road network and how the system is licensed and administered.
Public Transport Management Act 2008	This Act defines how public transport is administered, planned, funded and procured by regions throughout New Zealand. Tasman as a unitary the Council is required to undertake this work.
Resource Management Act 1991	Sets out obligations to protect New Zealand's natural resources such as land, air, water, plants, ecology, and stream health. Resource consents draw their legal authority from the Resource Management Act 1991. Transportation has a large impact on the District and work requires Resource Consents from time to time.
Building Act 2004	This Act is fundamental in the development and management of the transportation structures such as retaining walls and bridges.

Legislation	How it relates to Transportation Activity
Public Works Act 1981	The Public Works Act provides the statutory authority to acquire and secure land for transport infrastructure.
Health and Safety in Employment Act 1992 & 2015	Health and Safety legislation requires that staff and contractors are kept safe at work. There is onus on principal to ensure that contractors are undertaking work in a safe manner.
Utilities Access Act 2010	The processes and rules for coordinating work done in transport corridors by utility operators, or that affects utility operators' assets.
Land Drainage Act 1908	Transportation is an owner of significant length of the drainage network. Some of which is located on the road reserve and is part of the larger drainage network and some of which is specifically to keep the road free of surface water. This act outlines the responsibilities as land owners and the local authority for drainage.
Te Tiriti o Waitangi – Treaty of Waitangi	The Treaty of Waitangi is an agreement between Māori and the Crown. Under Section 4 of the Local Government Act 2002 local authorities are required to 'recognise and respect the Crown's responsibility to take appropriate account of the principles of the Treaty of Waitangi and to maintain and improve opportunities for Māori to contribute to local government decision-making processes'. Further sections of the Act, particularly 77 and 81, detail the scale of requirement for local authorities to seek contributions and involvement from Māori in consultation and decision-making processes.

3.1.19 National Planning, Policies, Strategies, Standards and Guidelines

Along with legislation, there are a number of other important documents that influence the Councils transportation activities. These are listed below in **Table 3-5: National influences on Transportation** along with how it relates to the Councils transportation activity.

Table 3-5: National influences on Transportation

Document	How it relates to Transportation Activity
Government Policy Statement on Land Transport	The Ministry of Transport triennial policy statement details the Governments land transport priorities. These priorities are used to assess programmes of work that are put into the National Land Transport Plan. Tasman's transport programmes seeking funding.
One Network Road Classification (ONRC) and One Network Framework (ONF)	NZTA's ONRC is a system for measuring and classifying the condition of New Zealand's roads. ONF builds on this by adding a place function. Both have been jointly developed by the NZTA and Local Government New Zealand (LGNZ) as a tool for moving to a consistent Level of Service experience by customers as they travel throughout the country and integrating land use planning with the transport network.
NZTA Specifications, Rules, Policies an Guidelines	NZTA specifications, rules, polices and guidelines are embedded in the management of the transportation assets at the Council.
Austroads Guidelines and Manuals	The Council uses Austroads guidelines and manuals to guide best practice in design and specification of works in the District. It is extensively used by contractors in work undertaken for the Council.
NZTA safety intervention guidelines	NZTA guides are Council's in programmes and initiatives around safety improvements.
National Policy Statement on Urban Development	The National Policy Statement on Urban Design requires the Councils to remove car-parking minimums from planning documents. This means that there may be more pressure on existing parking.

3.1.20 What else is Council doing?

How Council delivers its services will play a key role in meeting emissions reduction targets and building community resilience.

Acknowledging the need for urgent action, Council declared a climate emergency in May 2019. Council adopted Te Mahere Mahi a te Āhuarangi Climate Action Plan in 2021, a living document which outlines what Council is doing to address climate change over the next decade. In 2022, Council also began developing a Climate Change Strategy, which will set the long-term direction and guide Council and community investment in climate action.

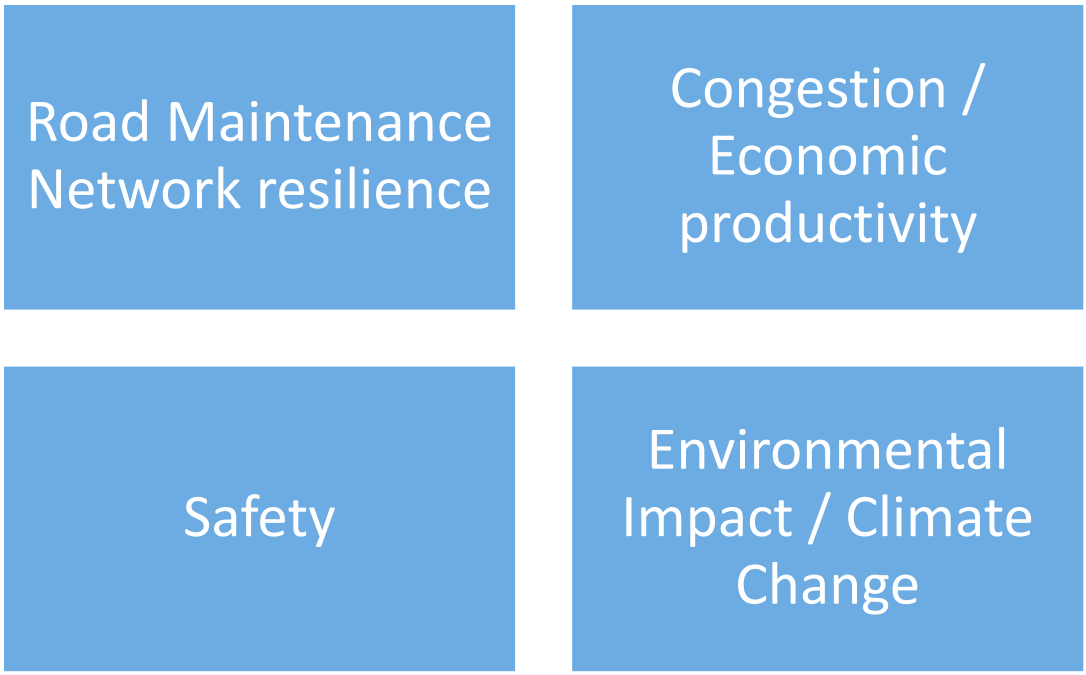
Council is working with Tasman District Council on a regional climate change risk assessment, which will build a comprehensive picture of how climate change will impact the region.

4. WHAT ARE OUR PROBLEMS

Nelson City Council is facing a range of challenges in achieving our desired levels of service. Existing and future demand is increasing due to:

- Climate change and frequency and intensity storm events
- Changing urban form and spread
- Regulatory costs, eg new waste disposal costs
- Labour market cost increases
- Congestion changing how and when works can be done to minimise negative effects on customers
- Traffic management and safety management focus for workers and public
- Aging population
- Aging infrastructure

Our 4 key strategic priorities have informed our problem statements.



4.1 Strategic Alignment

Problem statements are assessed against the national, regional and local priorities. Alignment between the problem statements and priorities is shown in table 4-2 below.

Table 4-1:

	Environmental Impact / Climate Change	**Congestion / Economic**	**Safety**	**Network Resilience / Road Maintenance**
National Priority	Carbon Zero Act Emissions reduction plan	2024 GPS	2024 GPS	2024 GPS
Regional Priority	Arataki RLTP RPTP	RLTP RPTP	Arataki RLTP RPTP	Arataki RLTP RPTP Nelson-Tasman Lifelines Report
Local Priority	2024-34 LTP Priority E Tū Whakatū - Nelson's Active Travel Strategy Nelson Future Access	2024-34 LTP Priority E Tū Whakatū - Nelson's Active Travel Strategy Nelson Future Access	Communities at Risk Register 2024-2034 Community Outcomes E Tū Whakatū - Nelson's Active Travel Strategy Nelson Future Access	2024-2034 Community Outcomes Nelson Future Access

4.2 Network Resilience and Road Maintenance

Problem statement: Network layout (single access routes and vulnerable topography) coupled with historical under investment in maintenance and renewals is resulting in network vulnerabilities and high maintenance costs.

4.2.1 Drivers of Change - Road Maintenance

The costs associated with operating and maintaining the transport network have come under increased pressure. Changes include:

Traffic management

- Detours and road closures during storms, planned works and unplanned emergency events that force heavy commercial traffic onto roads that don't have the pavement construction to accommodate it resulting in unplanned repairs,
- Main Road Stoke and Waimea Road are increasingly being viewed as detours for state highway closures with associated traffic congestion and heavy traffic loading pressures on pavements and bridges,
- More work at night to minimise disruption (economic impacts and congestion mitigation) but results in different materials needing to be used eg AC rather than chipseal due to low overnight temperatures,
- Road closures to facilitate maintenance due to lack of safety zones especially in our narrow hillside areas with an associated increase the level of traffic management infrastructure and community communications required.
- Historic use of planted islands and berms now requiring extensive traffic management to maintain worker safety zones

CPI

- The civil construction cost indices are tracking above the rate of inflation,

- Waste disposal rules are driving the need to dump material at landfill and incur fees not previously experienced in order of $250/tonne of waste

- New disposal cost levies from Central Government are being incurred $10/tonne of waste material

Pavements and surfacing

- The new eBus service is placing heavy loads on roads where light vehicles have previously permitted minimal pavement strength, including the arterial network.

- Heavy traffic and highway detours on saturated pavements after the 2022 storm event caused rapid deterioration of previously satisfactory pavements. The failures are not showing in the condition assessments for the AMP because it has been too rapid. The 2024 assessments will collect this data.

- Pavement failures especially in the shoulders at bus stops are an emerging problem that will require investment to continue to operate the service.

Consent Compliance

- Increased focus on freshwater management and noise

Network Growth

- Growth of the network requires more operating budget across the entire activity including management, inspections, maintenance, operating and renewal costs.

LoS

- The ongoing demand for higher LoS from our community creates a tension between expectation and affordability for Council.

- One Network Framework (ONF) differential levels of service are yet to be developed for the network

- Recovery works from the 2022 flood events ongoing into the 24-27 period.

- There are 15km of unsealed roads. These are at the extremes of the network with long travel times between sites resulting in high operating costs to maintain the unsealed network.

- Aging traffic signals and streetlights are requiring additional maintenance and electrical compliance inspections to retain safety and LOS.

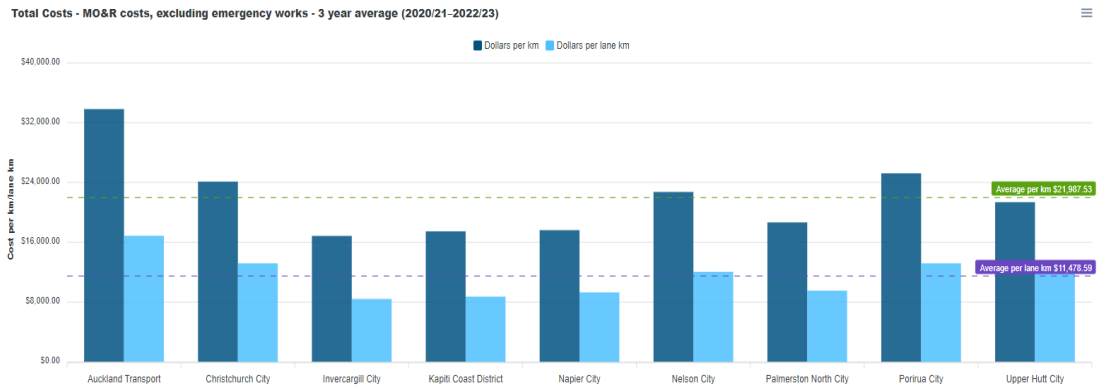
Structures

- Nelson has a steep and hilly topography. Council recognises 460 retaining walls (34,363m2 area) as transport assets. These are aging and are vulnerable to slips and land movement around the structure as occurred in the 2022 event.

- There are an estimated 2000 private walls on road reserve. Many are becoming old with associated declining condition. This is a growing risk problem for Council.

- Trafalgar Street Bridge and Poleford Bridge require extensive maintenance to protect these structures.

- As shown below the maintenance, operation and renewal costs for the Nelson network are above the peer group average compared by Te Ringa Maimoa. However, Nelson is in the <90% urban peer group but has >90% urban network with associated infrastructure operating demands and costs. Understanding the costs and monitoring delivery is a factor in delivering value for money outcomes.



Maintenance Operation and Renewal Peer Group Cost Comparisons 21-23

Improved asset data and condition monitoring have highlighted the historic deficiencies in condition assessment, performance monitoring, maintenance and renewals. For example: Improved data is allowing modelling of pavement and surfacing to improve forward works planning and monitoring. This is discussed further in the respective lifecycle programmes.

4.2.2 Drivers of Change – Network Resilience

Nelson's central city area is bounded by the sea and low foothills. The Maitai River, Brook Stream and York Stream flow through this area. Substantial parts of the city are built on land reclaimed from the sea and historical foreshore. Because of the close proximity of the Nelson foothills and the encroachment of development on the flood plains and riparian margins, the stream and river catchments are relatively short, narrow and steep leading to rapid storm water runoff and a risk of flash flooding in higher intensity rain events. Extreme weather events can also cause storm surges and rock fall along Rocks Road (SH6) leading to occasional road closures putting significant pressure on the local road network as a detour route.

Much of Nelson's coastal communities including the Central City area, Tāhunanui and Airport is currently susceptible to inundation and will be affected by sea level rise in the future. Most of the community's critical economic infrastructure is located within the coastal environment, including arterial road links, the Port and Airport, and potentially exposed to the effects of climate change.

Earthquakes are a major contributor to the high impact low occurrence risk to resilience. The Flaxmore fault is located along the base of the Grampians, a group

of hills rising steeply behind central Nelson and the Alpine Fault, overdue to rupture, whilst not close to Nelson will have national level impacts including on our Nelson community.

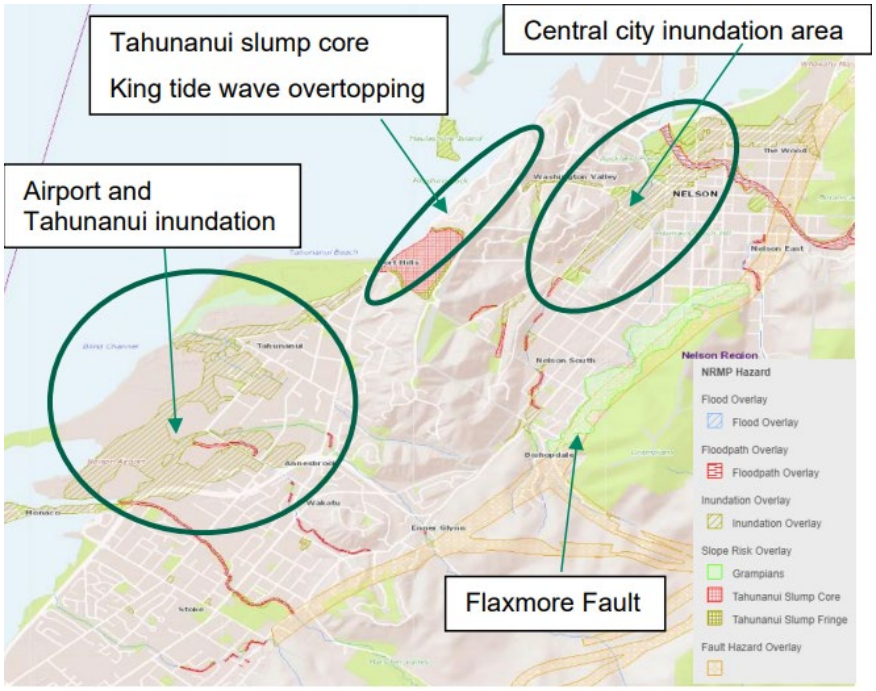


Figure 4-1: Environmental Context (Source NRMP)

The Nelson transport system will need to adapt to climate change. The 2022 storm event proved the biggest challenges are flooding of low lying areas, slips on hillsides, river erosion and responding to heavy rain events whist also keeping the city moving.

Increasingly frequent storms and associated damage to the fragile road network are costly and disruptive to the transport system, including response vehicles during a storm event with damage done and subsequent pavement damage from heavy traffic on saturated roads. Trucks and machinery involved in the clean up of slip material have contributed to damage on The Glen Road and Atawhai Drive. Events are expected to increase in frequency and severity.

4.2.3 Causes and Consequences

The table below shows some of the causes of the problems and the drivers of change. We have also identified what the consequences might be if the problem is not addressed.

Cause	Consequence
Road pavement condition is deteriorating as a result of past under investment and increased traffic demand from heavy vehicles and electric vehicles and temporary traffic management detours of vehicles onto local roads that are not designed for heavy loadings.	Risk of significant pavement failure is increasing. Maintenance costs are increasing. Roads are getting rougher and more cracked allowing water into the pavements. Higher design standards required for regional and arterial roads increase the costs of reinstatement works. A significant future investment is required to maintain a steady state. Refer pavement programme.

Lack of arterial route redundancy during unplanned and planned events. Regional roads only have the state highway as an alternative route if closed. Valley and rural roads are single point of entry.	High temporary traffic management costs and different methodologies to undertake any works and significant network disruption resulting in loss productivity and inconvenience.
Climate change and sea level rise is causing more sever and increasing frequency weather events that damage the transport network	Network disruption resulting in loss productivity, inconvenience and costs to restore the network. The 2022 flood events caused $20M of damage to the road network. Flood recovery work is ongoing into the 2024-27 period.
Asphalt surfaces are built on poor subgrades and insufficient pavement for the increasing traffic and vehicle loadings.	Premature failure of asphalt surfaces and high risk to resurface without strengthening or rehabilitation of the pavement structure. Surfaces are lasting less than 10 years. Refer pavement programme.
Lifeline infrastructure at the ends of network. Rural communities. Refer Lifelines reports.	High demand for maintenance and resilience on low volume and unsealed roads. Water supply dam and treatment plans in Maitai and Brook Valleys
Aging assets	Bridges require increased maintenance due to age. Poleford Bridge, Trafalgar Street Bridge and Poorman Stream Bridge have major maintenance demands to retain LOS in the 2024 – 27 period. Old roads built by sidling fills are vulnerable to slipping, eg Konini Street
$250/tonne Landfill costs and new $10/tonne Waste Minimisation Levy	Less measurable work done as budgets are consumed by dump fees
Culverted freshwater streams under roads have been vested to transport from utilities.	Condition assessments required to determine risk for traffic loadings which have not previously been forecast. New maintenance demands are a further consequence risk.
Old culverts are undersized for predicted storm event intensity and poor secondary flow path options. Culvert capacity and flood risk is generally unknown.	This was evident at Glen Creek, Little Todd Valley, Cable Bay, Glen Road and Tamaki Steps during the 2022 flood event resulting in road closures, debris clean up, blocked culverts, damaged roads.
New rock protection, catch fences and retaining walls added as a result of 2022 flood recovery works.	New assets to maintain.
More complex infrastructure and higher expectations of response to storm events.	Increasing costs to respond to and recover from events.
No designated disposal sites for spoil material from slips and storm damage.	High cartage costs to suitable landfills, Potential double handling and temporary stockpile sites required. Opportunity to investigate waste minimisation and reuse options.

4.3 Congestion / Economic Productivity

Problem statement: Population and business growth is causing congestion resulting in increased travel time and lost economic and social opportunities.

4.3.1 Drivers of Change

Two key demand drivers for transport are the size of the population and the economic activity within the region. For Nelson population is increasing although that increase is forecast to slow and economic activity as measured by GDP is trending up broadly consistent with the national rate. Details are discussed below.

Future Land Use and Development

The Nelson/Tasman region is growing. To accommodate that growth a Future Development Strategy outlines a strategy of consolidated growth. A key component of the strategy is prioritising a broad level of intensification within our existing urban areas, particularly in Nelson. This intensification will take many forms and will range from small-scale infill e.g. minor units/ additional units on an existing site or within existing buildings, to attached housing developments in existing neighbourhoods, and more comprehensive apartment developments on larger sites within and close to centres and corridors.

With both areas acting as a single market, it is essential that any strategic transport work be coordinated with TDC and NZTA as adjoining road controlling authorities. This is currently achieved through having a joint Regional Land Transport Plan.

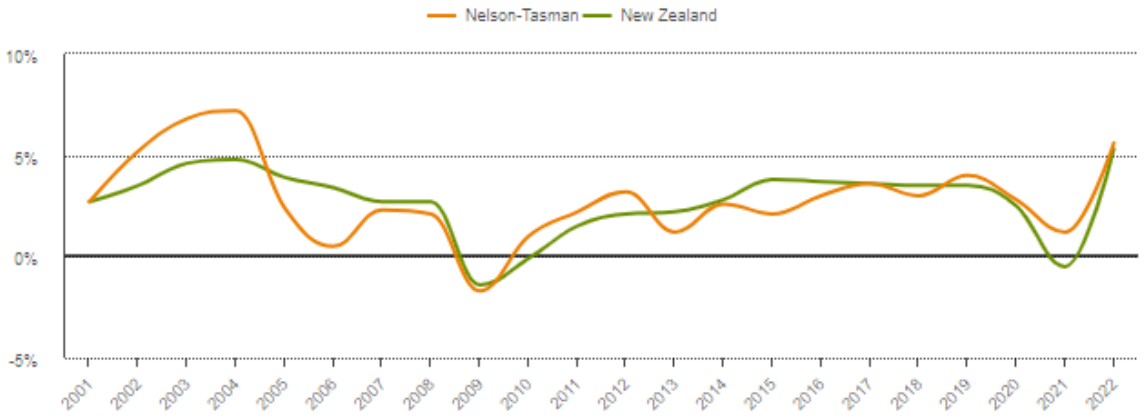
Demographic Change

Nelson currently has an estimated population of 54,500 people. This is an increase of 3.6% since 2018, and forecasts indicate ongoing population growth over the next 30 years with the rate of growth slowing over time. Under the medium variant, which Council is using for planning, the population is projected to increase 27.8% from its estimated base of 52,660 in 2018 to 67,308 in 2058.

The key demographic assumptions affecting future demand are:

- Ongoing population growth over the next 30 years with the rate of growth slowing over time.
- An ageing population, with population increases in residents aged 65 years and over. The older population are over represented in Nelsons crash statistics.
- A decline in average household size, mainly due to the ageing population with an increasing number of people at older ages who are more likely to live in a one or two person household.

GDP, figure 4-2, an indicator for travel demand, shows Nelson-Tasman in the year to March 2022 was 5.6% up from a year earlier. New Zealand's GDP increased by 5.3% over the same period. Economic growth in Nelson-Tasman averaged 2.9%pa over the last 10 years compared with an average of 3.0%pa in the national economy as shown in the graph below. Annual Average GDP growth, 2001-2022 – Nelson Tasman



Change	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Nelson-Tasman	2.1%	-1.7%	1.0%	2.2%	3.2%	1.2%	2.6%	2.1%	3.0%	3.6%	3.0%	4.0%	2.8%	1.2%	5.6%
New Zealand	2.7%	-1.4%	-0.1%	1.5%	2.1%	2.2%	2.8%	3.8%	3.7%	3.6%	3.5%	3.5%	2.5%	-0.5%	5.3%

Figure 4-2 GDP trend

The Nelson Future Access project undertook extensive modelling of the transport system to understand the level of congestion over time. It found that without any significant transport system change:

- The journey time analyses suggest that the major north south arterials, including both Rocks Road and Waimea Road, will be over capacity during the PM peak period by 2048 with travel times more than doubling.
- Averaged over the three peak hours modelled (AM, Inter, and PM peak) the total growth in travel demand is forecast to increase by 17% by 2028 and 51% by 2048;
- The growth in travel demand results in a similar growth in total network vehicle kilometres travelled as individual trip distances are not forecast to increase significantly. The total travel time expressed in vehicle-hours travelled is,

however, forecast to increase more rapidly than the distance travelled as the links in the network become more congested in the future.

- The modelling also found that census data and traffic modelling shows 60% of trips in the study area are local, 5km or less.

Rutherford Street was closed for utility upgrades during the 2022 flood events. Similar closures are planned for Haven Road, Halifax Street, Washington Road which create a risk for traffic impacts especially when detours and arterial traffic are affected due to the lack of redundancy in the network. This is in addition to the Nelson Future Access project forecasts.

Population and business growth is causing congestion resulting in increased travel time and lost economic and social opportunities. This is particularly problematic for Nelson where the local network has only 1 local road alternative parallel to the state highway. Both roads carry high traffic volumes and are highly sensitive to disruption as can be evidenced by recent sealing works on Main Road Stoke and night works on Whakatu Drive. This sensitivity is driving demand to manage disruptions increasing the cost and complexity of road maintenance, renewal and construction activities.

4.3.2 Causes and Consequences

The table below shows the causes of the problems and the drivers of change. We have also identified what the consequences might be if the problem is not addressed.

Cause	Consequence
Ongoing population growth is forecast over the next 30 years with the rate of growth slowing over that time.	Congestion and variability of travel beyond the peak hour leading to declining access to the City Centre by car and public transport, and to the Port for freight. In the afternoon the peak period is between 3pm and 6pm reflecting the peak hour spread beyond a typical 2-hour period.
Arterial road capacity is currently less than the travel demands at peak times	Network disruption resulting in loss productivity, user inconvenience and lost social opportunities. Small delays cause major backup of traffic across the network.
Low proportion of travellers using public transport and active modes due to their relative unattractiveness to the private motor vehicle	High proportion of single occupant vehicles causing network congestion.
Historic land use patterns and the high car ownership rates	Vehicle dependant lifestyle and ongoing demand for private car use.
Closure of state highway puts freight and traffic volumes on local roads causing increased damage	Higher maintenance costs shortened lives of pavements.
Road maintenance, renewal and construction works need to accommodate high traffic volumes and commuter demand	Added cost, complexity and risk to manage worksites and available time frames to undertake works requiring alternate

Cause	Consequence
	methodology and planning, eg: nightworks and high cost of asphalt.
New buses and bus routes provide higher frequency and EV to address congestion issues	EV are causing pavement damage to roads and bus stops that are in excess of current budgets and programmes to repair
The local road planning hierarchy (NRMP) does not match traffic volumes, multimodal or place function to the road classification	Roads are not built to meet the demands and historical growth has blurred the original function of some roads through changing use and increased traffic volumes Speed and safety are compromised on low order roads by inappropriate vehicle demands.
Walking is becoming a more accepted mode of transport for a wider range of people and abilities	Increasing demand for high quality footpaths High cost to renew footpaths due to urban and customer demand changes. Changing crossfalls to flatten footpaths is higher cost than like for like renewal, changing driveway profiles to achieve footpath priority and creating new crossings creates higher costs. Widening to meet user demands also increases costs.
Challenging economic conditions for the City Centre business viability and growth and more growth in Tahunanui and Richmond	Higher demand for cleaning and maintenance to support community space and business trading environments. Public spaces detract and repel customers and result in declining business viability
City Centre footpath bricks are at end of life and there are no matching replacements	Bricks replaced through maintenance and renewals do not match the original palette. Bricks are uneven and cause tripping hazards and affect the appearance of the city centre affecting economic outcomes.

4.4 Safety

Problem statement: Crashes are occurring at an unacceptable frequency on the network affecting drivers and vulnerable road users.

4.4.1 Drivers of Change

No one wants to be affected by the trauma associated with a road crash. The number of DSI crashes for the last complete ten years is increasing.

Older users are overrepresented in Nelson Crash data. The number of DSI crashes for these users is highly variable but up to half of DSI crashes in any year involves road users over 65 years of age or older and the trend is generally increasing over time.

Safety is an important factor that influences whether transport network users are prepared to consider active modes such as walking and cycling for trips within the network. The number of crashes involving cyclists over the last ten years has increased but remained relatively steady for the last five years.

The 2022 Communities at Risk Register shows Nelson crash rate is the same as other territorial authorities, however Nelson is over represented in crashes at 'intersections' and 'the elderly'. There is an emerging trend on driver distraction. Cycle and motorcycle crash rates are still being monitored because of historic high and medium risk trends.

The national focus for road safety is on the reduction of crashes that result in death or serious injury (DSI). Figure 4-3 below shows the number of DSI crashes for the last complete ten years. Overall, there is approximately 12 DSI crashes per year with two years (2017 and 2018) where there was a significant increase above the norm. The goal to reduce DSI crashes by 40% by 2031 looks to be difficult to achieve with solely a business-as-usual approach of localised road improvements and instead points to the need for whole of network solutions such as speed reductions.

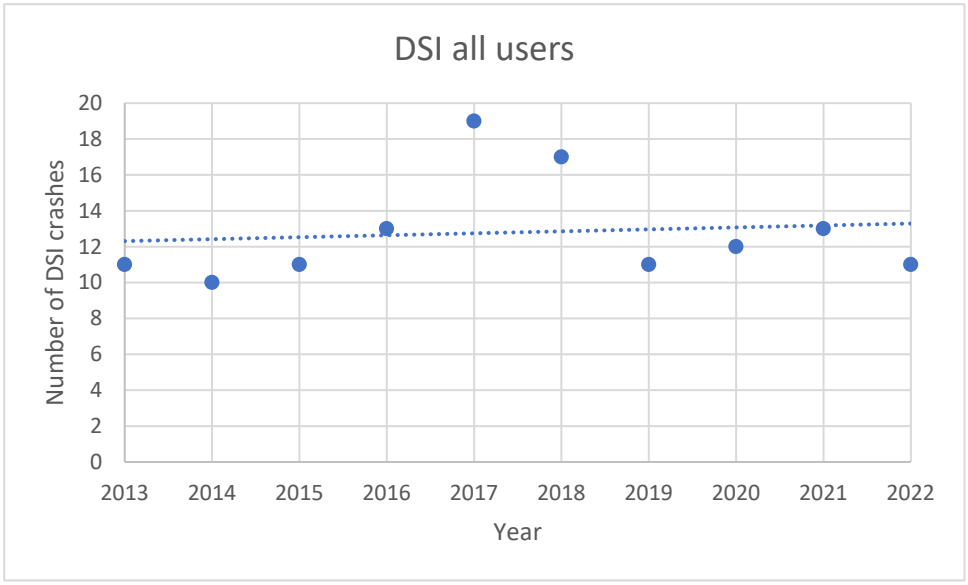


Figure 4-3: Number of crashes resulting in death or serious injury.

Older drivers are over represented in crash statistics for Nelson. Figure 4-4 below shows the number of DSI crashes each year that involve a road user 65 years of age or older. The data shows that the number of DSI crashes for these users is highly variable but with up to half of DSI crashes in any year involving road users over 65 years of age or older and the trend generally increasing over the last ten years. This trend is not unexpected as this age cohort is growing faster in Nelson than any other age cohort.

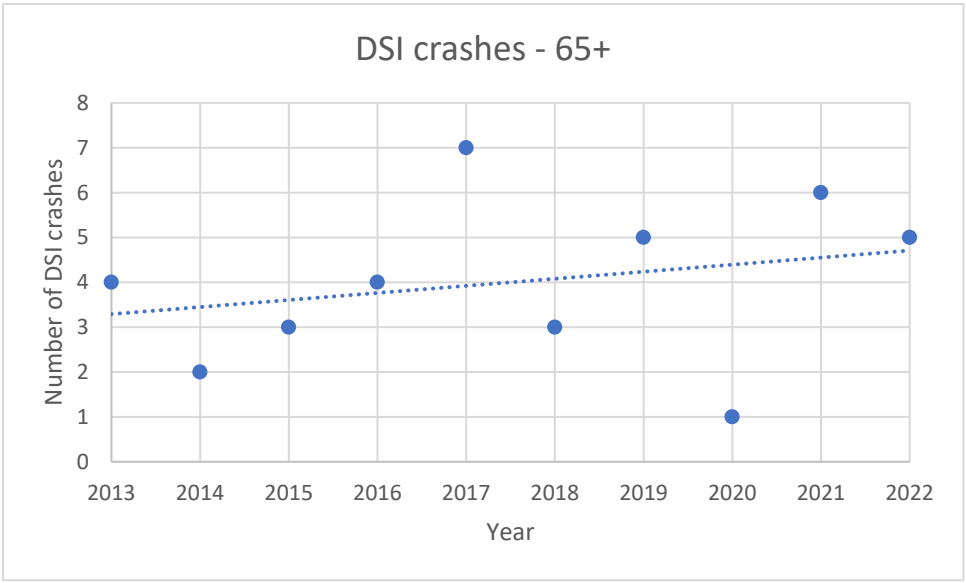


Figure 4-4: Number of crashes resulting in death or serious injury with users 65 years or older.

Safety is an important factor that influences whether transport network users are prepared to consider active modes such as walking and cycling for trips within the network. Active mode users are inherently more vulnerable as they do not have the benefit of vehicle protection. As a result, it is a fine line between a crash resulting in no injury or minor injury and one resulting in death or serious injury for these

users. It is standard practice to consider all crashes involving these users rather than just DSI crashes for motor vehicle users.

Figure 4-5 below shows the number of crashes involving cyclists over the last ten years. Over time, the number of crashes involving cyclists has increased but with the numbers remaining relatively steady at between 26 and 28 per year for the last five years.

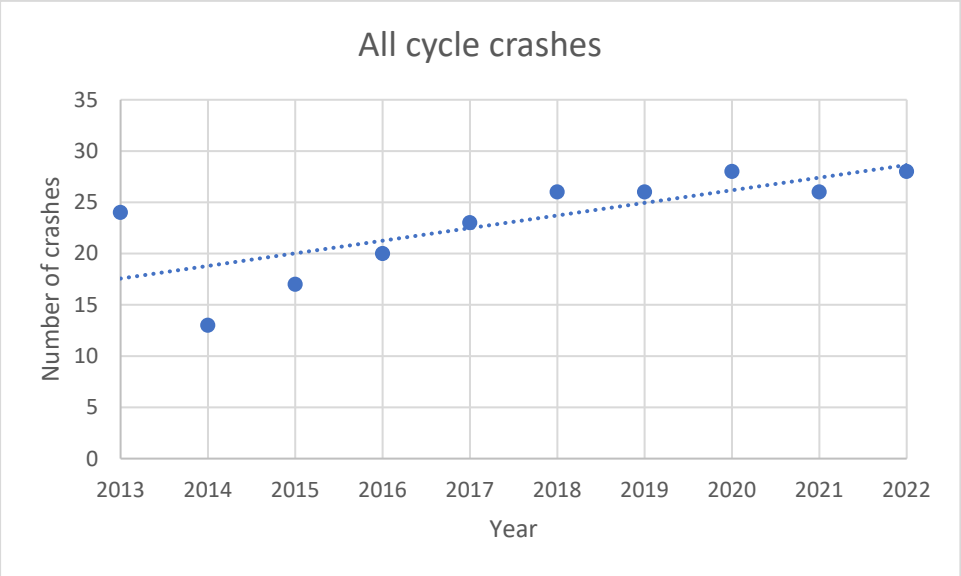


Figure 4-5: Number of crashes involving cyclists.

Figure 4-6 below shows the number of crashes involving pedestrians over the last ten years. Over time, the number of crashes involving pedestrians has become more variable in each year with an average of around 16 crashes per year over the last five years.

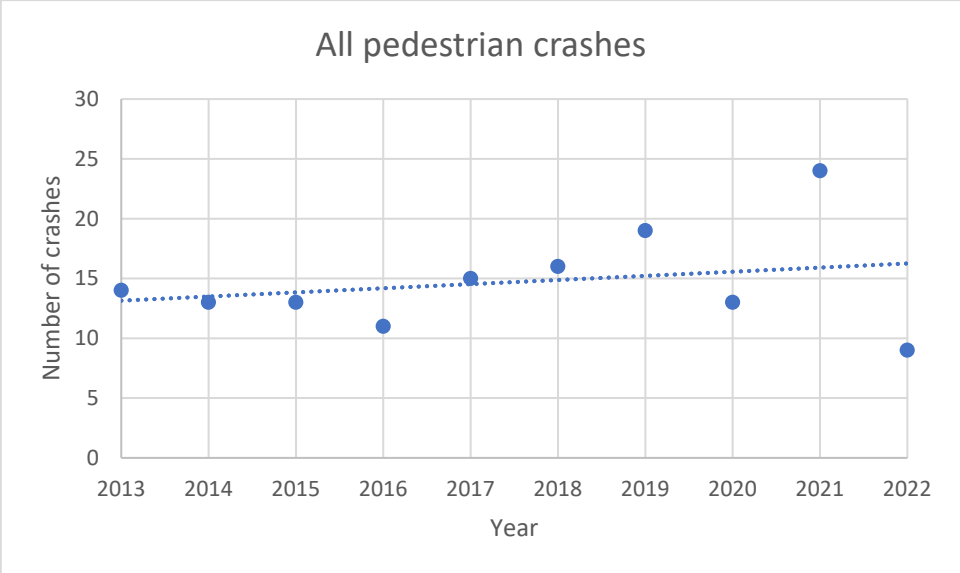


Figure 4-6: Number of crashes involving pedestrians

4.4.2 Causes and Consequences

The table below shows the causes of the problems and why there is a need for increased investment in maintenance and renewals: ie the drivers of change. We have also identified what the consequences might be if the problem is not addressed.

Cause	Consequence
Risk of Traffic signals failure and/or loss of camera visibility of intersections	Uncontrolled intersection with high risk of crashes. Signals faults or network faults cannot be managed without onsite personnel.
High speeds and high traffic volumes and parking demand and poor pedestrian facilities in the city centre	The elderly, and pedestrians in the central city, are overrepresented in crashes.
High traffic volumes and complexity at intersections	Cyclists are over represented in the high cycle crash rate at intersections especially at roundabouts. Older drivers are over represented in Nelson crash statistics. Suppressed demand for walking and cycling especially among vulnerable user groups.
Complex environments and high demand to protect workers and peds and cyclists with Traffic control during roadworks	Increasing TMP costs affecting maintenance, renewal and capital works costs
Traffic signs, markings and rails in poor condition	Signs and markings in poor condition do not provide the safety guidance when needed. Sight rails posts are rotting at ground level so may not provide support our guidance when needed

4.5 Environmental Impact / Climate Change

Problem statement: Climate change is having a negative effect on our transport network the health, wellbeing of the community and natural environment.

4.5.1 Drivers of Change

Transport (ICE) is our largest source of greenhouse gas emissions and is responsible for 52 per cent of Nelson's CO^2 emissions accelerating climate change and causing environmental degradation. Council has a key role to work with the community towards creating a resilient and low emissions future and implementing adaptive measures to manage and minimise the risk especially in relation to sea level rise, infrastructure planning, coastal inundation and flooding.

At a local level, Council has a key role to play by reducing its corporate emissions, and supporting contractors reduce waste and emissions. This includes considering the emission footprint of providing transport assets and services, supporting and providing leadership on mitigation actions across the community.

Council has identified three areas as the biggest challenges for Nelson:

- **Sea level rise**: sea level rise is the most significant climate challenge for Nelson as a large proportion of its urban infrastructure is coastal or low lying. These areas will become more vulnerable to coastal inundation over time. Sea level rise impacts on the state highway particularly affect the local roads and network operations as is evident when Rocks Road closes during storms.
- **Heavy rainfall and flooding events**: higher intensity rainfall events means Nelson will experience more regular and extensive flooding from streams, rivers and stormwater overflows, which will increase the risk of landslips as was evidenced during the recent 2022 flood events.
- **Droughts and high temperatures**: with a warmer climate, the temperature of the water within our rivers and streams will increase and affect habitats. Droughts will result in a higher risk of fires.

Mitigation

Mitigation is about reducing greenhouse gas (GHG) emissions and enhancing carbon sinks (sequestration to remove greenhouse gases from the atmosphere). Council is committed to emissions reduction targets for its own activities in line with government targets:

- Net zero emissions of all GHGs other than biogenic methane by and beyond 2050.
- 10% reduction below 2017 biogenic methane emissions by 2030.
- 24-47% reduction below 2017 biogenic methane emissions by 2050.

Aotearoa New Zealand's first emissions reduction plan sets the direction for climate action for the next 15 years and for transport a 41% reduction on 2019 levels by 2035 is required. It is proposed in order to meet this 2035 target the following change at a national scale is required:

- Reduced total kilometres travelled by the light fleet by 20%.
- Increase zero-emissions vehicles to 30% of the light vehicle fleet.
- Reduce emissions from freight transport by 35%.
- Reduce the emissions intensity of transport by 10%.

Adaptation

Adaptation is the process of responding to current and future climate related impacts and risks. To manage these impacts and risks, Council is following the Ministry for the Environment guidance and is using the Dynamic Adaptive Pathways Planning (DAPP) approach. This means managing our assets in a way that makes them more resilient, or in some instances, it may mean moving those assets.

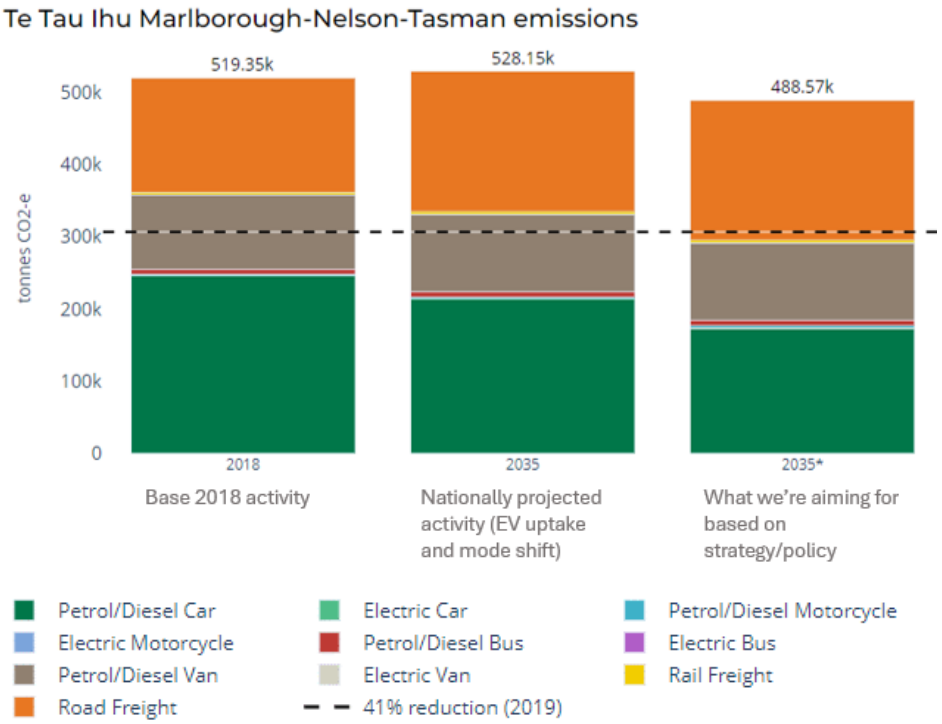
Emission Reduction

Aotearoa New Zealand's first emissions reduction plan sets the direction for climate action for the next 15 years and for transport a 41% reduction on 2019 levels by 2035 is required. It is proposed, in order to meet this 2035 target, the following change at a national scale is required:

- Reduced total kilometres travelled by the light fleet by 20%.
- Increase zero-emissions vehicles to 30% of the light vehicle fleet.
- Reduce emissions from freight transport by 35%.
- Reduce the emissions intensity of transport by 10%.

Emissions Forecast

Te Tauihu CO^2 transport emission model is shown below. We have used this model to understand how changes to the transport system will change CO^2 emissions.



The bar on the right-hand side of the graph shows emissions based on the changes forecast from our current policy settings included in strategies and policies like the Future Development Strategy and E Tū Whakatū – Nelson's Active Travel Strategy. In summary this is 18% walk, 19% cycle, 13% EV, 25% reduction in vehicle trips, and 1.3 vehicle occupancy.

The model indicates that significant more change will be required by users of the transport system, and both central and local government to reach the 41% reduction target by 2035.

4.5.2 Causes and Consequences

The table below shows the causes of the problems and why there is a need for increased investment in maintenance and renewals: ie the drivers of change. We have also identified what the consequences might be if the problem is not addressed.

Cause	Consequence
Transport (ICE) is our largest source of greenhouse gas emissions and is responsible for 52 per cent of Nelson's CO^2 emissions Councils maintenance, operation and construction activities contribute to emissions and waste production	CO^2 emissions accelerating climate change and causing environmental degradation.

	Climate change is expected to be the most significant influencer on the land transport system over the coming decade. Unpopular interventions such road space reallocation to enable public transport and active mode corridors and road pricing via parking or congestion charges are likely to be necessary to meet targets set by Aotearoa New Zealand's first emissions reduction plan.
Road runoff is contaminated by toxins such as fuels, additives, oil, and brake and tyre residues. Contaminants from bridge and drainage works can enter waterways Stormwater can be unnaturally heated by the road surface.	Added heat and toxins from road stormwater runoff contributes to water quality degradation which affect people, plant and animal life. Consent conditions and controls for bridge and drainage maintenance activities add cost and complexity.
Car ownership and use is ingrained in our modern society.	Personal financial and social commitment to a private vehicle mode of transport with a reluctance to lose the benefits that provides and enables.
Sea level rise impacts Nelsons roads	Increasing operating and maintenance costs, changing renewal demands and more road closures and emergency works as a result of inundation.
More intense and frequent storm events	Slips and floods requiring management and remediation works

5. Strategic Response

5.1 Response Options, Benefits and Performance Measurement

In order to address our problem statement and meet our expected levels of service we need to take action to respond to our network challenges. Being able to respond in a meaningful and impactful way requires additional funding but holds many benefits for the communities. In this section we lay out our proposed responses to the problems we face and how we will measure our success.

The chart below presents a high level summary of our proposed responses to our problem statements/strategic priorities and the benefits of meeting the desired levels of service. Further in this section we will discuss the metric we will use to measure our success in these areas. Benefits and metrics are linked to the NZTA benefits framework for land transport.

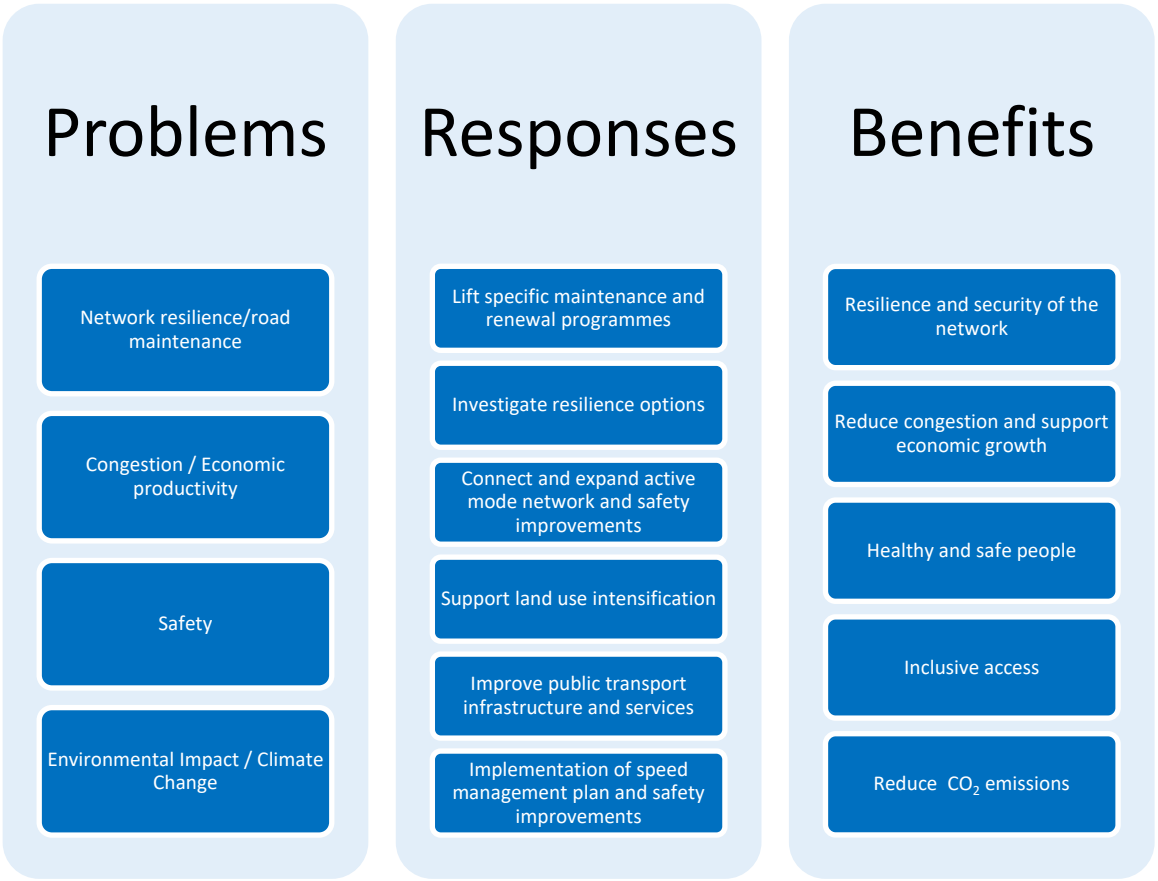


Figure 5.1: Summary of problem and benefits alignment

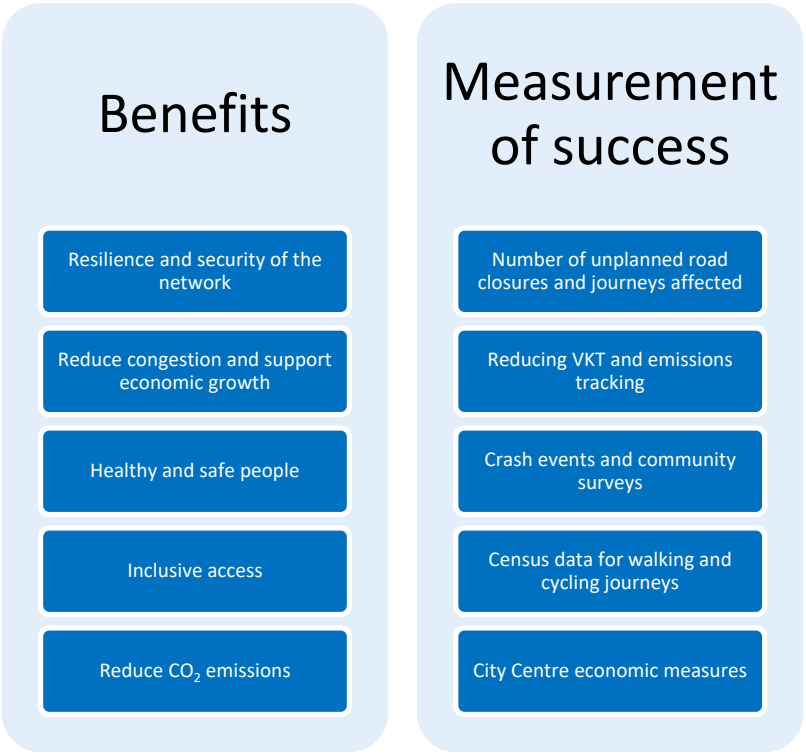


Figure 5.2: Measurement of the delivery of the benefits

5.1.1 Response Options

For each problem we face we need to choose a response, including to what level we response. Response could include do nothing, and accept fewer benefits to the community. Achieving more responses and level of service will require additional funding but will provide greater benefits for our community, economic wellbeing and resilience.

Delivery or response options through the transport programme is given in section 7. Response options for each programme fall into 3 categories:

- Option 1(A) – Deliver status quo with increased funding towards addressing the problems and delivering the benefits.
- Option 2(B) – Do Minimum: current budgets from the 2021LTP. It was quickly noticed that the 2021 budgets will be inadequate to continue to provide current LOS because of increasing pressures on the network identified as the AMP problems. Severe service cuts and prioritisation would be required to manage most services within budget.
- Option 3(C) - Programme to deliver the desired LOS and address the problems identified in this AMP. Dependent on increased funding.

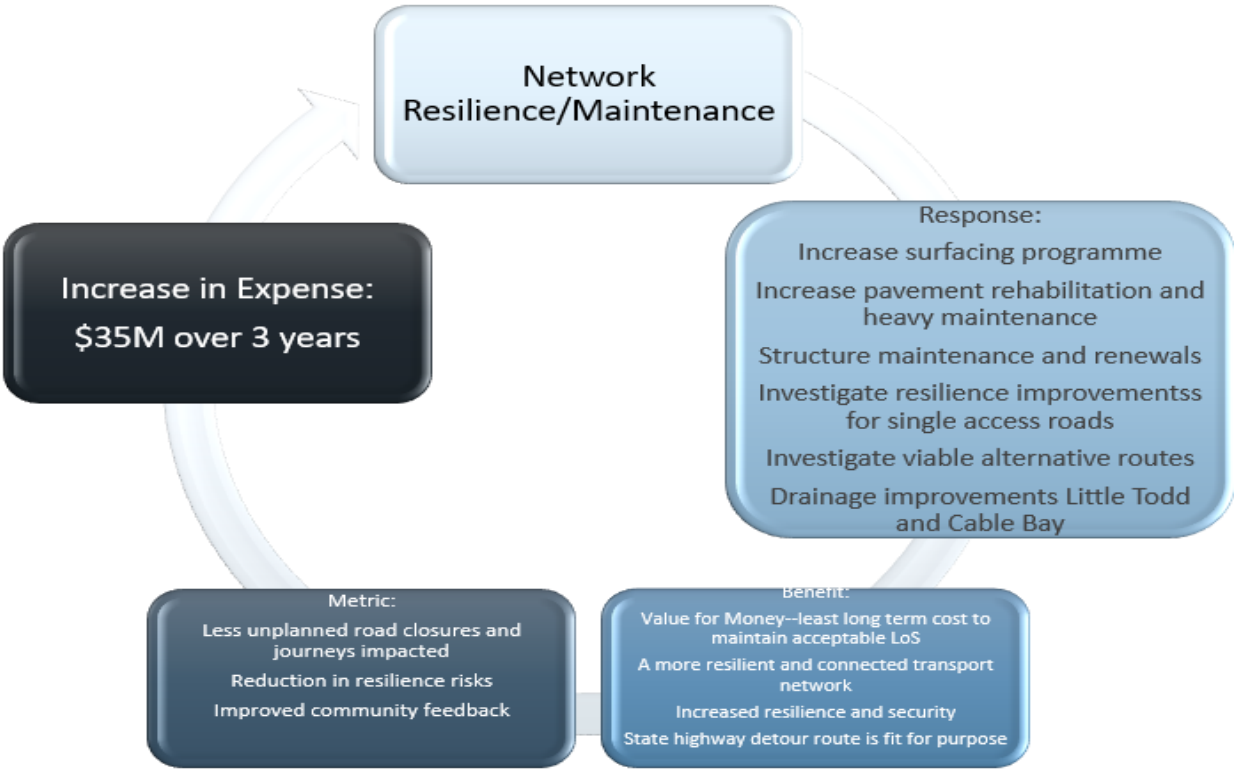
5.1.2 Resilience/Road Maintenance Options Considered

Refer to the Lifecycle Management chapter for the full analysis of the options. In summary:

Option	Benefit / Consequence	Rank
1 (A) Status Quo LOS with moderate increase in maintenance and renewal budgets. Investigate resilience problems	Benefit: resilience and security of the network Manage short term network demands Consequence: ongoing long term maintenance costs and high renewal frequency	2
2 (B) Do Minimum 2021 budgets	Consequence: High reactive maintenance costs. Asset condition deteriorates resulting in poor level of service and increased total cost to bring back to acceptable level of service.	3
3 (C) Increase Operations Maintenance and Renewal Budgets to maintain existing asset investigate resilience problems	Benefit: resilience and security of the network Least long term maintenance costs	1

The preferred option is option 3 (C): to increase the operations, maintenance and renewal budgets to prevent asset conditions getting worse and investigate resilience improvements.

The flow chart below illustrates the connection between the problems we face, our preferred response, benefits from the response and how we will measure our success.

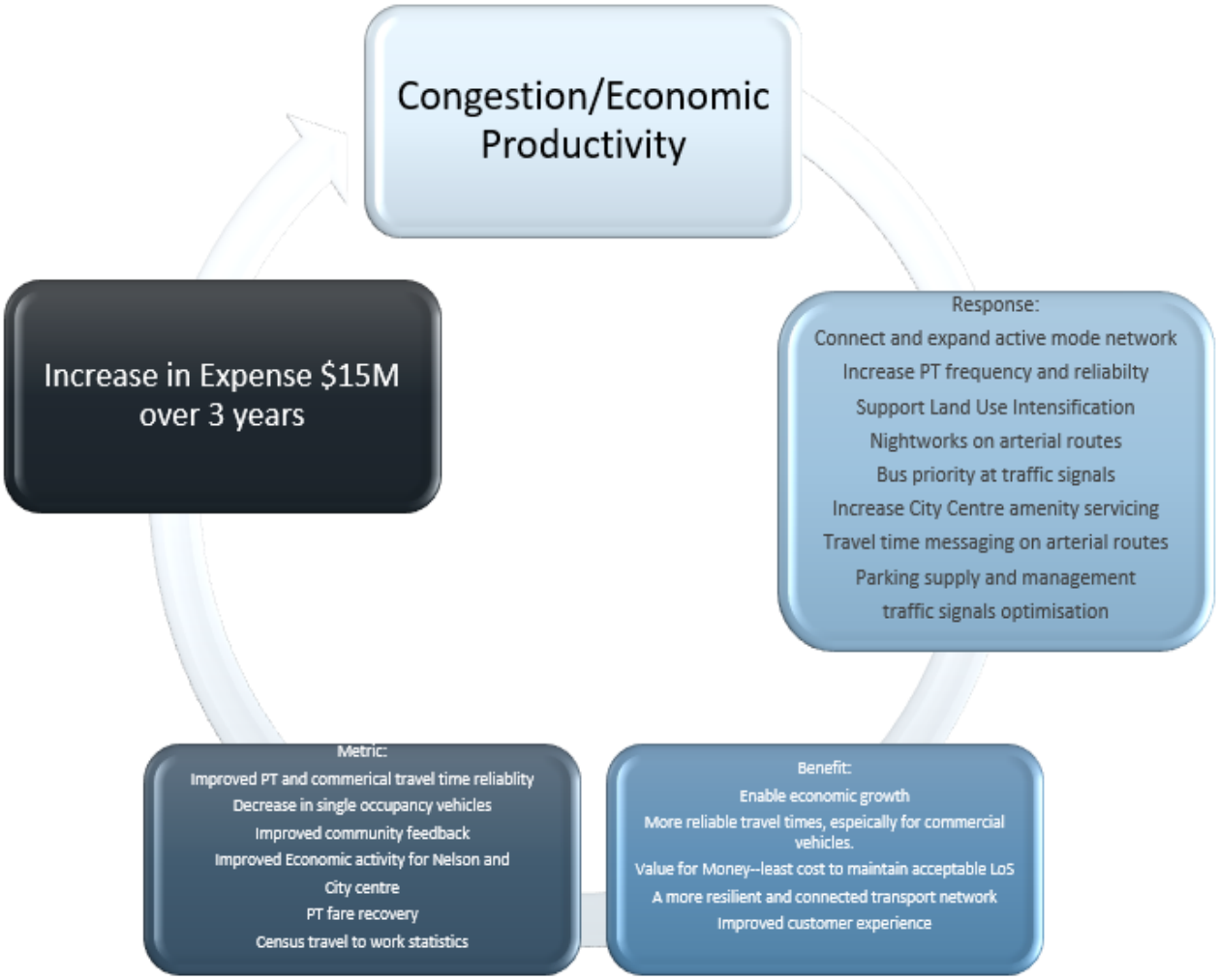


5.1.3 Congestion / Economic Options Considered

Option	Benefit / Consequence	Rank
1 (A) Status Quo Increase network capacity via growing active mode and public transport use, and encourage lower travel demand through education and parking control	Benefit: Reduce congestion and security of the network Benefit: reduce congestion and support economic growth Benefit: healthy and safe people Benefit: Inclusive access Benefit: reduces CO2 emissions	1
2 (B) Do Minimum No new investment	Consequence: journey times would significantly increase by 2048 during peak times impacting the ability for the city to function both economically and socially.	3
3 (C) Increase network capacity by new road building	Benefit: Network resilience and security Benefit: Improved options to manage congestion and support economic growth	2

The preferred option is option 1 (A) Status Quo. Over the next 10 years, Council proposes improvements made to its public and active travel networks. This will make leaving the car at home possible for more and more people and at the same time still enable travel by private motor vehicle for those that need it. Moving to a sustainable transport culture doesn't mean literally every commuter will bus, walk or cycle to work, but by gradually increasing the numbers of people who can make that choice, residents can gradually shift their focus to people and meet emissions goals, while still providing a reliable road network for those that need it, for business and freight.

The flow chart below illustrates the connection between the problems we face, our preferred response, benefits from the response and how we will measure our success.

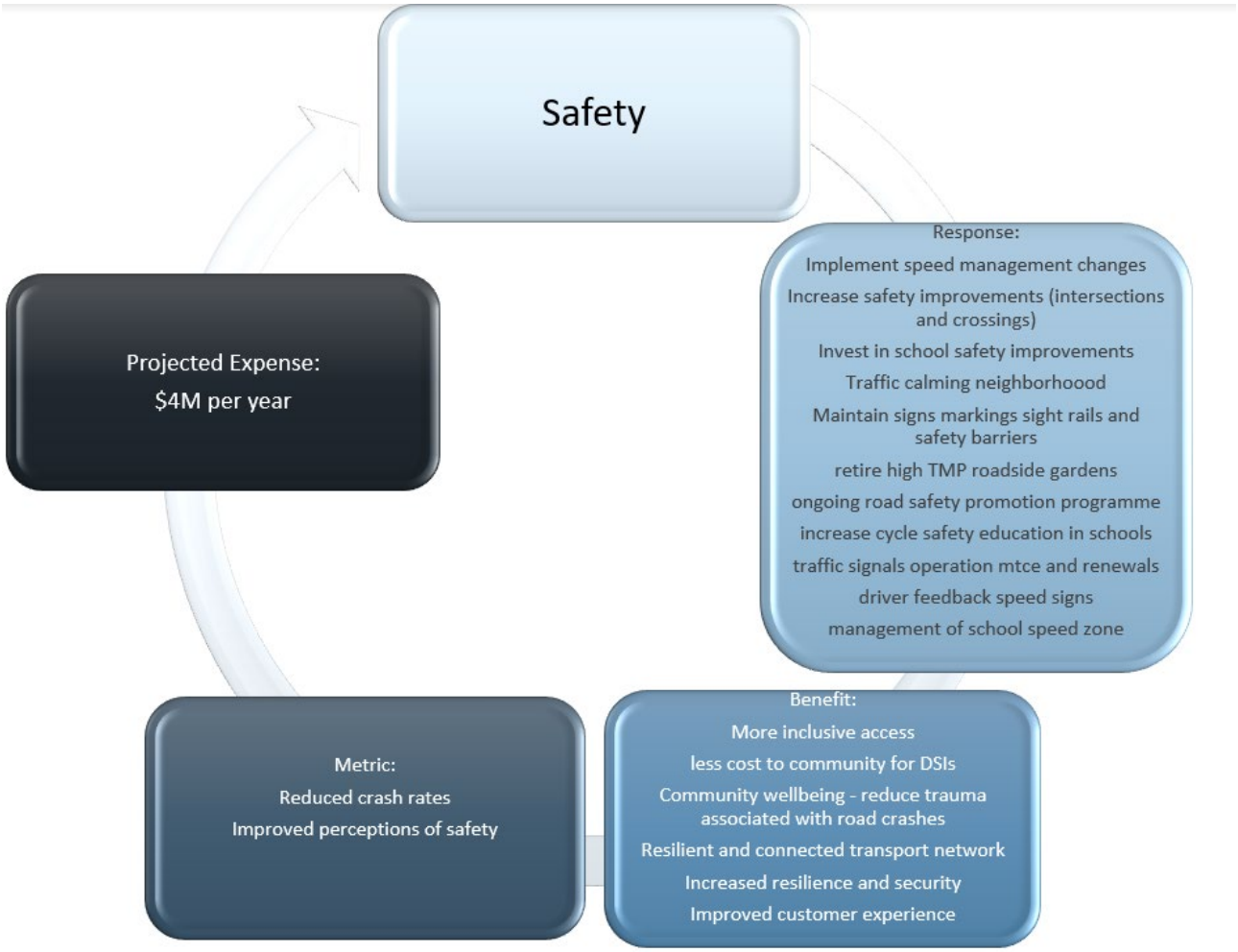


5.1.4 Safety Options Considered

Option	Benefit / Consequence	Rank
1 (A) Status Quo including implementing minimum speed management plan requirements and adequate TMP budgets, increased cycle education programme	Likely increasing death and serious injury crash numbers over time	1
2 (B) Do Minimum No safety improvement programme Ongoing Road safety promotion programme	Increase in death and serious injury crashes, declining perceptions of safety and increased reliance on motor vehicles for all journeys to avoid being a vulnerable road user	3
3 (C) Implement Safety Improvements, and increase Speed Management Plan implementation over minimum requirements and adequate TMP budgets for maintenance and renewal activities	Reduce death and serious injury crash numbers over time Improved perceptions of safety	2

The preferred option is option 1 (A): increased funding to provide adequate TMP at roadworks sites, implementing select safety improvements project targeted at our worse performing intersections, and implement the minimum Speed Management Plan to meet community demand from the consultation process.

The flow chart below illustrates the connection between the problems we face, our preferred response, benefits from the response and how we will measure our success.



5.1.5 Environmental / Climate Change Options Considered

Response Option	Benefit / Consequence	Rank
Status Quo Adjust programme to maximise delivery of climate change and environmental outcomes including waste management, contractor ev initiatives, freshwater management, iwi engagement. Prioritise East West cycle connection Delivery mode shift programmes plus priority lanes to Waimea Road over medium to long time period	Modelling shows unlikely to meet 2035 CO^2 reduction target	1

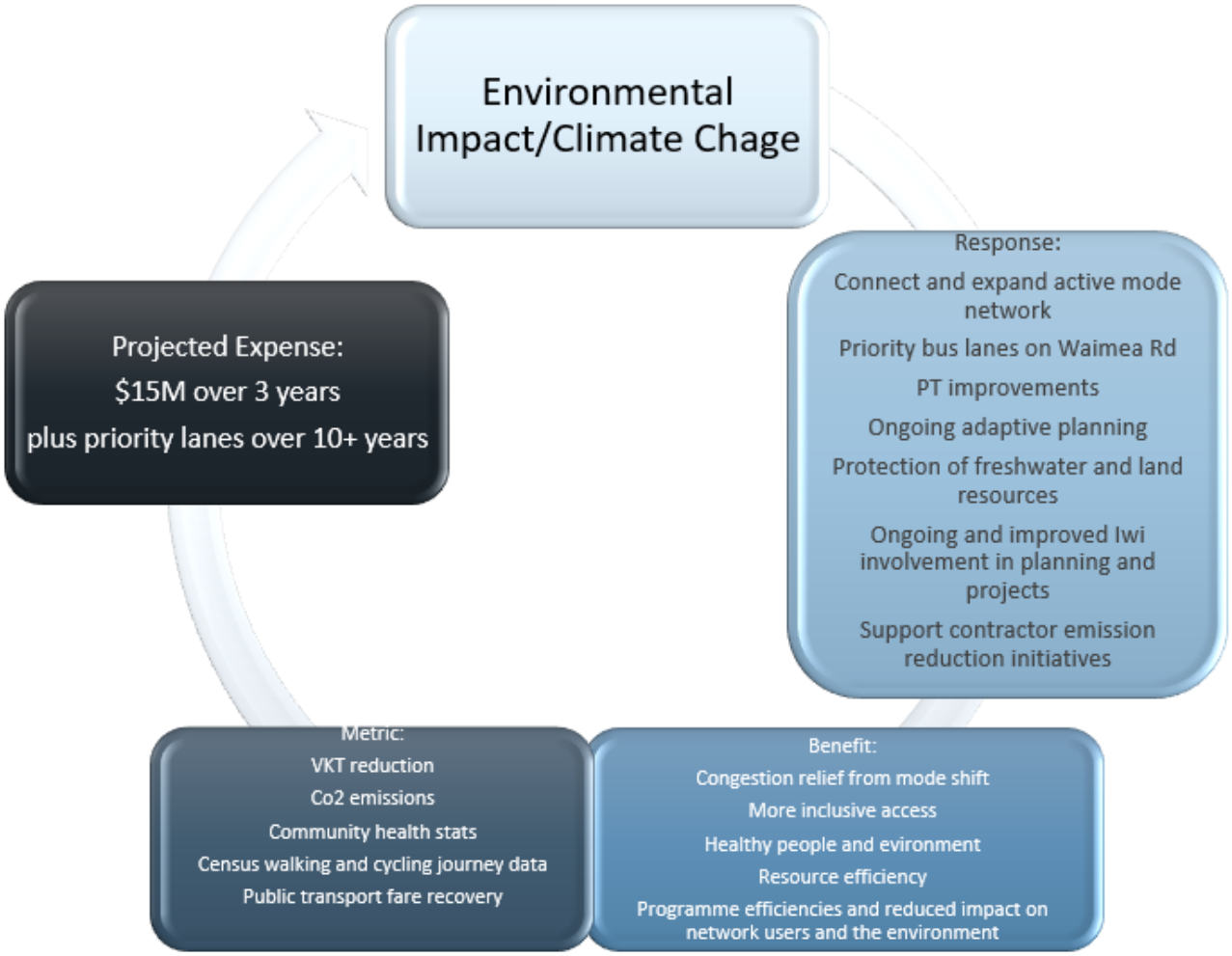
Response Option	Benefit / Consequence	Rank
2 (B) Do Minimum Current priority lanes programme starting in year 2024 and no new climate change or environmental projects or initiatives. Reduce LOS to absorb dump fee increases and resource consent costs	Modelling shows unlikely to meet 2035 CO^2 reduction target	2
3 (C) Increased Capex Programme for active modes plus deliver priority lanes early	Council unable to afford or deliver increased programme	3

The preferred option is Status Quo, continue to deliver mode shift programmes plus priority lanes to Waimea Road over medium to long time period. These programmes are challenging and costly to deliver and Council does not currently have the finance and resources to increase the speed of delivery when balanced against other priorities. In between times good outcomes can be achieved by supporting contractor emission reduction and waste minimisation initiatives, working with the community and iwi on environmental outcomes.

The emissions forecasts show that Council has limited ability to influence emissions from transport in Te Tauihu due to the large component of Road Freight that has few alternative to using the ICE. It also shows that significant more change will be required by all users of the transport system, and both central and local government to reach the 41% reduction target by 2035.

The preferred option supports ongoing improvement through forward planning and contractor delivery programmes. This includes delivery of mode shift programmes plus priority lanes to Waimea Road over medium to long time period.

The flow chart below illustrates the connection between the problems we face, our preferred response, benefits from the response and how we will measure our success.


Environmental Impact/Climate Chage
Response:
Connect and expand active mode network
Priority bus lanes on Waimea Rd
PT improvements
Ongoing adaptive planning
Protection of freshwater and land resources
Ongoing and improved Iwi involvement in planning and projects
Support contractor emission reduction initiatives
Benefit:
Congestion relief from mode shift
More inclusive access
Healthy people and evironment
Resource efficiency
Programme efficiencies and reduced impact on network users and the environment
Metric:
VKT reduction
Co2 emissions
Community health stats
Census walking and cycling journey data
Public transport fare recovery
Projected Expense:
$15M over 3 years
plus priority lanes over 10+ years

6. LEVELS OF SERVICE

A key objective of this plan is to match the levels of service provided by this activity with the agreed expectations of our customers and their willingness to pay for that level of service. These levels of service provide the basis for the life cycle management strategies and works programmes identified in this Plan.

Levels of service can be strategic, tactical or operational. They should reflect the current industry standards and be based on:

- Customer Research and Expectations: information gained from stakeholders on expected types and quality of service provided.
- Statutory Requirements: Legislation, regulations, environmental standards and the Council bylaws that impact on the way assets are managed (e.g. resource consents, building regulations, health and safety legislation). These requirements set the minimum level of service to be provided.
- Strategic and Corporate Goals: Provide guidelines for the scope of current and future services offered and manner of service delivery, and define specific levels of service, which the organisation wishes to achieve.
- Best Practices and Standards: Specify the design and construction requirements to meet the levels of service and needs of stakeholders.
- Strategic priorities

6.1 Customer Research and Expectations

Every year, Council undertakes a residents survey. This survey questions a representative sample of our residents about their perceptions, experiences and satisfaction with the work that Council does. Figure 6.1 below show the relative satisfaction of residents with the transport activity.

Year-on-year trends

Measure (% 7-10)	2022/23	% point increase / decrease (2022/23-2021/22)	2021/22	2020/21	2019/20	2018/19
Satisfied with overall performance	54%	+3%	51%	43%	63%	-
Satisfied with Transport (public transport and built transport facilities)	38%	-7%	45%	39%	54%	47%

Figure 6-1: 2022-23 Public Satisfaction Survey Results

Priorities

Priorities that Nelson City Council could address include:

- ***Transport* (including roading) and *Flood protection*** are two community priorities that have arisen for Nelson residents over the past 12 months. Comments show areas of particular concern for residents who were dissatisfied, such as overall maintenance of the roads, as well as clearing the drains more regularly. Permanent fixing of potholes is another issue mentioned by residents, along with the levels of safety on the roads.
- ***Responding to climate change.*** 13% of the respondents have mentioned *Dealing with environmental issues and taking more climate action* as an opportunity for the Council to improve residents' overall perception.

Monitor

We recommend closely monitoring these measures, as if their impact increases they may push overall satisfaction down significantly.

Figure 6.1 shows that transport is seen by Nelson residents as one of the most important services that Nelson City Council provides but that satisfaction with the services is low relative to the other activities. This survey was completed following the 2022 flood events which may have influenced the responses for transport and flood protection. However, council is prioritising road maintenance and services as a result of ongoing poor survey results shown in the year on year trends. The full residents survey report is available at www.nelson.govt.nz and using the search term "Nelson residents survey".

6.2 Customer Levels of Service

Table 6-3 below summarises the customer levels of service that relate to the transportation activity in Nelson City. Details regarding previous performance on these and other measures in the sections below.

Table 6-3: Customer Levels of Service

Level of Service	2024-27 Performance Target	How Measured	Confidence in Meeting Targets
Safety: The transport system is safe for all people regardless of transport choice or demographic	Reducing trend in the number of death and serious injury crashes, per financial year on the local road network from a 2020/21 base year.	The number of crash events with one or more fatality or seriously injured person involved as reported from the Crash Analysis System (CAS). Reporting to include number of death and serious injury crash events and the number of casualties. Excludes crashes on state highway, and parks/private/commercial/car park areas.	Medium
	Reduction in the number of crashes involving **cyclists** on the network per financial year to achieve a reduction in DSI by 2031 from a 2020 base year.	Reported from CAS — the number of crash events with one or more cyclist involved. Excludes crashes on state highway, and parks/private/commercial/car park areas.	Medium
	Reduction in the number of crashes involving **pedestrians** on the network per financial year to achieve a reduction in DSI by 2031 from a 2020 base year.	Reported from CAS — the number of crash events with one or more pedestrian involved. The definition of pedestrian includes person walking, on a skateboard, or on a small wheeled recreation device, wheelchair, or mobility scooter. Excludes crashes on state highway, and parks/private/commercial/car park areas.	Medium

Level of Service	2024-27 Performance Target	How Measured	Confidence in Meeting Targets
	Improvement in perceptions of road safety and uptake of active modes	Customer perceptions of safety questions in residents satisfaction surveys Walking and cycling counts and census data for journey to work statistics	Medium
Better travel options: People have access to a connected transport system that delivers their journey needs	Increase the percentage of **walking** and **cycling** to school and work from census data	Increase in the percentage of walking and cycling to school and work between the last two Censuses, measured from 5 yearly Census data.	Medium
	80% of the footpath network by length has a condition rating of no worse than 4.	Measure is from the 2 yearly footpath condition assessments in accordance with the Apopo Fault Assessment and Condition Rating Guide.	High
	Annual number of bus patrons increases each year.	Ticket sales and electronic ticketing data.	Medium
	Number of bus journeys that are on time. Number of instances where a bus service is late compared to scheduled timetable	Bus tracking data	Medium
	At least 53% of households in the Nelson built urban area are within 500m (7 minutes walk) of a bus stop.	GIS analysis of relationship between households and bus routes.	High
Network resilience and security	Number and duration of resolved road closures urban to be less than 2 hours and rural to be less than 12 hours	Te Ringa Maimoa reporting of unplanned road closures and journeys impacted.	Medium
	Appropriate capacity in event of system disruption (including alternative routes, alternative modes, alternative destinations) and percentage of high risk high impact routes with a viable alternative	To be investigated	
Economic productivity	Improving trend in Nelson economic metrics	Current Council economic performance monitoring contractor	Note there are multiple complex issues around economic vitality and transport is
	Improving trend in City Centre economic metrics	Current Council economic performance monitoring contractor	

Level of Service	2024-27 Performance Target	How Measured	Confidence in Meeting Targets
			just a small factor

6.3 Technical Levels of Service

Table 6-4 below summarises the technical levels of service that relate to the transportation activity in Nelson City. Details regarding previous performance on these and other measures in the sections below.

Table 6-4: Technical Levels of Service

Level of Service	2024-27 Performance Target	How Measured	Confidence in meeting target
Assets are maintained in good condition and operated in a way that contributes to quality neighbourhood environments	More than 80% of all journeys are on smooth roads as measured by Smooth Travel Exposure in RAMM.	Percentage of vehicle kilometres travelled (VKT) on all roads classified as smooth where The owner type is Local Authority — from the RAMM network manager report for the current year.	Medium
Assets are maintained in a timely and value for money manner	Not less than 3% of the network is resurfaced every year. (Target 6.7% ± to accommodate high cost of asphalt)	Based on road length of the network resurfaced by contractors.	High
Surface condition index (SCI)	Static or improving trend	SCI through the Te Ringa Maimoa Insites performance monitoring dashboard. Data from RAMM	Low
Pavement Integrity Index (PII)	Static or improving trend	SCI through the Te Ringa Maimoa Insites performance monitoring dashboard. Data from RAMM	Low
Customer Service is delivered	70% of service requests responded to within 15 working days	Difference between time received and time closed in the service request system	High
	Increasing % of Residents are happy with services provided from the 2021 baseline	Residents satisfaction surveys	High

Level of Service	2024-27 Performance Target	How Measured	Confidence in meeting target
The transport activity is understood and planned for appropriately	Asset management data quality score is no less that 80 out of 100.	REG Data Quality reports.	Low
	Increasing % of journeys to work and school by public transport, walking and cycling or working from home	Journey reporting through census data for driving, commercial vehicles, passenger, public transport, walking or cycling	High
	Increasing volume of cyclists and pedestrians at peak hours on a weekday (Urban Cycleway performance measure)	Counts between 7-9am on Tuesday in March and July measured annually at the Railway Reserve in Bishopdale, Main Road Stoke Cycleway, Atawhai Cycleway, Whakatu Cycleway, Railway Reserve in Stoke	Medium
Public transport value for money	Static or improving bus patronage numbers from 2023/24 baseline for new services	Bus patronage data	Medium
	Static or improving farebox recovery	Contract cost compared to fare income	Medium
Car parking is used efficiently	Target an 85% occupancy short stay parking as measured in the mid-week peak of December every second year.	Annual snap-shot surveys and a 3 yearly comprehensive survey.	Medium
Emission reduction	Community carbon emissions meet 2035 targets	Emission model	Low
	Contractor waste is reduced. Contractor carbon emissions are reduced	Performance monitoring framework to be developed	TBC

The national One Network Framework (ONF) introduces differential levels of service, where the services and standards on one road group might be applied differently to another to right size investment. ONF development is in its infancy for the Nelson network so differential LOS (dLOS) are not yet confirmed. Preliminary dLOS are suggested in Table 6-5 to aid monitoring and development of the programme.

Table 6-5 Operational Levels of Service

LoS ref	Level of Service	Service Outcome	Risk	Work Category	DLOS urban collector and Activity Streets	DLOS Local Roads	DLOS Main Street Civic Space	DLOS Rural	DLOS Cycle	DLOS freight PT	Performance Metric	How Measured
Op01	**Sealed Pavement Mtce**	Service Delivery	Safety impacted	WC 111	90	70	90	80	90	90	% Faults responded to in time	mtce contracts
Op02	**Unsealed Maintenance**	Service Delivery	Safety impacted	WC 112		80		80			% Faults responded to in time	mtce contracts
Op03	**Footpath Maintenance**	Health	Trip Hazards	WC 125	80	80	95			80	% Faults responded to in time	mtce contracts
Op04	**Routine Drainage Maintenance**	Resilience	Road condition is adversely affected	WC 113	80	70	80	90	80	90	% Faults responded to in time	mtce contracts
Op05	**Structures Maintenance**	Service Sustainability	Structure condition deteriorates	WC 114	80	80	80	80	90	95	% Faults responded to in time	mtce contracts
Op06	**Emergency Response**	Resilience	Road closures	WC 141	100	70	80	80	80	100	% Damage remedied	post event specific
Op07	**Network Services Mtce**	Safety	Safety impacted	WC 122	90	70	80	80	80		% Faults responded to in time	mtce contracts
Op08	**Cycle Path Maintenance**	Health	Active travel discouraged	WC 124					80		% Faults responded to in time	mtce contracts
Op09	**Environmental Maintenance**	Environmental Sustainability	Vegetation becomes dangerous	WC 121	90	80	90	80	80	80	% Faults responded to in time	mtce contracts
Op10	**PT facility Maintenance**	Liveability	Public transport use decreases	WC 514						90	% Faults responded to in time	mtce contracts
Op11	**Operational traffic manage**	Safety	Safety impacted	WC123	100						%Faults responded to in time	mtce contracts
Op12	**Network/asset management**	Service delivery	Network management costs increase	WC151	90	70	100	80	80	90	% programme delivered	Te Ringa Miamoa Insites

6.4 Levels of Service Analysis and Performance

Detailed LOS analysis is given in the lifecycle management sections for appropriate activities. High level LOS discussion on broad issues is given below:

Travel options

The 2018 census was the first that included questions regarding travel to school. Prior census' only asked about travel to work with information from household travel surveys and the Nelson residents survey supplementing this to get an idea of travel to school. With the inclusion of travel to school in the census, and to ensure that the data is consistent, the census data from 2018 forward will be used to measure both travel to work and travel to school. The results of the 2018 census show that 20% of those working or traveling to school do so by walking or cycling. Census data also reports number of people driving or passengers, private or commercial vehicles to understand traffic origin/destination and vehicle utilisation. The 2023 census data for travel to work and school is not available at the time this AMP was written but will be reported in the 2024 Council Annual report.

Figure 6-6 below shows the total annual bus patronage numbers for the last complete ten years. Between 2013/14 and 2018/19, patronage numbers were steady at around 420,000 passenger trips per year. Numbers then dropped over the COVID pandemic period before recovering rapidly to over 450,000 in 2022/23.

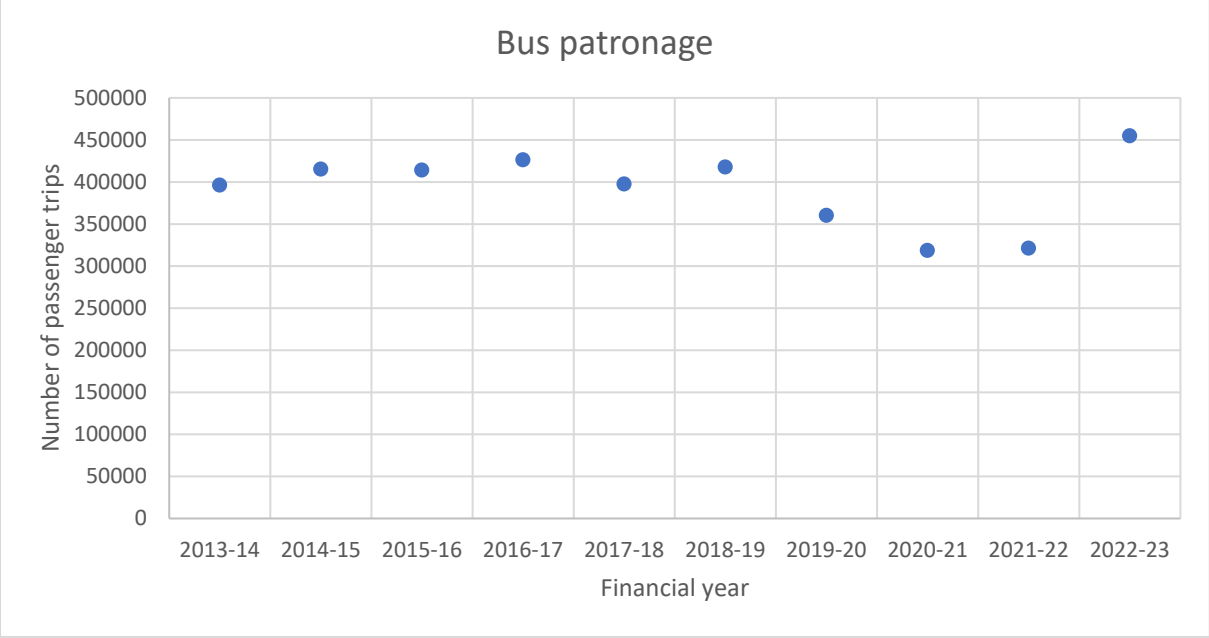


Figure 6-6: Bus patronage over time

To ensure that a large proportion of Nelson households have access to the bus should they wish to use it, network coverage is an important consideration. The bus system has, at the time of writing this AMP, just been changed to have a higher level of service with higher frequencies and greater community coverage. There are currently 86% of Nelson households within 500m of a bus stop.

Climate Change

In response to the need to reduce greenhouse gas emissions the Nelson Active Travel Strategy adopted in 2022 set a target of reducing the vehicle kilometres travelled (vkt) in Nelson by 25% by 2035. This is more optimistic than the 20% expressed in the National Emissions Reduction Plan. The collation of vkt data takes time as there is a lag in the data it is inferred from. Therefore, at the time of writing this AMP, the most up to date number is for the 2021/22 financial year. The ten-year trend shows an increase of around 20,000,000km between 2012/13 and 2021/22 but with a minor dip because of the COVID pandemic when travel was restricted at times. Step change in VKT in 2019/20 is due to data corrections.

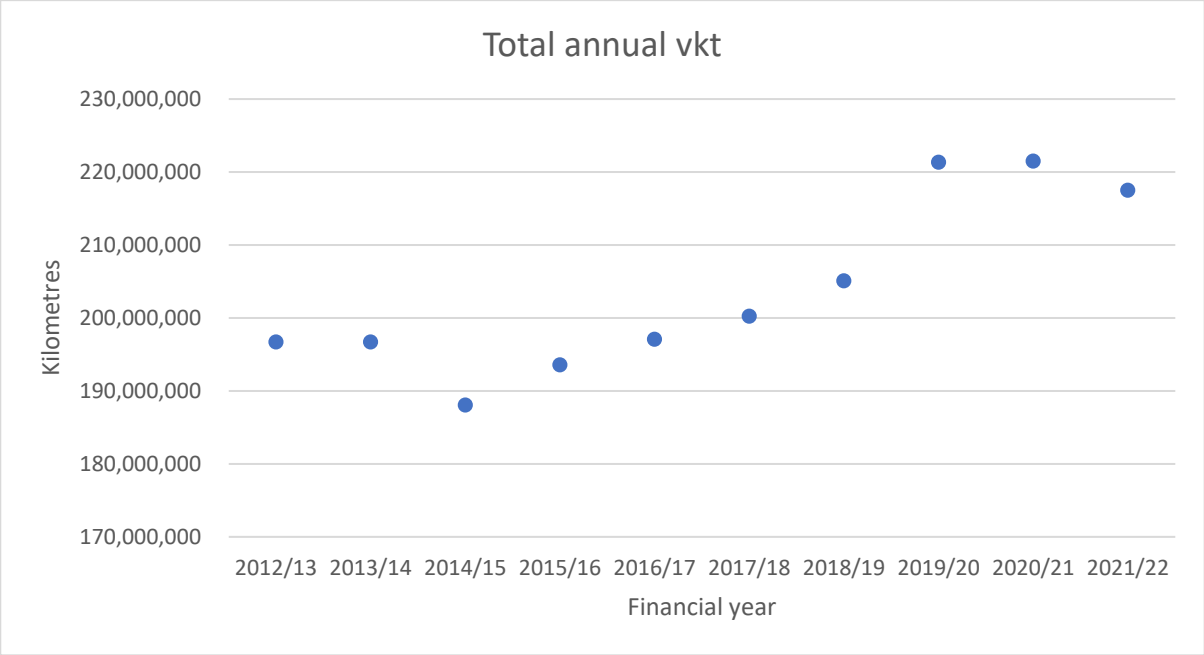


Figure 6-7: Total annual vehicle kilometres travelled.

Determining a LoS for fresh water in relation to road run-off is difficult and is a measure that needs to be developed with close consultation with Iwi. This work is not complete and as such is listed as an improvement item for a future AMP.

7. LIFECYCLE MANAGEMENT

7.1 Programme Overview - Lifecycle Principles

The lifecycle management plan details how the Council plans to manage and operate the assets at the agreed levels of service (Refer to Section 4), deliver the desired strategic direction and managing life cycle costs.

7.1.1 Programme Overview - Physical parameters

The assets covered by this Asset Management Plan are shown section 2. Transport Assets and Services Register. All figure values and forecasts are shown in current day dollars.

The age profile of the assets included in the relevant programme section below. Data is from a combination of RAMM data, Te Ringa Maimoa and asset valuations. Future improvement is required to develop the valuation module in RAMM to make the valuations more accessible.

Nelson Network is 82% urban and 18% rural.

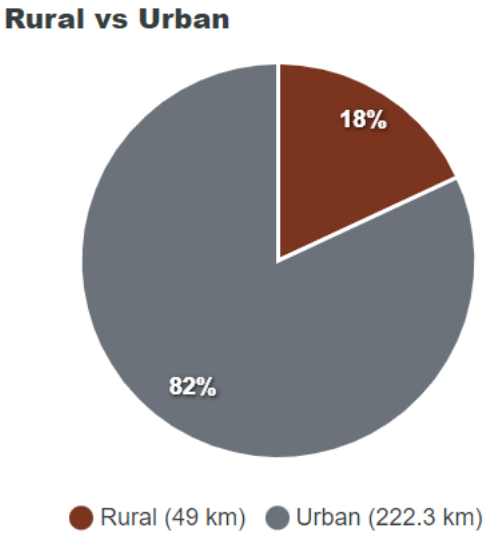


Figure 7-1: Urban vs Rural split for Nelson Roads, Te Ringa Maimoa

For NZTA reporting Nelson is in the <90% urban peer group. Other Councils in the <90% urban mix are Auckland, Christchurch, Invercargill, Kapiti, Napier, Palmerston North, Porirua and Upper Hutt.

7.1.2 Programme Overview - Asset capacity and performance

Assets generally meet their standard when constructed but can become deficient as standards and demands change. Nelson has an aging and traditional road network that is going to need management to deliver the benefits desired. Service deficiencies, where known, are identified are from field inspections, RAMM data, condition surveys or deterioration modelling and listed in the relevant section below.

7.1.3 Programme Overview - Asset condition

Condition is currently monitored by various means as described in each asset class below. Where possible condition is measured using a 1 – 5 grading system[2] as detailed in figure 7-1 below. It is important that consistent condition grades are used to support effective communication.

Condition Grading	Description of Condition
1	**Excellent**: only planned maintenance required
2	**Good**: minor maintenance required plus planned maintenance
3	**Fair**: significant maintenance required
4	**Poor**: significant renewal/rehabilitation required
5	**Very Poor**: physically unsound and/or beyond rehabilitation, safety concerns so immediate action required

Figure 7-1: Condition Scale

Awareness of asset condition has improved which enables better decision making. However ongoing improvement is required to ensure condition assessments are accurate and up to date to inform the maintenance and renewal programmes. Condition specific to each asset class is given in the following programme sections.

7.1.4 Programme Overview - Operations and Maintenance

Operations include regular activities to provide services. Examples of typical operational activities include cleaning, street sweeping, traffic counting, power supply, CCTV and traffic signals operation, asset inspection, and condition surveys.

Maintenance includes all actions necessary for retaining an asset as near as practicable to an appropriate service condition including regular ongoing day-to-day work necessary to keep assets operating. Examples of typical maintenance activities include culvert cleaning, pothole repairs, asphalt patching, pavement marking and equipment repairs. Maintenance also includes reactive works to repair damage from users eg damaged signs which can be difficult to predict. Nelson increased expenditure on Operations, Maintenance and Renewals in 2018 which aligned expenditure with the peer group. Expenditure dropped in 2022 because the road maintenance contract terminated early resulting in a gap in delivery. This is now rectified with a new contract in operation. The peer group average is higher than the national average. This is shown in figure 7-2.

[2] IPWEA, 2015, IIMM, Sec 2.5.4, p 2|80.

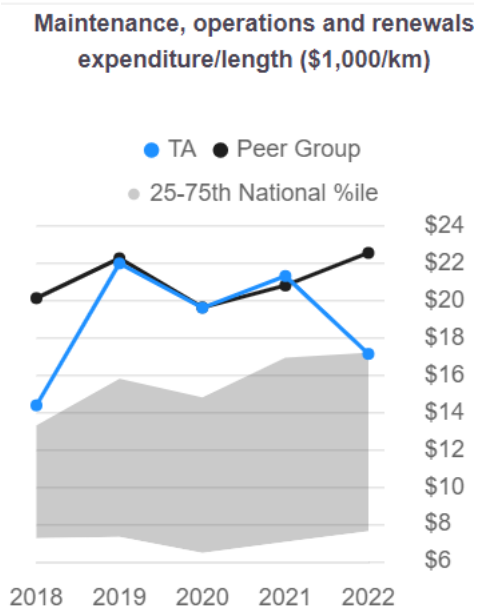


Figure 7-2: Maintenance, Operations and Renewals compared Nationally - Te Ringa Maimoa 2022/23

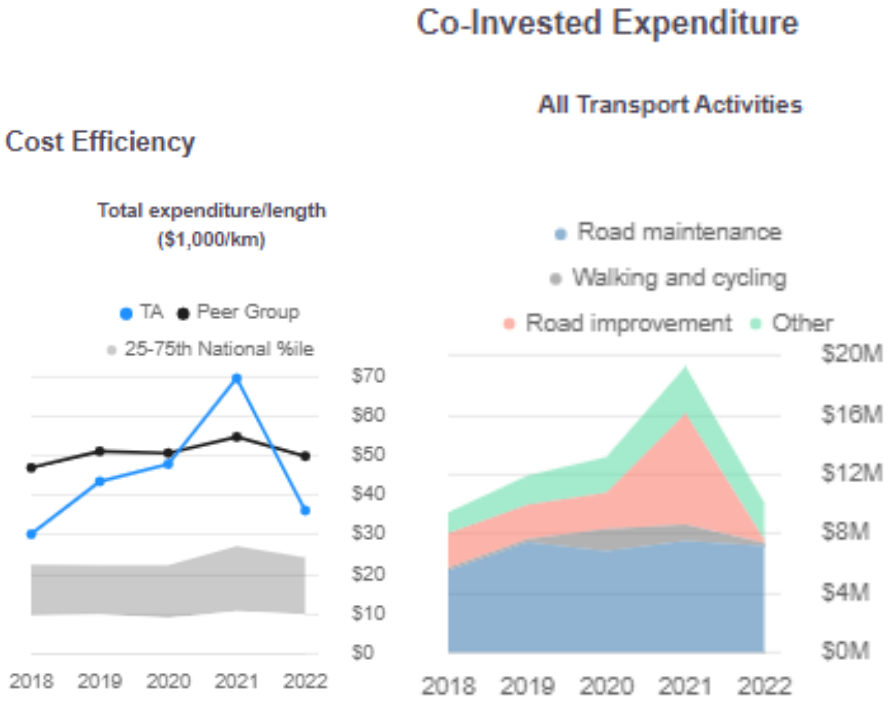


Figure 7-3: Expenditure across all programmes (Operation, maintenance, renewals, and capital improvements and minor works) – Te Ringa Maimoa – 2021/22, per km and total expenditure

Total expenditure on Nelson roads peaked in 2020/21 when the minor works and renewal programmes were used to sustain the Nelson economy through the later stages of the covid lock down period, figure 7-3. There however was some correction in 2021/22 when new programmes needed pre-implementation work before they could be supplied to the market. This AMP aims deliver value for money and resilience by improving the delivery pipeline so there are less peaks and troughs, but also readiness for future funding opportunities because budgets are not available in the current financial market. In addition to the co-investment

expenditure there are small unsubsidised programme that is not shown in the above graphed.

7.1.5 Programme Overview - Asset hierarchy

Current maintenance and operation contracts are set up on ONRC (One Network Road Classification). This has been used for most reporting in this AMP where it remains valid.

ONRC	Total Length (Km)	Urban (Km)	Rural (Km)	Sealed (Km)	Unsealed (Km)	Lane (Km)	Urban Journeys (M VKT)	Rural Journeys (M VKT)	Annual Total Journeys Travelled (M VKT)	Percentage of length
Regional	8.6	8.6		8.6		17	55.6		55.6	3%
Arterial	14	14		14		28	50.5		50.5	5%
Primary Collector	45	45		40	4.5	85	56.3		56.3	16%
Secondary Collector	57	47	9.9	57		109	26.5	1.8	28.3	20%
Access	90	87	3.3	88	2.3	170	15.7	0.2	15.9	32%
Low Volume	62	53	8.5	53	8.6	113	2.4	0.2	2.7	22%
Not Required	3.6	3.6		3.3	0.2	5.1	5.8		5.8	1%
TOTAL NETWORK	**280**	**258**	**22**	**265**	**16**	**528**	**212.9**	**2.3**	**215.2**	

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

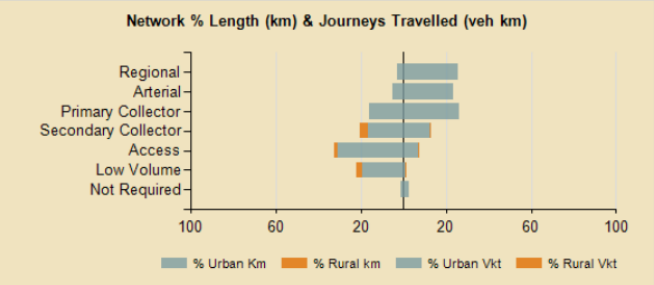


Figure 1: Network Percentage Length and Journeys Travelled

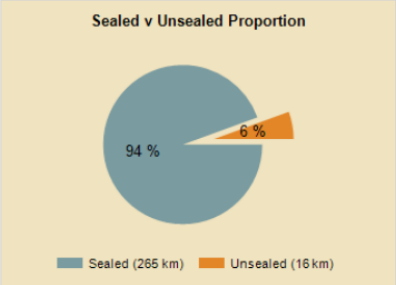


Figure 2: Sealed v Unsealed

Figure 7-4: Hierarchy by ONRC – Te Ringa Maimoa 2022/23

7.1.6 One Network Framework

One Network Framework (ONF) street families are being introduced nationally as the primary method of assessing asset hierarchy. A current hierarchy is identified but the future state is yet to be consulted and agreed. Ultimately the gaps between current and future ONF will be used in the asset operation, maintenance, renewal and improvement decisions. Where ONF reporting is available it is used in this AMP. Further detail on ONF can be found in appendix C.

7.1.7 Programme Overview - Forecast operations and maintenance costs

Forecast operations and maintenance costs are expected to vary in relation to the total value of the asset stock, future demands and LOS for each activity class. If additional assets are acquired or LOS increased, the future operations and maintenance costs will need to increase. If assets are disposed or LOS decreased the forecast operation and maintenance costs could be expected to decrease. This is a change from previous AMP where a static value was used and varied every 3 years. This change will likely take some years to refine.

When Council commits to new assets (subdivision roads and capital project improvements), they must be prepared to fund future operations, maintenance and renewal costs. They must also account for future depreciation when reviewing long term sustainability. Operation and maintenance costs are assessed through the

consent process for vested assets and business case process prior to committing a capital works project. Valuation, depreciation, interest and renewal costs are added to the programmes post construction/vesting.

Options and details are presented per activity area in the programmes in the following sections. All figure values are shown in current day dollars.

7.1.8 Programme Overview - Renewals

Renewal is major capital work which does not significantly alter the original service provided by the asset, but restores, rehabilitates, replaces or renews an existing asset to its original service potential. Work over and above restoring an asset to original service potential is considered to be an acquisition (aka Capital works, improvements, Minor works) resulting in additional future operations and maintenance costs.

Renewal forecasting has been developed using the RAMM and valuation data in the NAMS financial modelling tools. The Lifecycle Model uses RAMM and 2022 valuation data to project the renewal costs (current replacement cost) and renewal timing (acquisition year plus updated useful life to determine the renewal year). Condition assessment are then used to prioritise the immediate programme. For our highest value asset, the pavement and sealed surface assets the above lifecycle model is complimented with a pavement deterioration model.

Expenditure on capital works, renewals and maintenance will be accommodated in the long-term financial plan, but only to the extent that there is available funding and these are shown in each programme. The gap between the forecast work and the proposed budget is the basis of the discussion on achieving balance between costs, levels of service and risk to achieve the best value outcome.

The AMP programme identifies the renewals required for the 30 year period to improve transparency and forward planning. There is concurrently pressure to create a low carbon low emissions environment to mitigate climate change issues. Identifying the programme and budgets does not lock in the traditional high carbon high emissions methodologies and materials. These would be migrated into the programme as technology and options become available. This especially affects the surfacing and pavement programmes but affects all other programmes as well. Identifying the 30 year programme helps determine the baseline for carbon emission for future measurement of performance.

7.1.9 Programme Overview - Renewal ranking criteria

Asset renewal is typically undertaken to:

- Ensure the reliability of the existing infrastructure to deliver the service it was constructed to facilitate (e.g. replacing a bridge that has low load limit), or
- To ensure the infrastructure is of sufficient quality to meet the service requirements (e.g. resurfacing).[3]
- Minimise risks where there is a high consequence of failure,

[3] IPWEA, 2015, IIMM, Sec 3.4.4, p 3|91.

- Manage/reduce operational or maintenance costs, and
- Have potential to reduce life cycle costs/extend life by more than 10years by replacement with a modern equivalent asset that would provide the equivalent service.[4]
- Deliver the benefits desired by the AMP.

The ranking criteria used to determine priority of identified renewal proposals varies by asset class so is detailed in each programme section.

[4] Based on IPWEA, 2015, IIMM, Sec 3.4.5, p 3|97.

8. PROGRAMME LIFECYCLES

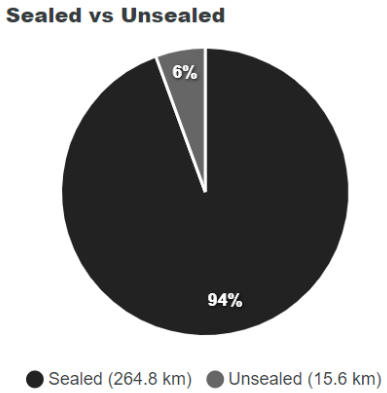
8.1 Surfacing

The following section shows how the preferred programme affects the surfacing assets. Pavements are considered in section 8.2 but they are managed together.

8.1.1 Surfacing - Physical parameters

Most roads in Nelson are sealed as shown in figure 8-2-1.

Figure 8-2-1: Sealed vs Unsealed roads in Nelson



The age profile of surfaces are shown in figure 8-2-2 below.

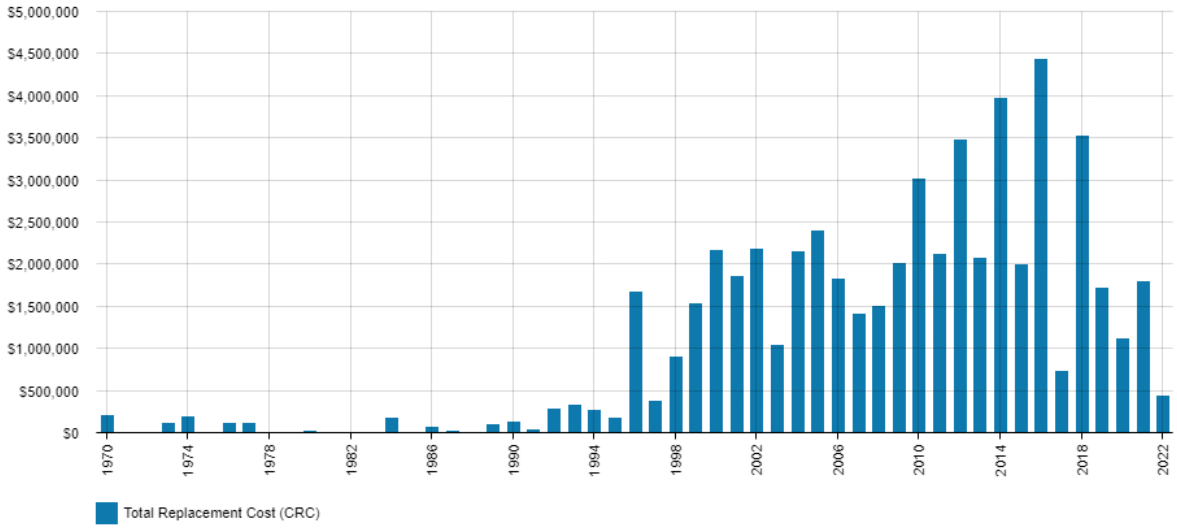


Figure 8-2-2: Age Profile of Surfaces

Typically surfaces have a 10-20 year lifespan, however asphalt surfaces on high volume roads have not always been meeting this target. The prolonged age profile shows there are either data errors within the surface age profiles or exceptional service from some surfaces. Ongoing data improvement is required to improve the age and remaining useful life profile of the surfaces for better programme resilience, valuation and budget forecasting.

8.1.2 Surfacing - Asset condition

Surface Condition

The surface condition of roads has deteriorated exponentially on bus routes regional and arterial roads due to the 2022 flood events, detoured state highway traffic during Rocks Road closures, flood recover traffic, and new eBuses on new bus routes. The deterioration has been too rapid to have data collection for it. Data is being collected in 2024 to understand and plan ongoing maintenance management plans and renewal programmes.

Roughness

Roughness is expected to be higher on lower volume roads however as shown in figure 8-2-4 below, Nelson roads have high roughness compared to other networks, except for Regional roads. Accepting even higher roughness is yet to be considered through ONF consultation.

Figure 8-2-4: Roughness source Te Ringa Maimoa 2021-22

These results can be compared year on year from 2020 as shown in figure 8-2-6. The 85% roughness of Arterial, secondary collectors, and low volume roads have become worse and all other classifications have either remains static or improved. Visual observations suggest a combination of the heavy commercial detours during the August 2022 storm and the introduction of the heavier eBus in August 2023 is causing a rapid uptick in the roughness of some pavements.

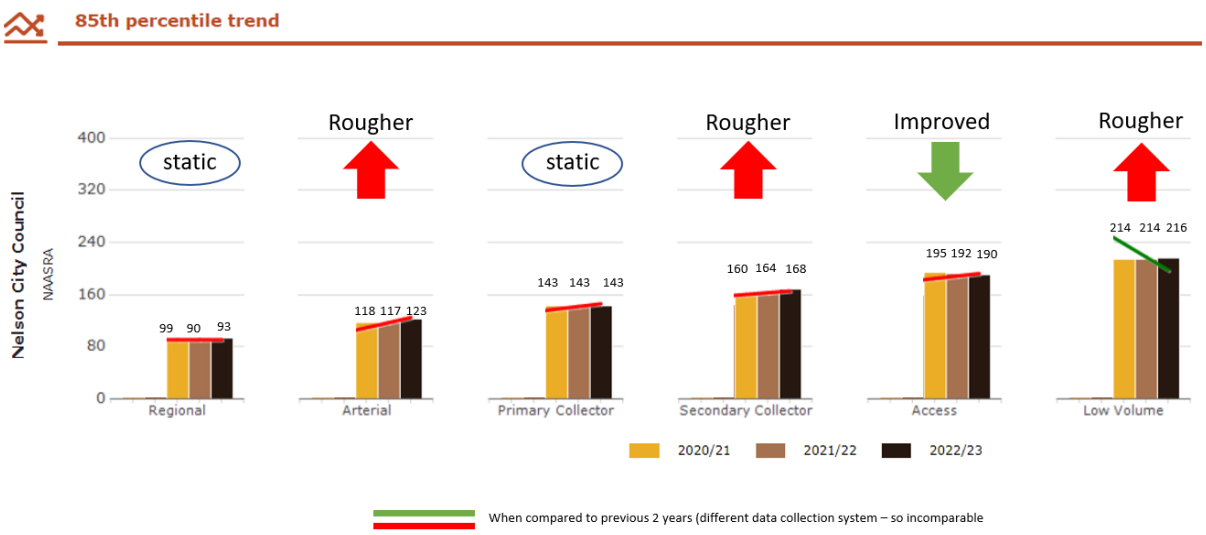


Figure 8-2-6: 85% Roughness 2022-23 – Te Ringa Maimoa

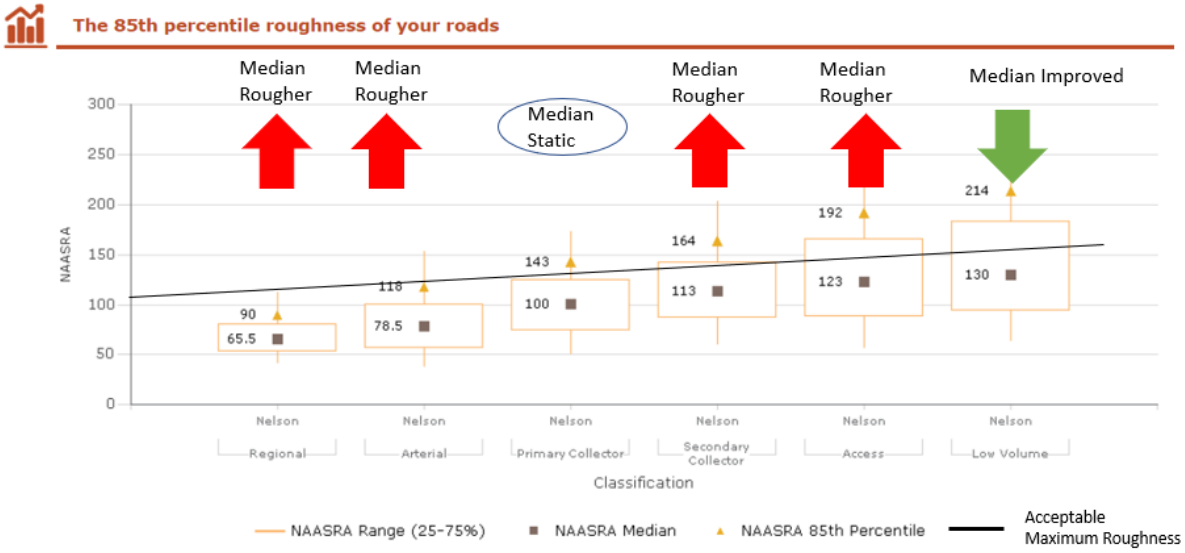


Figure 8-2-7: Range of Roughness by ONRC Category – Te Ringa Maimoa 2022-23

The median roughness of all roads, figure 8-2-7, is within the acceptable range, however isolated locations are unacceptable. The median roughness of Regional, Arterial, secondary collectors, and access roads have become worse. This is expected to show up cleared when the data is next updated in 2023/24.

When compared by ONF categories the roughest roads are local streets and peri-urban roads, as shown in figure 8-2-8.

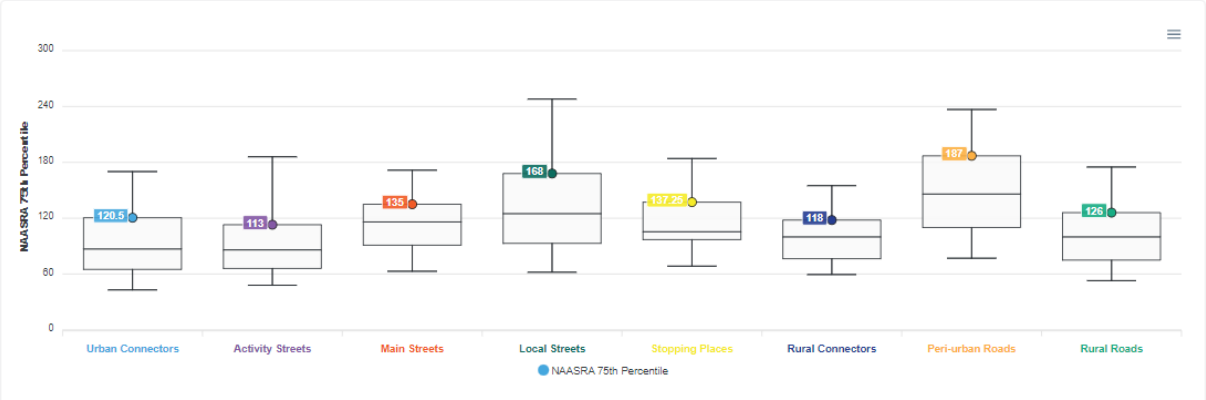


Figure 8-2-8: Roughness by ONF 2022/23 – Te Ringa Maimoa

Smooth Travel Exposure

Overall ride quality on Nelson Roads is less than the national average, but better than our peer group. This is expected to show a decline when the new data is loaded in 2023/24 due to the deterioration of the bus routes and arterial roads. Ride quality can now be confidently compared since survey methodology was improved in 2018 and traffic counting estimation was improved from 2020. These results are shown in figure 8-2-9.

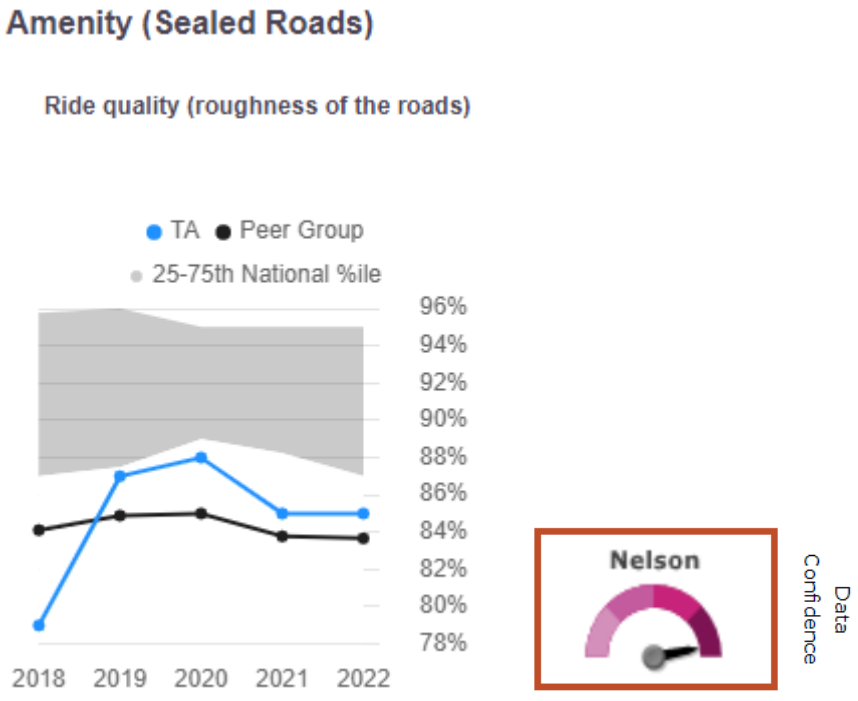


Figure 8-2-9:Ride Quality on Nelson Roads compared Nationally (Te Ringa Maimoa 2021-22)

When compared by ONRC hierarchy as shown in figure 8-2-10 regional roads provide the highest LOS for smooth travel and access and low volume roads the least LOS, which is the expected dLOS outcome.

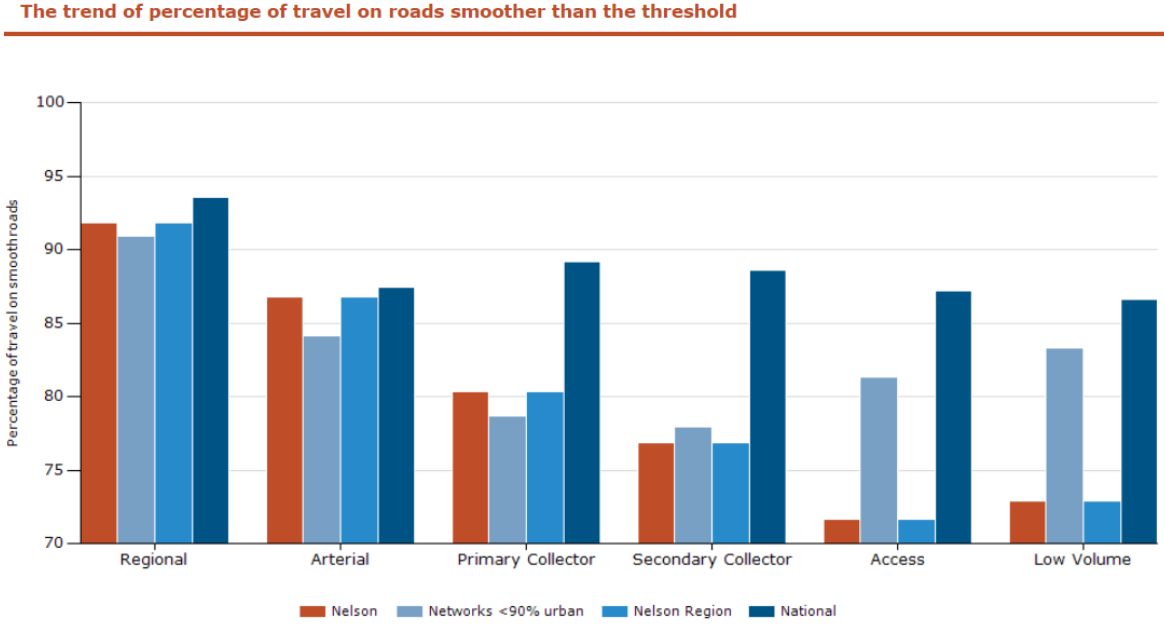


Figure 8-2-10: Smooth Travel Exposure compared nationally – Te Ringa Maimoa 2021/22

Safety

Nelson roads are predominantly slow speed (less than 50km/h) and urban. Consequently, slippery surfaces are rarely the primary contributing cause of road crashes. However surface condition needs to be maintained to avoid contributing to the safety problem.

Skid resistance was measured across the network in 2020 but is unlikely to be repeated due to low risks.

Pavement Condition

Surface condition is highly dependent on the quality and condition of the underlying pavement layers. Asphalt roads are especially susceptible, and most asphalt surfaces done since 2014 are now due for renewal due to cracking and water ingress to the underlying pavement. Some have only achieved 6 year lifespan and the poor strength of the underlying pavement is a contributing factor. Only 3 of 27km of asphalt roads have a suitable underlying pavement strength to support asphalt. Drainage improvement, materials (alternatives to asphalt, eg chipseals and the design of that asphalt when used), pavement rehabilitations and pavement improvements are options to be assessed for each site. Pavement condition is a factor of resilience, especially for the arterial routes that act as detour options for the state highway.

8.1.3 Surfacing - Link to Strategic Case

The activities have been considered according to their degree of alignment with problem statements and strategic priority. These help shape the programme options and delivery of the national, regional and local priorities.

Problem Statement	Environmental Impact/ Climate Change	Safety	Network Resilience/ Road Maintenance	Congestion/ Economic
Priority for this programme	3		1	2

1: Network Resilience: The surfacing programme has a strong link to the GPS for maintenance and resilience. Well planned and timely programmes will improve network and economic resilience.

2: Congestion/Economic: An improved public transport services, and electric buses, will start in 2023/24 to provide a low emission service that will give residents an option to reduce private vehicle use and reduce congestion. Well planned and timely programmes will have economic benefits for the assets, users and Nelson economy. This includes minimising traffic disruptions during works, longer lives achieved thus less maintenance and less future disruption.

3: Environmental Impact/Climate Change: Road surfaces involve large quantities of carbon materials and resources. To address the waste problem recycling is used wherever possible in current programmes and are planned to continue. Industry changes are being monitored for improvement options to address the environmental impact but are not developed enough influence the AMP programme at this stage. Regardless efficient resurfacing programmes are the best method to address the environmental impacts.

Options for surfacing to deliver the preferred outcomes from the strategic case are:

Option A: the "current" budget scenario from the Modelling report

Option B: retain 2021LTP budgets and programme works within these budgets – lower than the "low" scenario in the modelling report

Option C: the "high" budget scenario from the modelling report

8.1.4 Surfacing Cost Service Risk

Cost service and risk of the options to address the problem statements is summarised below in figure 8-2-12 and 8-2-13.

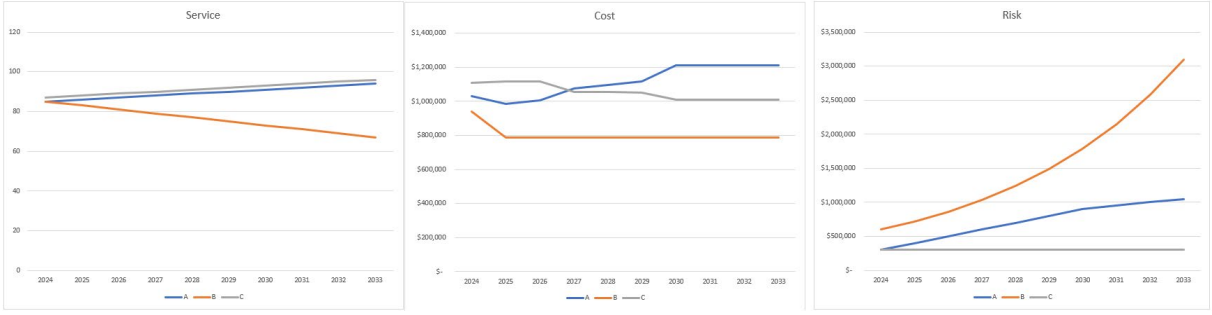


Figure 8-2-12: Surface Maintenance cost service risk

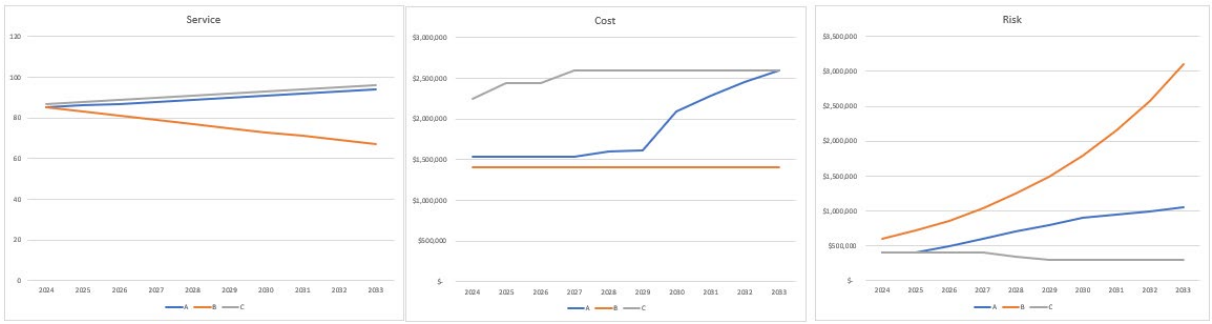


Figure8-2-13:Surface Renewals Cost Service Risk

The costs shown for option B, are the 2021 budgets. There is a high risk of safety defects requiring attention and overspending budgets on reactive works.

Option A has been funded through the long term plan, however NZTA funding does not fund the full renewal programme. Further evidence and analysis are required to reapply for funding at a later date.

8.1.5 Surfacing Gap Analysis

Pavements and surfacing and drainage are interdependent for outcomes and value for money. High quality high value surfaces (eg asphalt) on substandard pavements result in increased roughness, reactive maintenance costs, and shortened surface lives. Poor drainage allows water into pavements which results in surface failures contributing to the resilience and maintenance problems.

Data improvement since 2020 has enabled deterioration modelling and better forecasting of future renewal demands towards better value for money and address maintenance problems. Maintenance management plans are under development.

Second coat seals are not subsidisable but occur outside the 224 certification period. LDM and development contribution review are required to ensure developers incur this cost when doing chipseals on new roads.

Artificial intelligence has become available to do road condition visual inspections and maintenance programming. Efficient use is yet to be incorporated into the programme.

Rejuvenation treatment is being investigated for new asphalts. These could extend the useful lives of good asphalt surfaces, improving value for money and maintenance outcomes. These will be investigated in the 24-27 period (options 1 and 3) to inform later AMP. Future materials and methodology for surfacing roads is likely to change as low carbon, low emission materials become available. These cannot be predicted and planned yet but would be migrated into the programme as options become available. RAP (Recycled asphalt products) are now being included in mix designs as a default, and where appropriate for the design mix.

Surface programme and model were developed prior to ebuses running on the network. Future data and modelling will include this demand.

8.1.6 Surfacing Operations and Maintenance

Operations include network inspections, condition surveys, and deterioration modelling.

Maintenance includes minor to significant surface defect repairs and shoulder repairs and preseal repairs. A minimum budget of $480k per year is required to undertake basic pothole and temporary safety repairs. A budget of $300k has been adopted in recent years for preseal repairs. A new budget for heavy maintenance is required where rehabilitations are not justified but the maintenance problems need to be addressed (refer pavement programme).

Specific Maintenance Operational Performance Measures are included in the contract based on the RIMS Road Assessment Fault Assessment Guidelines. These are varied as required through a governance board to deliver the LOS requirements. These are currently based on ONRC road classifications and are to be changed to ONF when agreed.

The maintenance budget scenario from the modelling report is shown in figure 8-2-14. These are the modelled outcomes from the options. They have been adapted for the AMP options budgets, to include some risk and an ongoing preseal programme within the maintenance programme for all options. Option A is the current scenario, and option 3 is the high scenario.

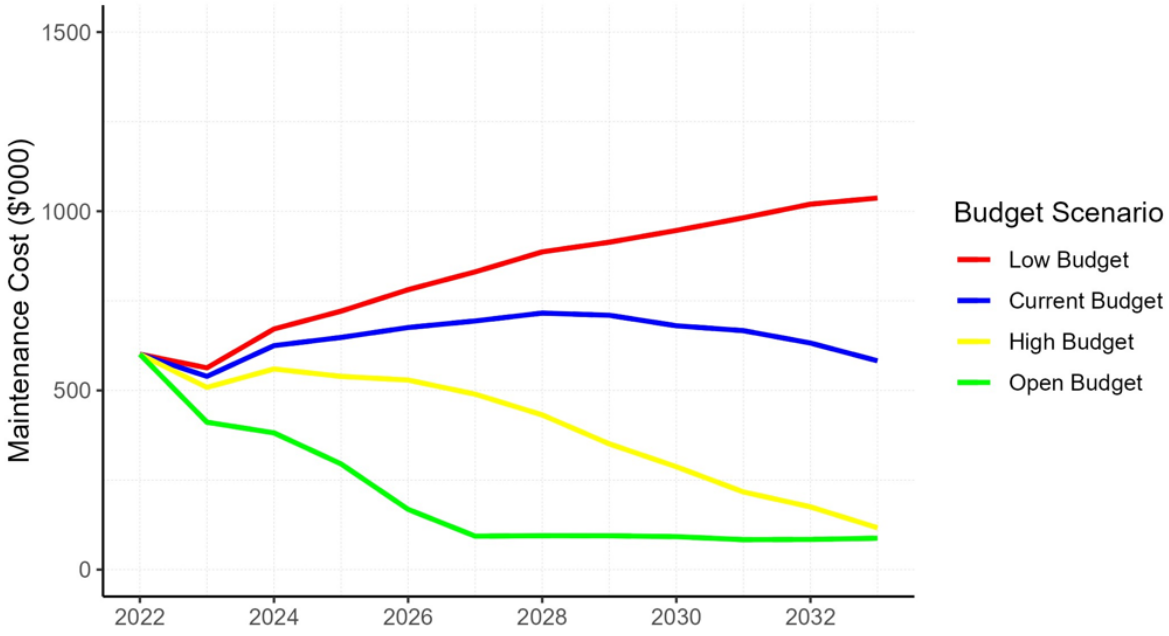


Figure 1: Maintenance Cost based on different budget scenario – from Modelling report.

Preseal budgets should increase proportional to the quantity of sites to prepare for quality resurfacing however due to the failures occurring elsewhere on the network preseal improvements for roughness on local and low volume road will be minimised to direct budget to value for money outcomes elsewhere. Increasing roughness on local and low volume roads is expected.

Crack sealing can be an effective short term method of keeping water out of pavements. It however can be "not pretty" and generates complaints. Excessive

use can create issues for cyclists and motorcyclists. It is an Opex expense so generally is underfunded and cracks left open for water to get through into pavements. Demand would be reduced by an improved resurfacing programme.

8.1.7 Surfacing Renewal

Historically Nelson has resurfaced between 3.7 and 8.1% of roads as shown in figure 8-2-15. A low portion was surfaced in 2022/23 due to contract changes and is expected to be rectified in 2023/24. The trend is a decreasing surface rate due to increasing costs and inadequate budget increases. To achieve good lifecycle and to keep SCI at current level modelling suggests at least 6.7% of roads should be resurfaced annually. This is less than the GS suggestion of 9% resurfacing and 2% rehabilitations per year. The Modelling report is attached in Appendix G.

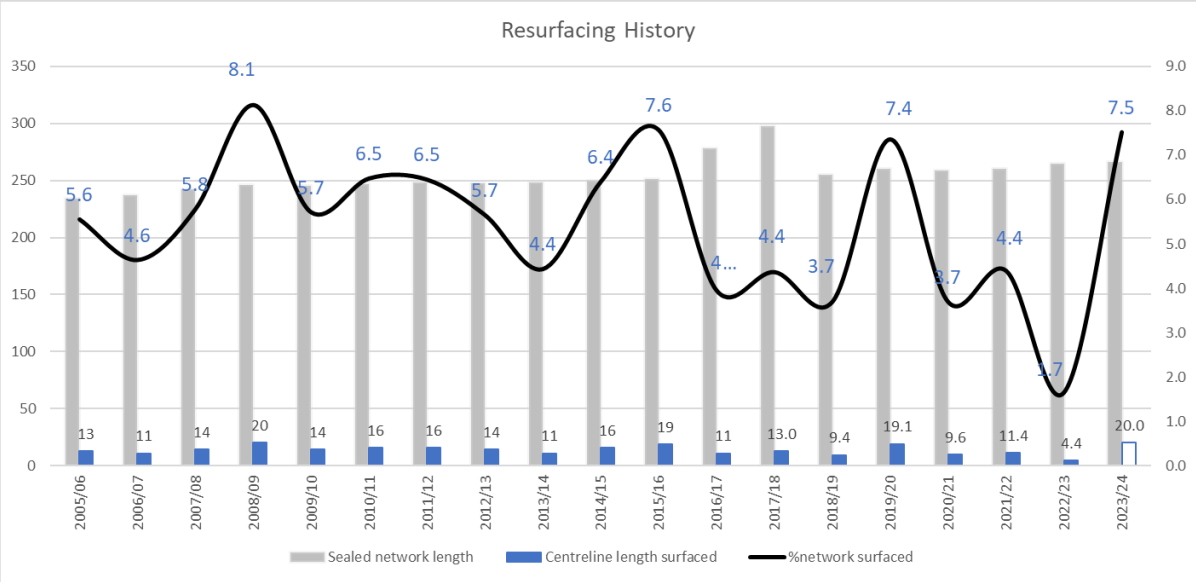


Figure 8-2-15: Historical Surfacing Trends

As shown in figure 8-2-16 chipseal typically lasts longer on Nelson roads than elsewhere in the country. Nelson has good chip materials and low speed and little heavy traffic on most chipsealed roads hence good longevity. There are however some data issues that might be showing this better than reality, so programming is continuing to use theoretical lives while the data is validated. Changing traffic composition, ebuses and electric vehicles may change this in the future.

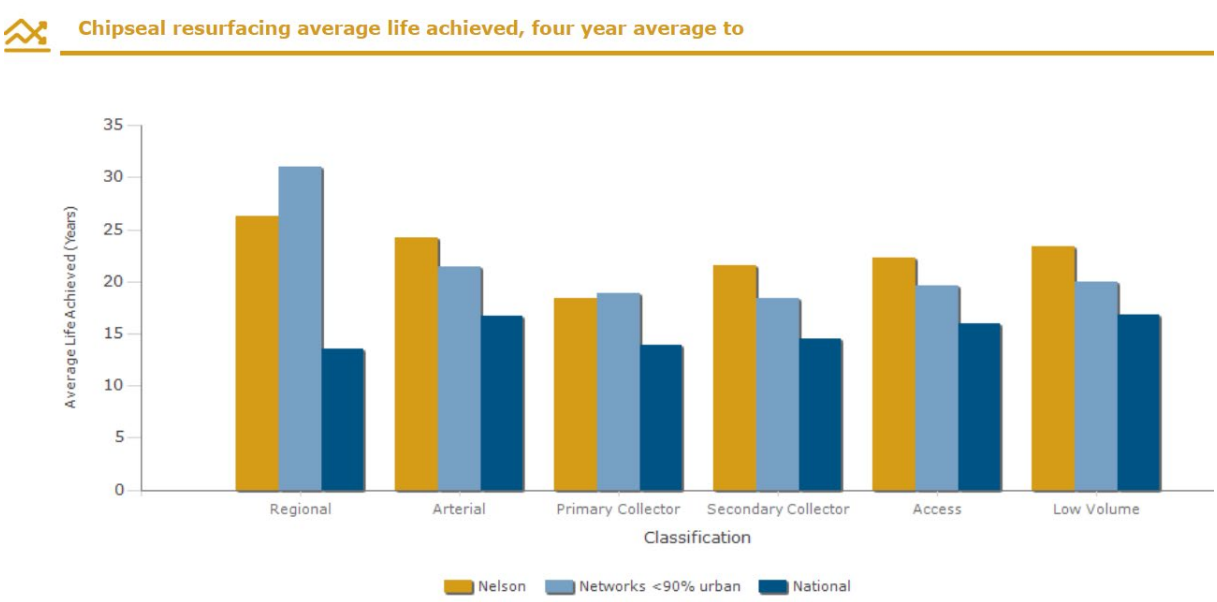
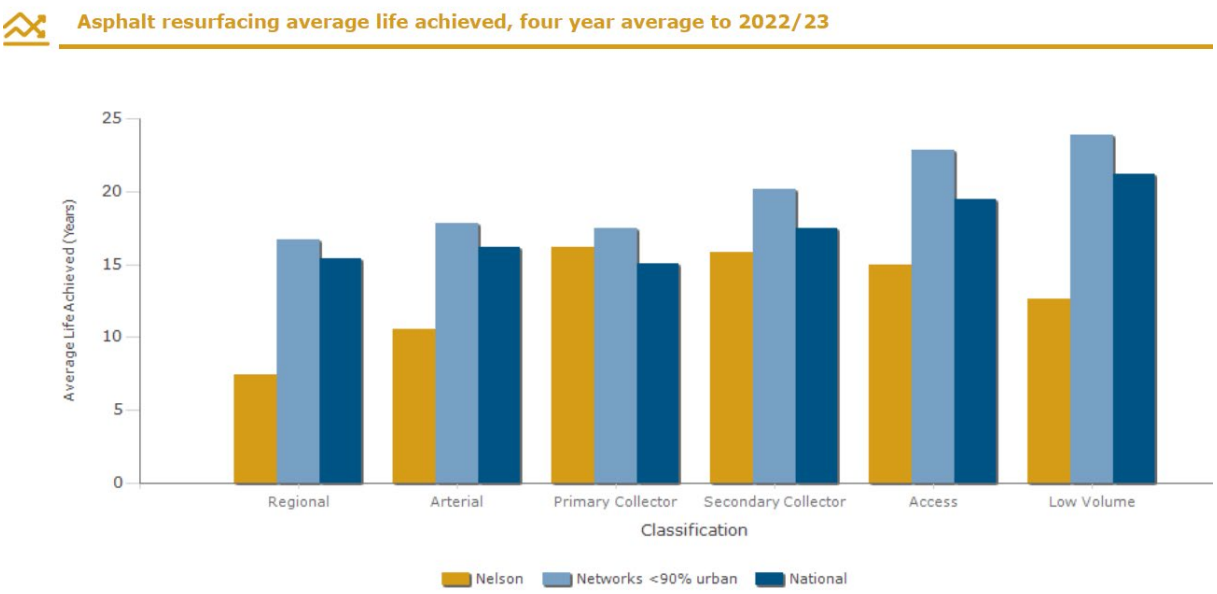


Figure8-2-16:Chipseal resurfacing average life achieved four year average to 2021/22

As shown below in figure 8-2-17 asphalt surfaces are not getting the life span expected on Nelson roads. Asphalt costs about 10 times more than chipseal so renewing these frequently affects the resurfacing programme and puts all roads at risk due to deferred programmes. Reasons for premature asphalt failure have been investigated and include a combination of inadequate maintenance (crack sealing, rejuvenation treatment), inadequate drainage, poor pavement strength, inappropriate material selection, construction methodology or design. Poor pavement strength (curvature >0.2) is the main reason.

Figure 8-2-17: Asphalt Resurfacing average life achieved four year

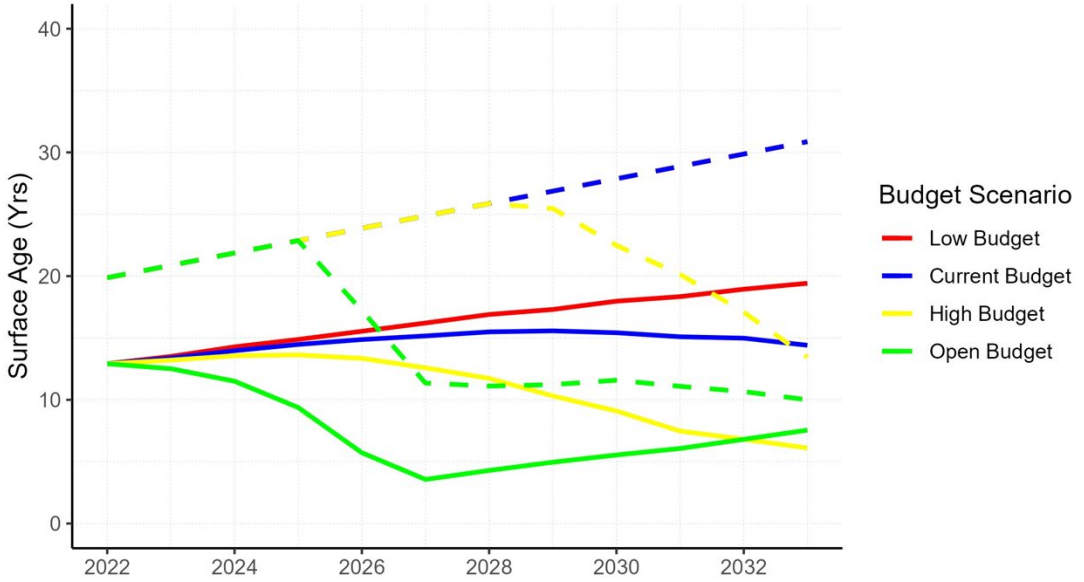


average to 2021/22

Modelling shows that the Open scenario (budget to match demand) is most effective at reducing the current surface age profile. The High scenario (option 3) however also has an impact (but slower to achieve). The Age profile continues to

get longer in the short term with the current (Amp option 1) and low (AMP option 2) scenario. These are shown in figure 8-2-18. The dotted line represents the 90%ile for each option.

Figure 8-2-18: Model Predicted Surface Age for different Budget Scenario



Surface condition follows a similar profile as surface age for the modelled scenario, as shown in figure 8-2-19. It will take approximately 10 years to slow the decline in surface condition with the current scenario (AMP option 1). The low scenario (AMP option 2) will continue to see deteriorating surfaces. Only the Open option (unlimited budget to match demand) improves surface condition in the short term. AMP option 3 – high scenario improves the condition in time. The dotted line represents the 90%ile for each scenario.

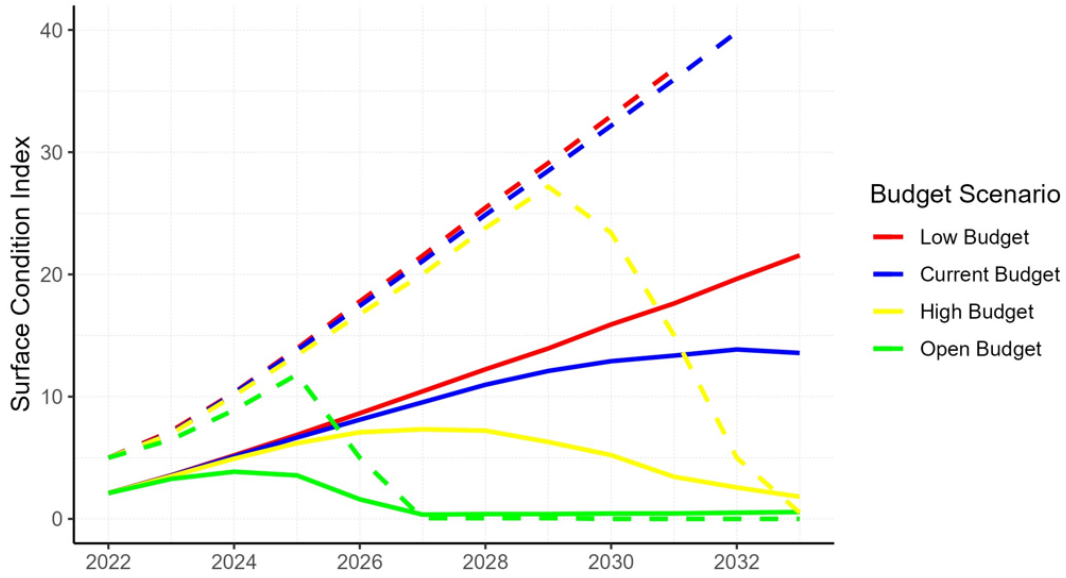


Figure 8-2-19: Model predicted SCI for different budget scenario

8.1.8 Surfacing Renewal ranking criteria

Condition data, maintenance data and the maintenance pool are used to inform the forward works programme through Junoviewer modelling then validation on site. Surfaces are generally replaced like for like except where high stresses and traffic

loadings can justify new asphalt, or chipseal is a consistent and adequate surface for a local street or low volume road that has previously been asphalt. Resurfacing is prioritised by ONRC/ONF, condition and resilience risks.

8.1.9 Surfacing - Summary of future renewal costs

Option 3 (high) is higher cost than previously budgeted as shown in figure 8-2-20 against the asset renewal demand. This has become especially demanded since the 2022 flood damage and introduction of ebuses.

Asphalt is estimated to be contributing a $2M per year impact on the resurfacing programme. Changing to chipseal where possible will reduce this demand.

Main Road Stoke and Bolt Road will need rehabilitation within 10 years because the layers of chipseal are unstable requiring milling and new basecourse preparation for a chipseal. This could then encounter coal tar disposal issues as well. Further sites are expected to be identified due to the age of the network.

The predicted 30year programme vs budget is shown in figure 8-2-20. Option 3 (preferred) budget best matches the forecast demand so best addresses the resilience/maintenance problem for the network. The unfunded demand are sites where theoretically the resurfacing date has passed. These sites are being identified into the forward works programme and addressed.

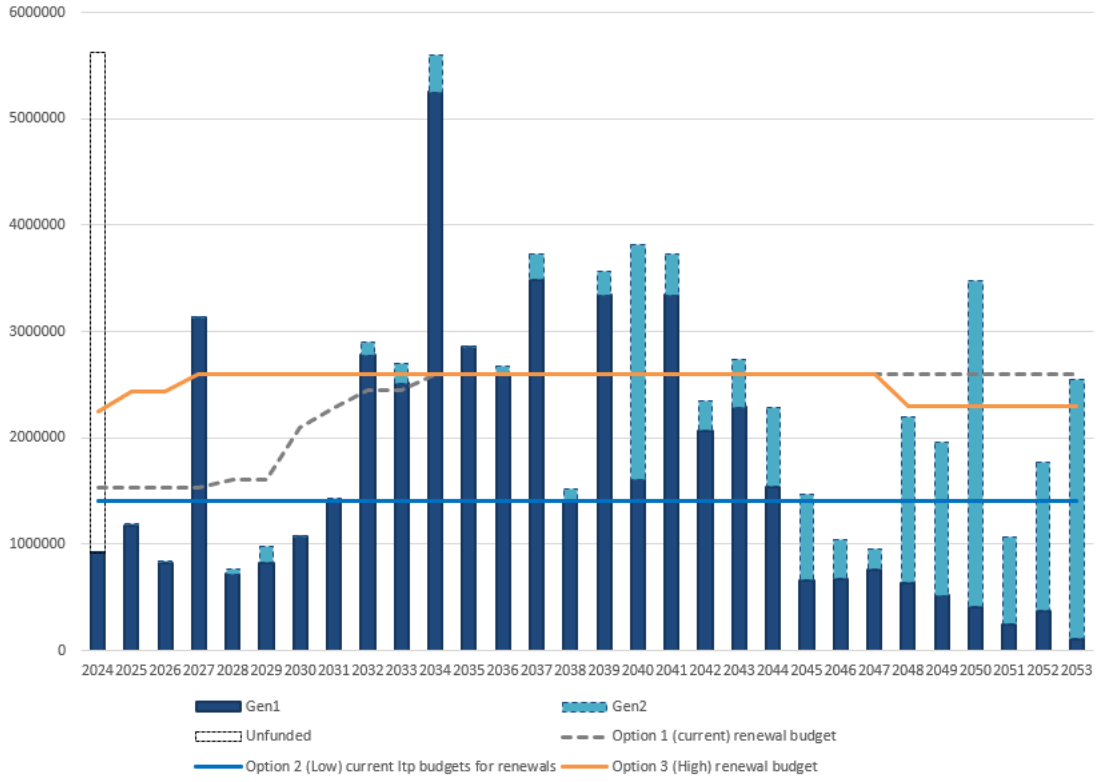


Figure 8-2-20: Surface Renewal Forecasts

The detailed Forward Works plan for 2024-27 is included in Appendix D but is subject to change as monitoring data updated the programme.

8.1.10 Surfacing - Acquisitions

Acquisition is primarily from subdivisions at a rate of 0.5km t o 2km per year. These increase operating and maintenance costs and future renewal costs. Typically, these are local roads with low demands.

Priority bus lanes are proposed through the NFAS in approximately year 10. These will widen Waimea Road, and Rutherford Street surfaces by a lane width.

Road humps, (speed humps and raised safety platforms are proposed through the capital works programme to address road safety. These will become new assets. Planned acquisitions through project works are detailed in the LCLR and Major projects section.

Asphalt surface designs rely on good pavement strength. Where this is poor and asphalt is required additional asphalt depth is required. This becomes a new pavement asset through the surfacing programme.

8.1.11 Surfacing - Disposal

Road surfaces will be reallocated to cycleways and footpaths through road space reallocation over time.

There are no other disposal plans for surfaces.

8.1.12 Surfacing - Preferred Programme

Option A has been funded through the long term plan, however NZTA funding does not fund the full renewal programme. Further evidence and analysis are required to reapply for funding at a later date.

8.1.13 Surfacing - Procurement

Resurfacing and pavement maintenance is included in the Road Maintenance contract let in 2022 with a minimum review period of 5 years. As the forward works programme matures, forecasting and data confidence improve it is expected the next maintenance contract can be tailored more closely to the FWP and pavement needs.

As improvement projects are entwined with renewals more surfacing works could be delivered by project procurement. This increases the demand to have a forward works plan for pavements, and good management strategy to ensure a ready and well resourced supplier market and value for money outcomes.

There is a new asphalt plant in Nelson. Having a second supplier will assist with procurement options and resourcing of the surfacing programme in the future.

8.1.14 Surfacing – Risks

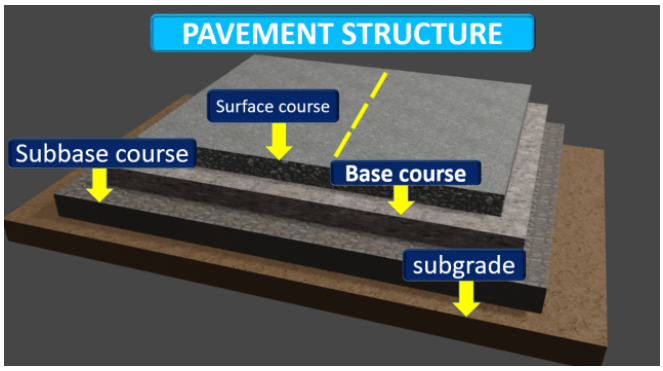
Refer also section 8.2 for pavement and surfacing risks.

8.1.15 Surfacing - Improvement Register

Ref	Improvement Action	REG Pillar	Who	Current Status	Timeframe	Cost
S1	RAMM data improvement	Systems	NCC/Maintenance contractor (include in future contracts)	REG Score improved from 68-95 but age and life data requires improvement and validation on site	Ongoing	Staff time
S2	Develop a Pavement Management Strategy and Forward Works Programme	Systems	NCC	underway – first 10year programme included in the 2024 AMP		

8.2 Pavements

The following section shows how the preferred programme affects the pavement assets. Surfacing has been considered separately in section 8.1 but they are co-dependent.



8.2.1 Pavements - Physical parameters

The assets covered by this Asset Management Plan are shown section 2. Transport Assets and Services Register.

The recorded age profile of the pavement assets are shown in figure 8-3-1 below. The challenge with pavement assets is the unknown hence confidence in data is poor. Council logs trenches when possible and records the data in RAMM to update pavement records. Test pits are also an option but are expensive because of the TMP and excavation work involved. Without a programme of validating pavement data these remain as buried surprises as shown in figure 8-3-2 below where the trench reveals clay over river run material under the seal layers.

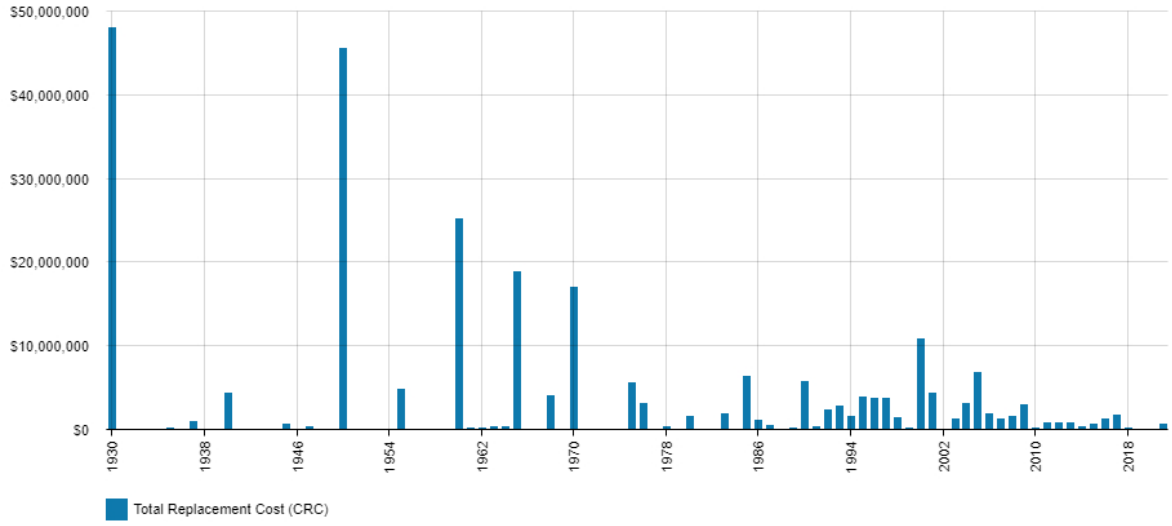


Figure 8-3-1: Age Profile of Pavements

Figure 8-3-2: Clay pavement layer below the seal layer is revealed in a utilities trench (Riverside Drive)

Granular pavements are valued for an 80 year lifespan, and structural asphalt pavements are given a lifespan of 40years unless specific details are available from detailed design.

8.2.2 Pavements - Pavement Condition

Condition is currently monitored through 2 yearly High Speed Data collection. MSD was done in 2021 with a subsequent FWD test on the worst 15% of the network. Future MSD/FWD testing is required to monitor pavement strength deterioration.

Pavement Condition surveys are now being undertaken on 100% of sealed roads to inform the assessments. The methodology is expected to change with the introduction of the consistent data collection framework, and use of AI is being investigated.

Nelson pavement condition is lower than the national average and our peer group. Pavement Condition affects surface condition, surface longevity and selection of surfacing materials. Pavement condition compared nationally is shown in figure 8-3-3.

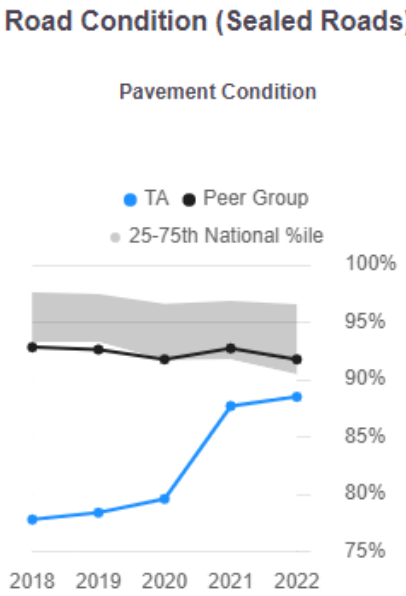


Figure 8-3-3: Pavement Condition Index (Te Ringa Maimoa 2021-22)

This shows an improvement in pavement condition which is a result of data improvement not condition improvement. In reality asset condition is slowly declining with time and inadequate budgets and inadequate intervention programme and increasing traffic demand. This is expected to show up once a trend of good data and condition surveys is established. Condition of local roads were impacted during the 2022 floods and heavy traffic bypassed onto these roads from the state highway closures. Rural and other roads were impacted by flooding, slips and heavy vehicles during the recovery works.

Nelson roads have traditionally survived with little pavement works because the traffic is predominantly cars and light commercials. This has changed with the introduction of ebuses in 2023 and there has been an exponential increase in pavement failures. The rate of failures has been too quick to have condition data. This will be collected in 2024.

Structural Pavement Modelling shows expecting remaining life of pavement assets. This did not model the whole network and did not include the new bus routes. New MSD/FWD and modelling would be required to benchmark these. Site validation, and economic assessment is required to confirm the structural model outcomes.

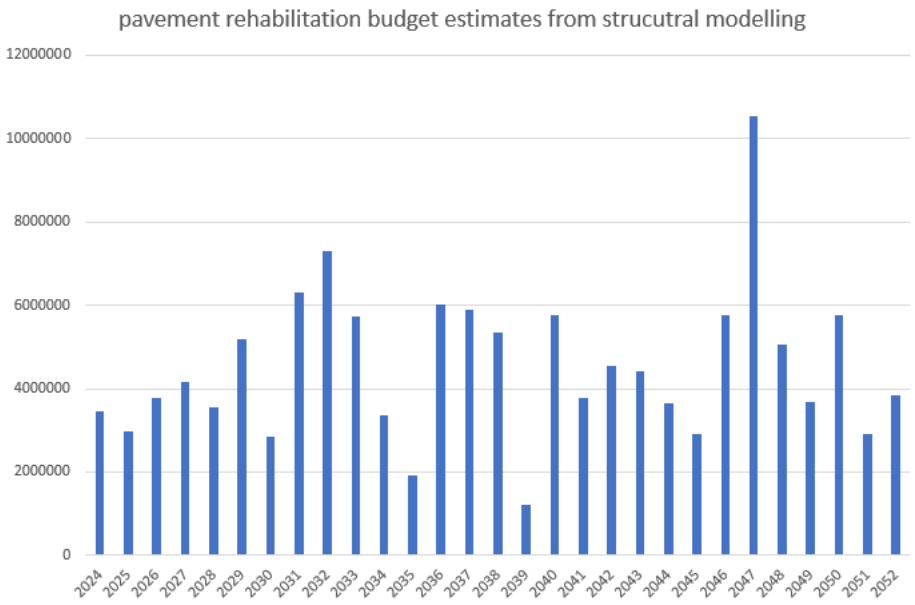


Figure 8-3-6: Estimated budget requirements for structural rehabilitation of pavements

Figure 8-3-7: Pavement deterioration

8.2.3 Pavements - Link to Strategic Case

The activities have been considered according to their degree of alignment with problem statements and strategic priority. These help shape the programme options and delivery of the national, regional and local priorities.

Problem Statement	Environmental Impact/ Climate Change	Safety	Network Resilience/ Road Maintenance	Congestion/ Economic
Priority for this programme	4	2	1	3

Options for surfacing to deliver the preferred outcomes from the strategic case are:

Option A: the "current" budget scenario from the Modelling report

Option B: retain 2021LTP budgets and programme works within these budgets – lower than the "low" scenario in the modelling report

Option C: the "high" budget scenario from the modelling report

1: Network Resilience / Road Maintenance: Investment in road pavements is aligned with the GPS for maintenance and resilience. Nelson's road pavements are not resilient: old, built to old standards, designed for low traffic volumes and suffering from inadequate resurfacing. Well planned and timely programmes will improve network and economic resilience.

2: Safety: Pavement faults can be a risk to the safety for users. They support trafficable surfaces and contribute to safety outcomes.

3: Congestion/Economic: Any road works on the urban network, especially regional, arterial and collector roads are disruptive to traffic flows. The traffic volumes, especially heavy vehicles when state highway routes are detoured onto local roads and new bus routes create more demand on the road pavements and surfaces. Well planned and timely programmes will have economic benefits for the assets, users and Nelson economy. This includes minimising traffic disruptions during works, longer lives achieved thus less maintenance and less future disruption.

Maintenance and rehabilitations can require large TMP which (temporarily and cumulatively) compound the congestion issues experience on Nelson Roads. Compounded across the network this can become a permanent effect. Appropriate interventions, and future proofed pavement designs are required to reduce the frequency of these disruptions and deliver the benefits desired.

4: Environmental Impact/Climate Change: Road pavements involve large quantities of materials and resources. Recycling is used wherever possible in current programmes and are planned to continue. Industry changes are being monitored for improvement options to address PS1 but are not developed enough influence the AMP programme at this stage. Appropriate designs and material selection and intervention decisions are the best method to minimise these costs.

The pavement programme will consider the DAPP process, coastal inundation, erosion and river flooding risks. Council has not consulted, or developed a future plan for the city, so programmes will not lead changes until property impacts, and desired outcomes are agreed. There are expected to be updates in the 2024 AMP.

Options bespoke to pavements to deliver the preferred outcomes from the strategic case are:

Option 1: Modelled High Scenario

Option 2: Current LTP budgets

Option 3: Modelling High scenario, plus an allowance for bus stops, and an increasing programme of structural pavement improvements.

8.2.4 Pavements - Surfacing Cost Service Risk

Test Levels of Service. Cost service and risk of the options to address the problem statement is summarised below in figure 8-3-8. Operating and maintenance is included in the surfacing programme.

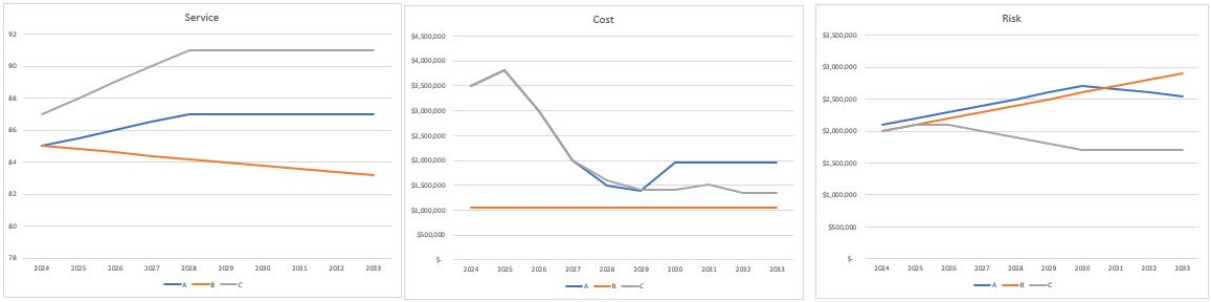


Figure 8-3-8: Pavement Cost Service Risk

Option A has been funded through the long term plan, however NZTA funding does not fund the full renewal programme. Further evidence and analysis are required to reapply for funding at a later date.

8.2.5 Pavements - Gap Analysis

There is a gap between valuation lifecycle and the real life expected from pavements. A review is required. Some roads that are not expected to have future traffic demands could have lifespan extended to 150years or more. Other roads with high or changing traffic loads could have lifespan less than the predicted 40-80 years. This would let the predicted lifespan for a pavement, along with condition surveys and analysis inform the forward plan.

There is a gap in LOS expectations that the ends of the network are hit by the storm events, are typically low volume roads and single access routes, where access priority is focused on high volume roads and utility lifeline routes. New NZTA guidance is expected in the 24-27 period on this matter.

Waimea Road and Main Road Stoke need to be available to be detour routes for state highway traffic when the highway closes for emergency events. This includes freight that is not normal on these roads. Pavement strengthening for this design traffic is required when sites are renewed.

Pavement rehabilitation costs are expected to be higher than the valuation budget due to the presence in Coal Tar (requiring specialised testing, on site management and controlled disposal) and other on site specific design issues.

Pavement lifespans are dependent on good surfacing (waterproofing) and drainage. These are covered in the respective programmes.

Electric vehicles are heavier than traditional petrol/diesel vehicles and are damaging the pavements. The complete bus network could need to be reconstructed in the 10 year period. This would cost more than current or forecast budgets which have been prepared before detailed data collection and analysis is available.

Previous pavement rehabilitations have been reactive when "just in time" becomes "just too late". The modelling aims to identify sites for maintenance monitoring and rehabilitation prior to failure becoming a safety concern. Inadequate funding will prevent the improvement in pavement management.

8.2.6 Pavements - Operations and Maintenance

Operations include network inspections, condition surveys, and deterioration modelling.

Maintenance includes minor to significant pavement repairs. Specific Maintenance Operational Performance Measures are included in the contract. These are varied as required through a governance board to deliver the LOS requirements.

Rehabilitation of all roads is not financially affordable or feasible or required. Area wide heavy maintenance programmes will be introduced through the maintenance management plans as shown in figure 8-3-9.

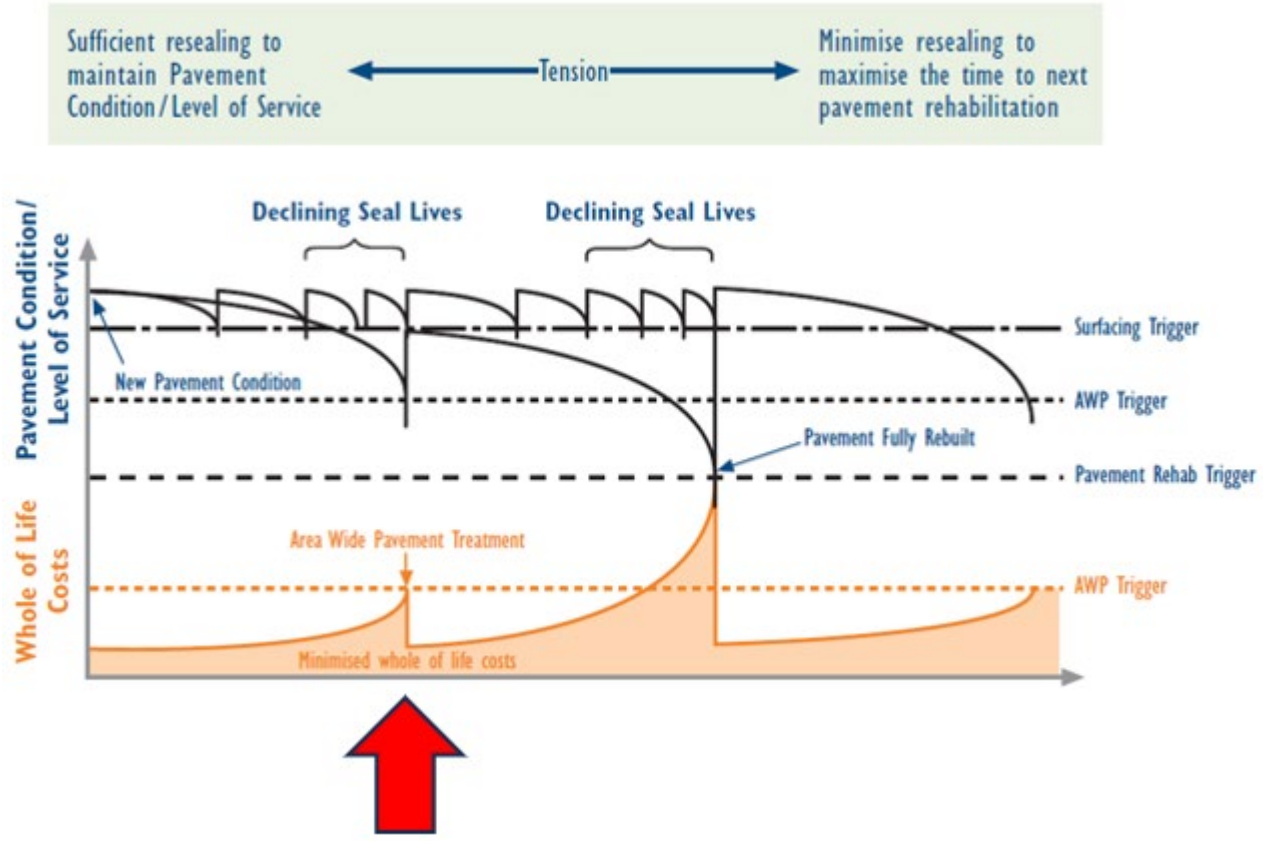


Figure 8-3-9 Pavement and surfacing renewal strategy

8.2.7 Pavements – Renewals

Rehabilitations for the 24-27 period will be validated in 2023/24 with site inspections, testing and NPV calculation. Sites that do not warrant full rehabilitation will be considered in the area wide pavement treatment programme. The draft FWP for is given in Appendix D.

8.2.8 Pavements - Renewal ranking criteria

ONF hierarchy Condition data, and maintenance data are used to inform the pavements forward works programme. Where there are multiple sites competing for inadequate budget rehabilitation, or heavy maintenance budget priority is assigned by ONF as follows:

Priority for pavement rehabilitation assessment	ONF	Comments
1	Urban M1	State Highway detour route, bus, freight route
2	Urban M2	State Highway detour route, bus, freight route
	PT 1-4	Bus routes
4	Freight 1	Generally covered by M1 and M2
5	Freight 2	Generally covered by M1 and M2
6	Freight 3, 4, 5	
7	Rural	Resilience improvements
8	Urban M3	Generally a secondary consideration to urban design, land use and utilities if required
9	Urban M4, M5	Unlikely to occur

Pavement Rehabilitation Priority Ranking

8.2.9 Pavements - Summary of future renewal costs

Option budgets are shown against the forecast pavement renewal demand from the valuations and lifecycle data in figure 8-3-10. Renewal forecasts based on age profiles exceed the budgets proposed in any option. Rehabilitation budgets are significantly less than the renewal valuation for future years. Management of the surfacing and pavement programmes is required to protect the pavement asset and minimise the risk of full renewal. Further work is required to consolidate a robust future programme including reviewing the expected life and valuation of assets and future alignment with condition data.

New bus services and shifting traffic lanes within the road corridor to accommodate cycle, bus and pedestrian facilities may increase the incidents of pavement failure due to increased and shifted wheel path loads. An improved process to predict and accommodate this in the designs is required.

Future materials and methodology for pavements is likely to change as low carbon, low emission materials become available. These cannot be predicted and planned yet but would be migrated into the programme as options become available.

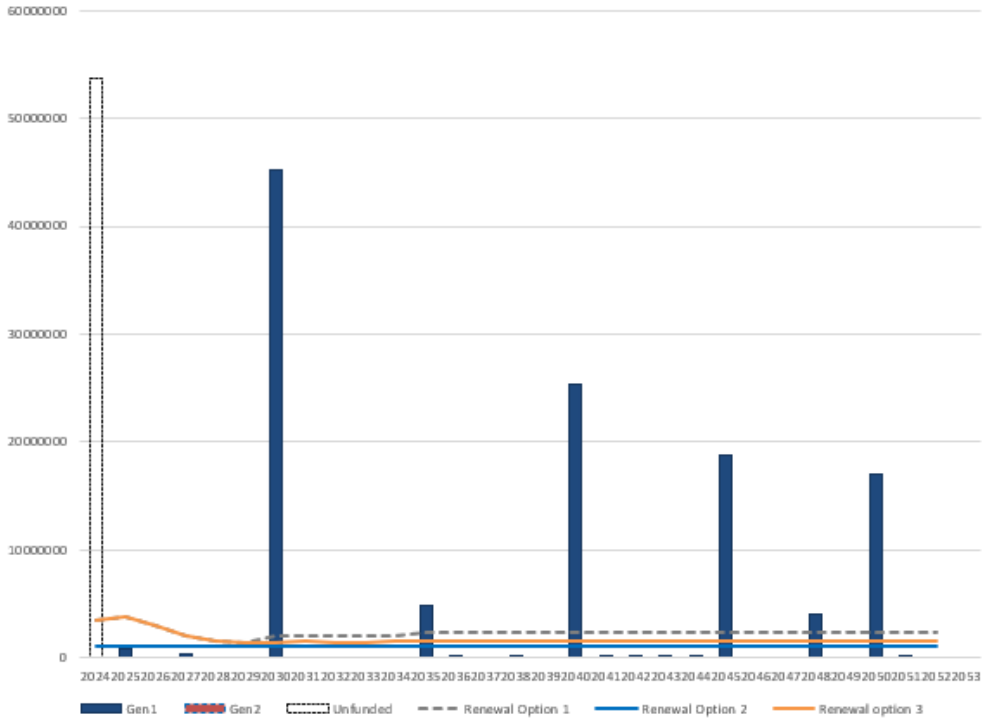


Figure 8-3-10: Pavement Renewal Forecasts

8.2.10 Pavements - Acquisitions

Acquisition is primarily from subdivisions at a rate of 0.5km t o 2km per year. These increase operating and maintenance costs and future renewal costs. Typically, these are local roads with low demands.

Utility upgrades can result in renewal of pavements and surfaces being vested with transport. Improved processes are seeking to captured as built data in RAMM for significant works.

Priority bus lanes are proposed through the NFAS in approximately year 10. These are expected to widen sections of Waimea Road, and Rutherford Street pavements up to lane width.

8.2.11 Pavements - Disposals

Road pavements and surfaces may be divested to cycleways and footpaths through road space reallocation over time.

There are no other disposal plans for pavements.

8.2.12 Pavements - Preferred Programme

The preferred programme is option 3, an increase in the renewal budgets to suit approved rehabilitation and area wide heavy maintenance programmes. Financial summary is included in section 1.

8.2.13 Pavements - Procurement

Resurfacing and pavement maintenance is included in the Road Maintenance contract let in 2022 with a minimum review period of 5 years. As the forward works programme matures, forecasting and data confidence improve it is expected the

next maintenance contract can be tailored more closely to the FWP and pavement needs.

As improvement projects are entwined with renewals it is expected more pavement works will be delivered by project procurement. This increases the demand to have a forward works plan for pavements, and good management strategy.

There are now 2 asphalt plants in Nelson. Most pavement renewals are expected to be structural asphalt on arterial roads so the new supplier will be available to price for structural asphalt pavement works.

8.2.14 Pavements – Risks

Risks specific to the surfacing activity are:

Risks - Sealed Pavements							
Identification		**Analysis: Residual Risk**				**Response e.g. Accept, Reduce, Share**	**Treatments**
Event	**Consequence**	**Existing Controls**	**Consequence**	**Likelihood**	**Current Risk Level**		
Heavy vehicle pavement damage	Road failure	Heavy maintenance of failures	3	5	High (15)	Reduce	Deliver testing, investigations and maintenance programme. Structural ac pavement designs on arterial routes Consider a pavement strengthening programme
Coat Tar	Management and disposal costs	Avoid excavation	**3**	**5**	High (15)	Accept	Consider all options minimising excavation and pay management and disposal costs when required ($170/t landfill cost, plus approx $45/t handling cost
significant pavement failure occurs before the current testing and investigation programme can determine a strategy to maintain and renew pavements and surfacing.	Road failure	Maintenance programme implemented	**4**	**3**	High (12)	Reduce	Deliver investigation, testing, data improvement, maintenance and renewal programmes
Water ingress causing pavement failure	Road failure	Drainage maintenancerenewal and improvement	**4**	**3**	High (12)	Reduce	Improvement plan to better link drainage and pavement maintenance. More surfacing.
the programme to maintain and renew the pavements exceeds current and future	Lower LOS	Reduce LOS to fit within budget constraints	**3**	**4**	High (12)	Reduce	Deliver investigation, testing, data improvement, maintenance and renewal programmes

budget availability							
Unplanned closure of Vickerman Street - Single access road to port (ONRC - Regional)	Impact on Port and shipping operations	Maintenance programme	**4**	**3**	High (12)	Reduce, Share	Investigate pavement failures, plan rehabilitation, investigate emergency routes with Port Nelson
the programme to maintain and renew the pavements exceeds current and future budget availability	Lower LOS	Reduce LOS to fit within budget constraints	**3**	**4**	High (12)	Reduce	Deliver investigation, testing, data improvement, maintenance and renewal programmes
New subdivision roads do not achieve design life.	Road failure	Land development manual design and liability standards	**3**	**3**	Medium (9)	Share	Include resurfacing/pavement repairs in the development contributions policy and calculations to intervene during/ post second (house) building stage of new subdivision developments
asphalt surfacing has shortened life span due to poor pavement integrity.	Road failure	Maintenance programme implemented	**3**	**3**	Medium (9)	Reduce	Deliver investigation, testing, data improvement, maintenance and renewal programmes
increased chip resurfacing is not publicly acceptable.	Public complaints	Communications	**2**	**5**	Medium (10)	Accept	Manage with Communications
Poor quality of road reinstatement work by utility operators such as trench edges in high stress areas such as wheel paths or close to kerbs, trench settlement and cracking allowing water to enter the pavement layers below.	Road failure	The conditions and bond associated with the road opening permit minimise this risk	**2**	**3**	Medium (6)	Share	Manage with Road Opening Permit conditions
Large trenches with high quality back fill in poor subgrades where differential settlement can then occur.	Road failure	The conditions and bond associated with the road opening permit minimise this risk	**3**	**4**	High (12)	Reduce	Improvement plan to better link major utilities projects and pavement renewal and maintenance works

Resurfacing without major dig outs to fix road pavement issues.	Road failure	Maintenance programme implemented	**3**	**3**	Medium (9)	Reduce	Deliver investigation, testing, data improvement, maintenance and renewal programmes
Precedence of AC subdivision roads setting customer expectations.	Public complaints	Communications	**1**	**5**	Medium (5)	Accept	Manage with communications
Inadequate maintenance	Road failure	Maintenance programme implemented	3	3	Medium (9)	Reduce	Deliver maintenance programme and pavement improvement programme

8.2.15 Pavements - Improvement Register

Ref	Improvement Action	REG Pillar	Who	Current Status	Timeframe	Cost
P1	Pavements data collection and assessment	Evidence	NCC	1st modelling run completed. Further data improvement required to inform next run.	Ongoing	Approx $25k per year plus staff time
P2	Develop a Pavement Management Strategy and Forward Works Programme	Systems	NCC	underway – first programme included in the 2024 AMP	Ongoing	Staff time
P3	Test pit pavements to determine if there is a pavement, depth and material problem.	Evidence	NCC	done but ongoing to embed. Rates in new mtce contract and working with projects/utilities to identify opportunities. Further work required to use this data to undate the pavement details and inform the FWP modelling	Ongoing	Approx $20k per year for test pits and trench logs plus staff time
P4	Update traffic counting programme and estimates	Evidence	NCC/traffic counting contractor	To inform new contract tender in 2023	2023/24	Approx $50k
P5	Establish a five year high speed data and FWD testing contract	Evidence	NCC	Complete, pending WK consistent data collection programme advise	ongoing	$80k per year
	Prediction and intervention planning of pavement issues resulting from shifting lanes	System	Am and design teams	Not started	TBC	Staff time and site specific project costs
P6	ADMS data standardisation project	Systems	NCC	To suit ADMS roll out	Approx. 2026	Staff time
P7	RAMM data from major utility upgrades	Evidence	Asset Engineer and project managers	QA processes being updated. Underway, Little Go recorded, Hastings Street and St	ongoing	Staff time

Ref	Improvement Action	REG Pillar	Who	Current Status	Timeframe	Cost
				Vincent Street being pursued.		
P8	Review pavement life and valuation based on condition/demand. Review pavement valuation	Evidence	Asset Engineer and Valuation Accountant	Not started	Prior to 2024 revaluation	Staff time
P9	Include roundabouts in the pavement NAMS worksheets for pavements	Evidence	Asset Engineer	Not Started	After roundabout upgrades	Staff time
P10	Employ an experienced roading engineer, or invest in training of existing staff	Resources	NCC	New staff and contracts with external advisors for pavement deterioration modelling.	Complete	

8.3 Unsealed

The following section shows how the preferred programme affects the unsealed roads.

8.3.1 Unsealed - Physical parameters

The assets covered by this Asset Management Plan are shown section 2. Transport Assets and Services Register. Unsealed roads are included in the pavement valuation.

The construction date and age profile of unsealed roads is yet to be updated where roads have been rebuilt post 2022 flood event.

8.3.2 Unsealed - Asset condition

Roads are graded and gravelled as required so the condition is generally average. Unsealed roads can be affected by weather events resulting in road closures and isolated communities.

Condition of unsealed roads is not formally measured. Assessment would enable better management of the assets.

8.3.3 Unsealed - Link to Strategic Case

Problem Statement	Environmental Impact/ Climate Change	Safety	Network Resilience/ Road Maintenance	Congestion/ Economic
Priority for this programme		2	1	

Maintenance is required to provide resilience of the unsealed network to provide safe access to ends of the network, including resilience improvements and reactive maintenance to address climate change impacts.

8.3.4 Unsealed - Surfacing Cost Service Risk

Sealing the unsealed network has been assessed and is not economically viable at this time. Maintaining the current network remains the preferred option.

8.3.5 Unsealed - Gap Analysis

The unsealed roads are subject to washouts, slips and flooding during storm events. Drainage works to mitigate some of these risks are considered in the drainage and resilience improvement programmes.

The unsealed roads are at the extremes of the network requiring long journey times for maintenance and grading. Costs currently exceed budget. LOS will need to be reduced if budgets are retained or reduced.

Demand for sealing roads from subdivision development accessing unsealed roads is currently low and assessed on a case by case application. Trigger and

development contribution cost apportionment of sealing as a result of user demand has not yet been determined.

8.3.6 Unsealed - Operations and Maintenance

Inspection and maintenance aims to provide a stable LOS and resilience for unsealed roads.

Aniseed Valley Road is maintained by the Tasman District Council road maintenance contractor to the Tasman unsealed road LOS.

8.3.7 Unsealed - Renewals

Renewal programme is limited to spreading replacement gravels. Pavement reconstructions have not yet been considered.

8.3.8 Unsealed - Renewal ranking criteria

TBC.

8.3.9 Unsealed - Summary of future renewal costs

Unsealed roads are currently estimated to need renewal in 2037-40 based on existing construction date and useful life data. This is shown in figure 8-4-3. Low confidence in this data means these have not been adopted as programmed in favour of an ongoing staged renewal plan.

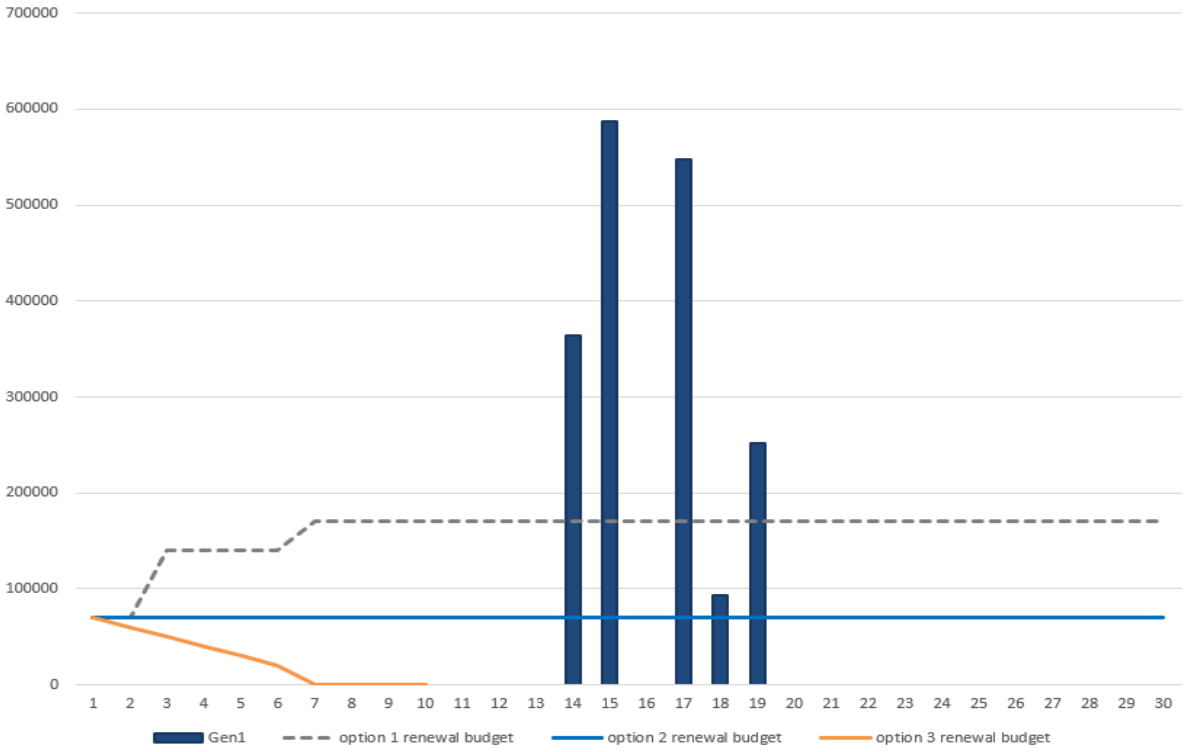


Figure 8-4-3: Unsealed Pavement Renewal Forecasts

8.3.10 Unsealed - Acquisitions

There are no plans to acquire more unsealed roads.

8.3.11 Unsealed - Disposals

Unsealed roads have low user numbers but enough economic activity to retain as public assets. Definition of the end point of some rural roads requires review. Roads that taper to 1 user could be divested to the landowner either as land transfer, if road is unlikely to ever ben needed, or formation deemed a driveway. Locations are identified in the property section. These options require further assessment and consultation before they can be considered further.

8.3.12 Unsealed - Preferred Programme

The preferred programme is to continue maintaining unsealed roads to a consistent LOS, including spreading new gravels.

8.3.13 Unsealed - Procurement

Unsealed pavement maintenance is included in the Road Maintenance contract let in 2022 with a minimum review period of 5 years. Aniseed Valley Road maintenance will be directly appointed to the Tasman road maintenance contractor.

8.3.14 Unsealed – Risks

Risks – Unsealed pavements							
Identification		**Analysis: Residual Risk**				**Response e.g. Accept, Reduce, Share**	**Treatments**
Event Description	**Consequence**	**Existing Controls**	**Consequence**	**Likelihood**	**Current Risk Level**		
Ex city residents that move to the country without realising the impact of unsealed roads	Public complaints	Communications	**2**	**5**	Medium (10)	Accept	Manage with Communications
Forestry harvest vehicles can damage low strength unsealed roads in a very short space of time.	Road failure	Maintenance programme implemented	**2**	**3**	Medium (6)	Share	Forestry management is returning to the Parks team which is expected to improve sector communications;
Crash risk associated with unfamiliar drivers/tourism and recreational users eg accessing walk and mountain bike tracks;	Crashes	Traffic signs and markings	**4**	**3**	High (12)	Reduce	Road safety promotion programme to deliver communications, network panning to identify treatment and management options, speed reductions

8.3.15 Unsealed – Improvement Register

Ref	Improvement Action	REG Pillar	Who	Current Status	Timeframe	Cost
U1	As built pavement reconstructions in RAMM for 2022 flood event works, if any	Evidence	AM and Operations	TBC	ASAP	Staff time
U2	Start a condition assessment programme for unsealed roads	Evidence	AM and Operations	Some old historical data	Pending budget	Est $10k per year plus staff time
U3	Update construction date and lives	Evidence	AM and Operations	Not started	2024-27	Staff time
U4	Determine pavement and formation rehabilitation needs	Evidence	AM and Operations	Not started	2024-27	Staff time. Could result in pavement renewal programme
U5	Determine growth and demand for development contributions towards future sealing of unsealed roads	System	AM and planning	Not started	TBC	TBC
U6	Investigate divesting unsealed roads to adjoining landowners	Decision making	AM and planning and comms	Not started	TBC	TBC
U7	Review carbon emissions, VFM and resilience for unsealed road	Evidence	NCC ops and AM	Not started	2024-27	Staff time

8.4 Drainage

The following section shows how the preferred programme affects the drainage assets and services.

8.4.1 Drainage – Physical parameters

The assets covered by this Asset Management Plan are shown section 2. Transport Assets and Services Register and includes kerbs, surface water channels, culverts including inlets and outlets, subsoil drains, sumps and sump laterals.

The programme also includes road sweeping/sump cleaning to minimise materials into the stormwater system, freshwater and coastal receiving environments. Sweeping is also done to remove glass (etc) and slippery material off the roads and paths and leaf matter in autumn to prevent the sumps becoming blocked. The city centre receives a higher LOS for Main streets and Civic Places for road and footpath cleaning.

The age profile of the assets, (drainage, subsoil drains, kerbs and side drains) are shown in figure 8-5-1 below. All figure values are shown in current day dollars.

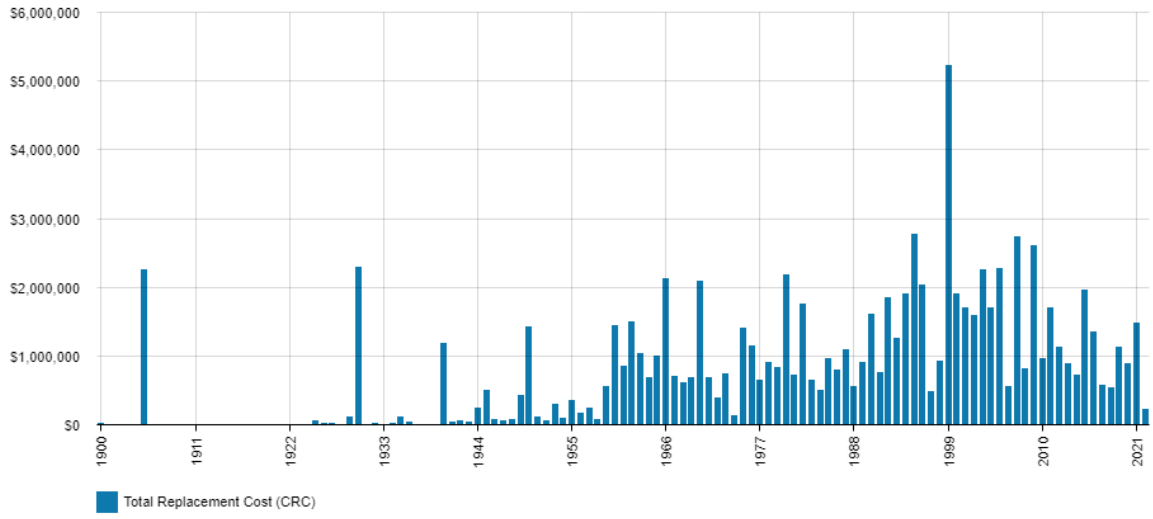


Figure 8-5-1: Age Profile of Drainage Assets

Drainage assets are assumed to have a lifespan between 50-100 years, however the quantity and age data is variable quality. Construction dates have been assumed where missing based off surrounding asset age and type. Some data is still known to be missing.

8.4.2 Drainage – Asset condition

Drainage asset condition is generally known and good to average. The condition of some culverts was downgraded to poor due to their capacity performance during the 2022 (and prior) flood events, figure 8-5-2. The bulk of poor condition drainage assets are on ONF rural roads, which also was reflected in the locations of most damage during the 2022 flood events, figure 8-5-3. Culverts that did not cope in the August 2022 flood event have been downgraded to poor condition eg Cable Bay Road, Glen Road, Woodford, Bridgewater, Little Todd.

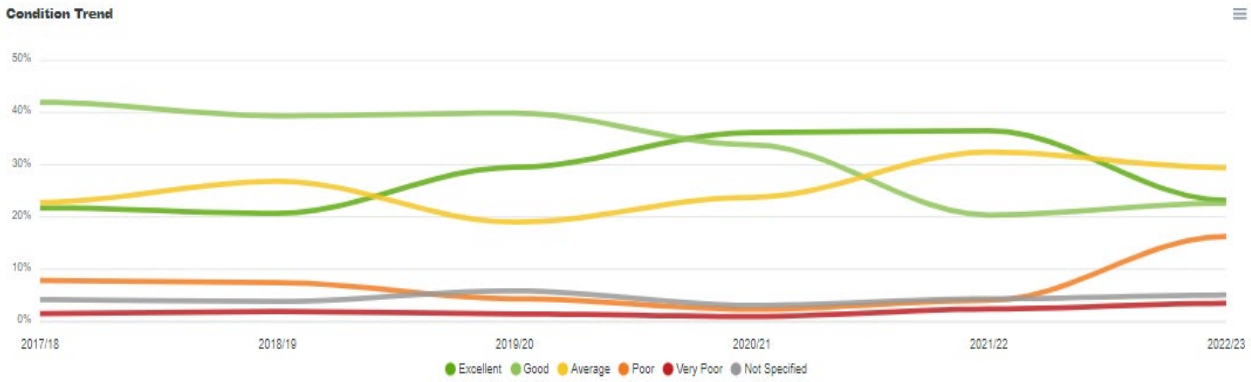


Figure 8-5-2: Drainage condition over time by ONF – Te Ringa Maimoa 2022/23

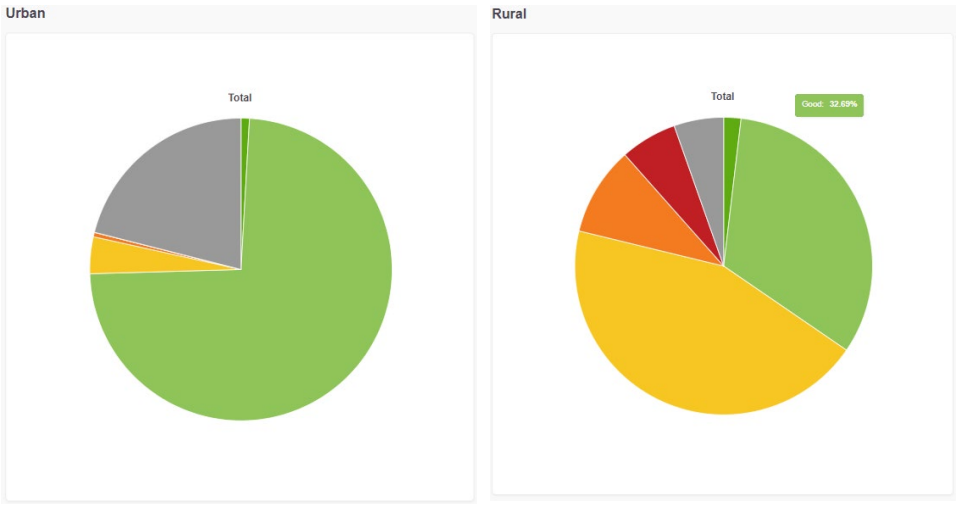


Figure 8-5-3: Condition of Drainage Assets by ONF Urban and Rural Classifications – Te Ringa Maimoa 2022/23

The condition of surface water channels (kerbs and side drains) is not well known as shown in figure 8-5-4 below. Most rural side drains are not recorded in either RAMM or Councils GIS system. Some have a duel function of being a land drain, eg Glen Road.

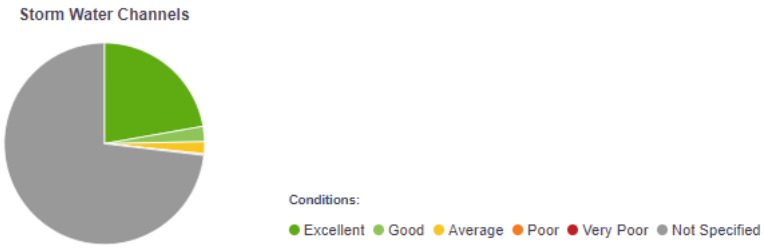


Figure 8-5-4:Condition of drainage Assets

8.4.3 Drainage – Link to Strategic Case

Problem Statement	Environmental Impact/ Climate Change	Safety	Network Resilience/ Road Maintenance	Congestion/ Economic
Priority for this programme	2	3	1	

Drainage is critical for the resilience of the pavement and surface assets; ie; resilience of access routes for the customers. These are key factors of PS 3 – resilience. Drainage is also the controlled activity to improve freshwater outcomes to meet the NPSFW so contributes contributing to PS1, but is also a factor in adaption, mitigation and resilience solutions for PS1. The drainage activity provides small contribution to PS2 Safety.

Option 1: increased maintenance and renewal of drainage assets for capacity where required including more subsoil drains.

Option 2: retain 2021 LTP budgets and reduced LOS to suit.

Option 3: option 1 plus more unsubsidised budget for management of land drains adjacent to roads and a future freshwater improvement programme.

8.4.4 Drainage – Cost Service Risk

Test Levels of Service. Cost service and risk of the options to address the problem statement is summarised below in figure 8-5-5 and 8-5-6.

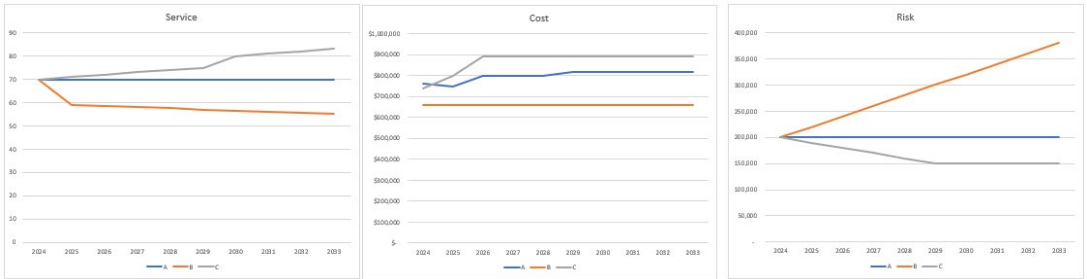


Figure 8-5-5: Drainage Maintenance Cost Service Risk

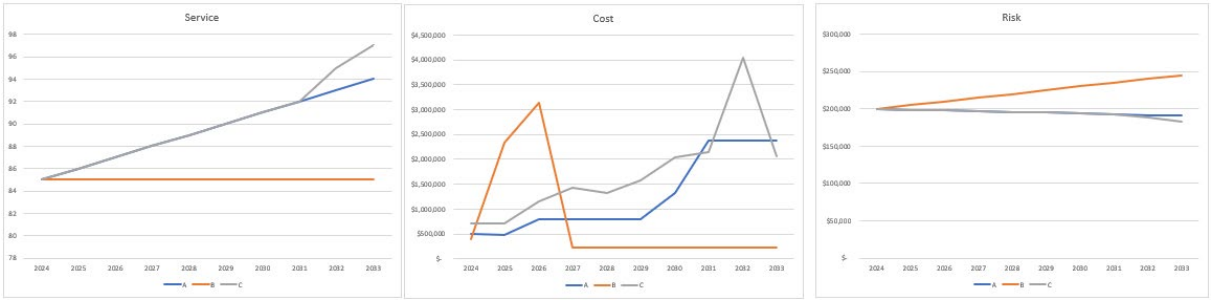


Figure 8-5-6: Drainage Renewals Cost Service Risk

Option 2 has been funded through the LTP for operation and maintenance and option 1 has been funded for renewals.

8.4.5 Drainage – Gap Analysis

The 2021-24 renewal programme could not be completed within budget, resulting in deferred works. Estimates and tendered costs are exceeding the valuation forecasts to complete the same amount of work. This is contributing to the resilience and maintenance problem.

Material from sweeping and sump cleaning operations cannot be disposed of at contractors cleanfill sites from 2023. This is adding $260/tonne for landfill disposal fees. 1000tonnes of material were dumped in 2023/24. Leaf material goes to a composting facility when it can be separated from gravel and litter materials. If budgets are not increased the sweeping programme will need to be halved to remain within budget.

Kerbs are generally in good condition, however renewal is sometimes required to improve the footpath asset. This is included in the footpath programme.

Sump laterals, owned as transport assets form part of the urban drainage network. There are inadequate condition assessments to understand their contribution to resilience, or maintenance or renewal requirements.

Management of flood flows in the urban area is an ongoing resilience problem. Upgrading culverts, or managing secondary flow paths, access and safety are required for value for money while addressing the resilience and climate change problems.

2022-23 customer survey results show increased priority on drainage and clearing drains. This is expected to be a result of the 2022 flood event. Funding will not however deliver improved services. A reduction is required to remain within budget. Customer satisfaction is expected to reduce.

Photo Orphanage Creek in flood August 2022 at Woodford Land culvert

Resilience improvements on Cable Bay Road can be justified by NPV, however exact scope and scale needs further investigation to determine the best value for money interventions. Investigation is proposed through option1 (WC151) in the first 3 year period to scope works for later in the 10 year period. Drainage work on private property above the road could be part of the solution and requires negotiation with the affected landowners which also requires time. Enner Glynn Road requires investigation jointly with flood protection team to keep the river in its banks and not scour the road as a detour before being committed to a programme.

Harley Street timber kerbs are recognised by Heritage New Zealand as some of the last remaining original examples of timber kerbs and predate 1900. A solution to renew the footpaths and retain the kerbs is a gap that is not yet resolved.

Drainage for resilience of the Railway Reserve at Bishopdale requires investigation before it can be programmed. Some of the old railway formation is slowly slipping, and other areas have poor connections between hillside drainage and the reticulation system resulting in capacity issues alongside the cyclepath that impact the path. The land is owned by NZTA.

Where a drainage activity is not eligible for NLTF it is included in the unsubsidised programme. This includes drainage to manage water on road reserve outside the formed area, and control of road water run off where it can be proven to be impacting adjacent private properties and land drains. Because Council is a Unitary authority, and the urban drainage catchment does not cover rural areas these fall in a gap that would normally be covered by a Regional Council. It is appropriate that transport manages these when they are adjacent to a road.

8.4.6 Drainage – Operations and Maintenance

Maintenance includes street sweeping, sump cleaning, side drain and culvert clearing to maintain drainage network capacity. Specific Maintenance Operational Performance Measures are included in the contract based on the RIMS Road Assessment Fault Assessment Guidelines. These are varied as required through a governance board to deliver the LOS requirements. These are currently based on ONRC road classifications.

Sweeping and sump cleaning costs have risen and this is affecting the delivery of environment safety and resilience outcomes. Differential LOS will be used to manage the risks across the network within budgets. 30% of the sweeping cost for state highways is planned to be charged directly to highways locally.

Fish passage has been set up in road culverts through the Councils environmental team. The most efficient team to inspect and maintain these are the transport team through routine drainage inspections and maintenance. A budget has been included in option 1 and option 3. New culverts also need fish passage included in the designs to improve environmental outcomes.

8.4.7 Drainage – Renewals

Most drainage assets have acceptable condition. Capacity is however inadequate (proved by 2011, 2018, and 2022 flood events) and many are at the end of their theoretical useful live before the end of the 10 year AMP period. A renewal programme is proposed with option 1 to renew under capacity culverts and associate drainage assets (intakes, overland secondary flow path, flume outlets) to reduce resilience risks, and minimise drainage maintenance costs into the future.

Good drainage can improve the lifespan of pavements. Pavements are more expensive to maintain and renew. Subsoils are planned through drainage renewals for maintenance and resilience benefits.

Konini Street is planned for kerb and sump renewals, in conjunction with the utilities stormwater upgrade.

Little Todd Valley Road washed out in 2011, 2021, 2022 and minor damage in 2023. Washed out material lands under the state highway culvert and causes flooding that blocks the highway in major events. $300k for drainage renewals and secondary flow path improvements is included in option1 and has a positive NPV compared to ongoing flood damage repairs. This included in the WC341 programme, minor works as a resilience improvement.

8.4.8 Drainage – Renewal ranking criteria

Renewal Ranking will be assessed off NPV considering condition, flood damage costs/risks, and degree the culvert is under capacity from catchment calculations.

8.4.9 Drainage – Summary of future renewal costs

Designing new culverts to meet the updated Q100 flood capacity will future proof the drainage assets for their predicted lifespan.

Future urban drainage sump renewals will need to have deeper sump traps to improve the freshwater quality outcomes to meet the NPSFW rules. These would replace the need for sump filters.

The detailed Forward Works plan for 2024-27 is included in Appendix D.

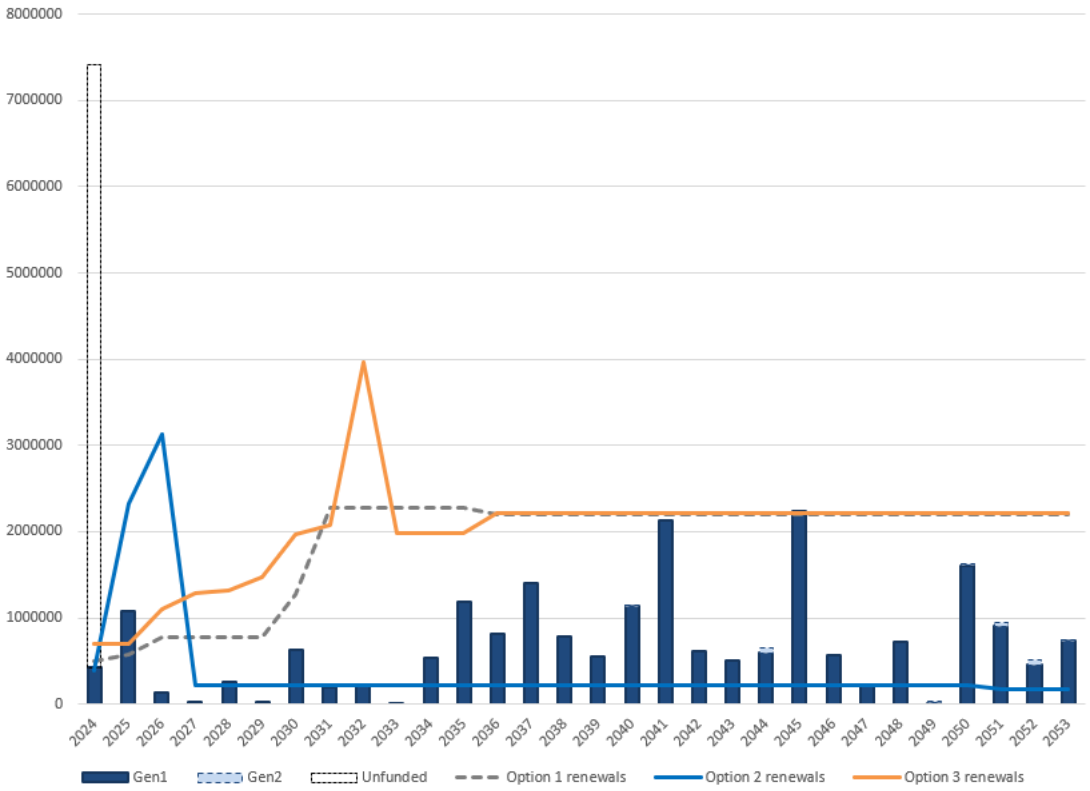


Figure 8-5-7:Drainage Renewal Forecasts – option 1

All figure values are shown in current day dollars. The spike in costs in years 2 and 3 for option 2 (from 2021 LTP) and year 9 for option 3 is the sump filter programme. The unfunded renewals in year 1 require investigation and will be included into the future programmes.

8.4.10 Drainage – Acquisitions

Acquisition is primarily from subdivisions at a rate of 1-4km of new kerbs and associated sumps per year. Drainage asset acquisition is expected to increase with raised platforms being the preferred safety intervention on the road network. More sumps and covered kerb and channel are required to manage interrupted surface water flows. These increase operating and maintenance costs and future renewal costs. Occasionally assets are identified through utilities and transferred where appropriate.

Water draining off roads can be a nuisance on adjoining private property. An unsubsidised budget of $100k is has been adequate manage requests where this nuisance is intolerable. It is managed reactively to install new drainage or surface water channels and these then become part of the subsidised programme to maintain.

Drainage programme includes new investment in subsoil drainage where this is the lowest whole of life cost solution for a pavement site.

A resilience programme is planned to address sites impacted by the 2022 flood events. These could result in new drainage assets.

8.4.11 Drainage – Disposals

There are no disposal plans for drainage assets but occasionally assets are identified for transfer to utilities where appropriate.

8.4.12 Drainage – Preferred Programme

Option 2 has been funded through the LTP for operation and maintenance and option 1 has been funded for renewals. The renewal programme is shown in Appendix E.

Reduced frequency of sweeping and sump cleaning will be delivered with increased monitoring to keep planned services within budget and assess the cumulative risk to resilience from flooding, environmental outcomes, or financial resilience of this approach.

8.4.13 Drainage – Procurement

Services are delivered through current maintenance and sweeping contracts.

8.4.14 Drainage – Risks

Risks for the drainage assets typically appear through the emergency response and pavement activities:

Risks - Drainage							
Identification		**Analysis: Residual Risk**				**Response e.g. Accept, Reduce, Share**	**Treatments**
Event Description	**Consequence**	**Existing Controls**	**Consequence**	**Likelihood**	**Current Risk Level**		
New or increased controls to meet new freshwater guidelines	Increased demand for time cost and quality	Global Consent, sump filter programme identified, fish passage through culverts	3	5	High (15)	Manage	Utilities programme to investigate SW treatment options
Poor network resilience in storm events due to surface flooding or the road network	Unplanned road closures	Emergency response plan implemented	3	3	Medium (9)	Reduce	Coordination with Stormwater Utilities to understand, map and manage secondary flow paths. Unsubsidised programme of drainage improvements on roads.
Reduced structural integrity of the road berms banks and	Unplanned road closures	Emergency response plan implemented	3	3	Medium (9)	Reduce	Coordination with Stormwater Utilities to understand, map and manage secondary flow paths. Unsubsidised

structures due to uncontrolled surface water run off							programme of drainage improvements on roads.
Poor data for secondary flow paths, affecting surfacing and pavement maintenance and integrity, and emergency traffic management	Unplanned road closures	Emergency response plan implemented	3	3	Medium (9)	Reduce	Coordination with Stormwater Utilities to understand, map and manage secondary flow paths.
Inadequate road drainage	Downstream flooding, pavement damage and increased maintenance costs	Drainage improvement works	3	4	High (12)	Reduce	Resilience investigations and programme.
Inadequate maintenance	Downstream flooding, pavement damage, increased maintenance costs, increased risk of storm water pollution	Maintenance and renewal programme	3	3	Medium (9)	Reduce	Improvement item to collect data on all drainage. Improve preseal drainage and shoulder mtce programmes

Refer also section 10 for risk register.

8.4.15 Drainage - Improvement Register

ID	Description	REG Pillar	Who	Current Status	Timeframe	Cost
D1	Improved drainage asset data quality and age records.	Evidence	Transport	Urban drainage done for 3waters. SWC and drainage data requires review and gaps filled.	June 2023, for 2024–27 AMP	Staff time
D2	Improve condition knowledge of pipework connected to sumps, CCTV for condition, and clearance.	Evidence	AM and operations and flood protection	TBC management plan with utilities	TBC	TBC
D3	Map the secondary flow paths to inform emergency traffic management and pavement programmes.	Evidence	Transport and utilities	Available through flood models	2024-27	Staff time
D4	Consult and begin DAPP climate change management process.	Communicate	Climate change and planning	Consultation to start in 2023/24	Nelson Plan consultation	

8.5 Structures - Walls

The following section shows how the preferred programme affects the retaining wall assets. It needs to be noted that not all walls are eligible for NZTA co-funding.

8.5.1 Structures – Walls - Physical parameters

The assets covered by this Asset Management Plan are shown section 2 - Transport Assets and Services Register. Managing retaining walls on roads means an interest in the Councils structures but also awareness of private structures on legal road, and stability of unsupported banks.

The age profile of the assets, (Council retaining walls) are shown in figure 8-6-1 below. There is noted to be some misalignment between valuations and RAMM data which needs to be reviewed. Rock rip rap protection between road or paths and rivers and streams is not generally captured in the valuations. However there is an increasing quantity of this, especially post the August 2022 storm event so capture may need to be reviewed.

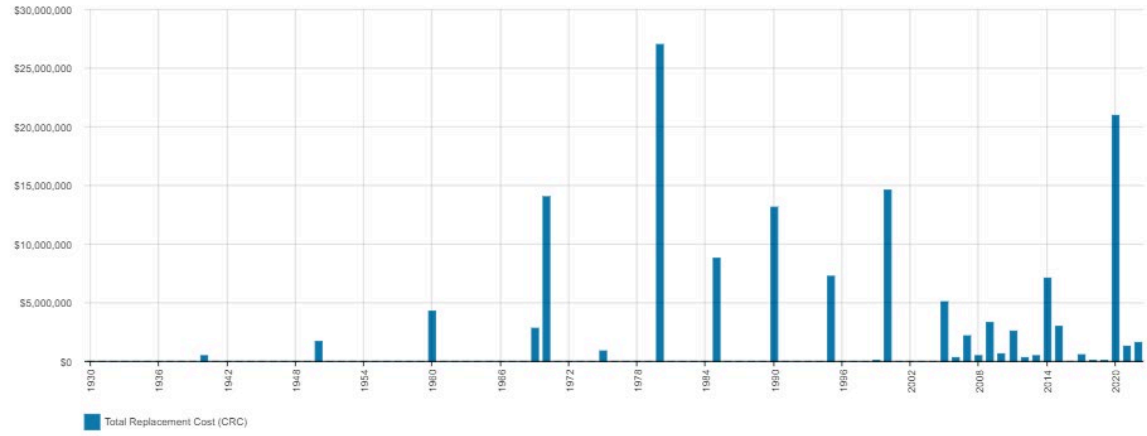


Figure8-6-1: Age Profile of Retaining Wall Assets

Walls are assumed to have a useful life between 30 and 100 years This needs to be reviewed with the latest condition assessments.

8.5.2 Structures - Walls - Asset condition

Councils retaining walls asset condition is generally known and in good condition, there is however demand for an ongoing renewal programme to sustain this general condition. Principal condition assessments (6 yearly) reporting will be complete in 2023/24. Initial reporting is shown in figure 8-6-2 below. Walls in Cable Bay Māori Road and Arrow Street were affected by the 2022 floods are shown as 0-5 remaining life, affecting the resilience of these roads.

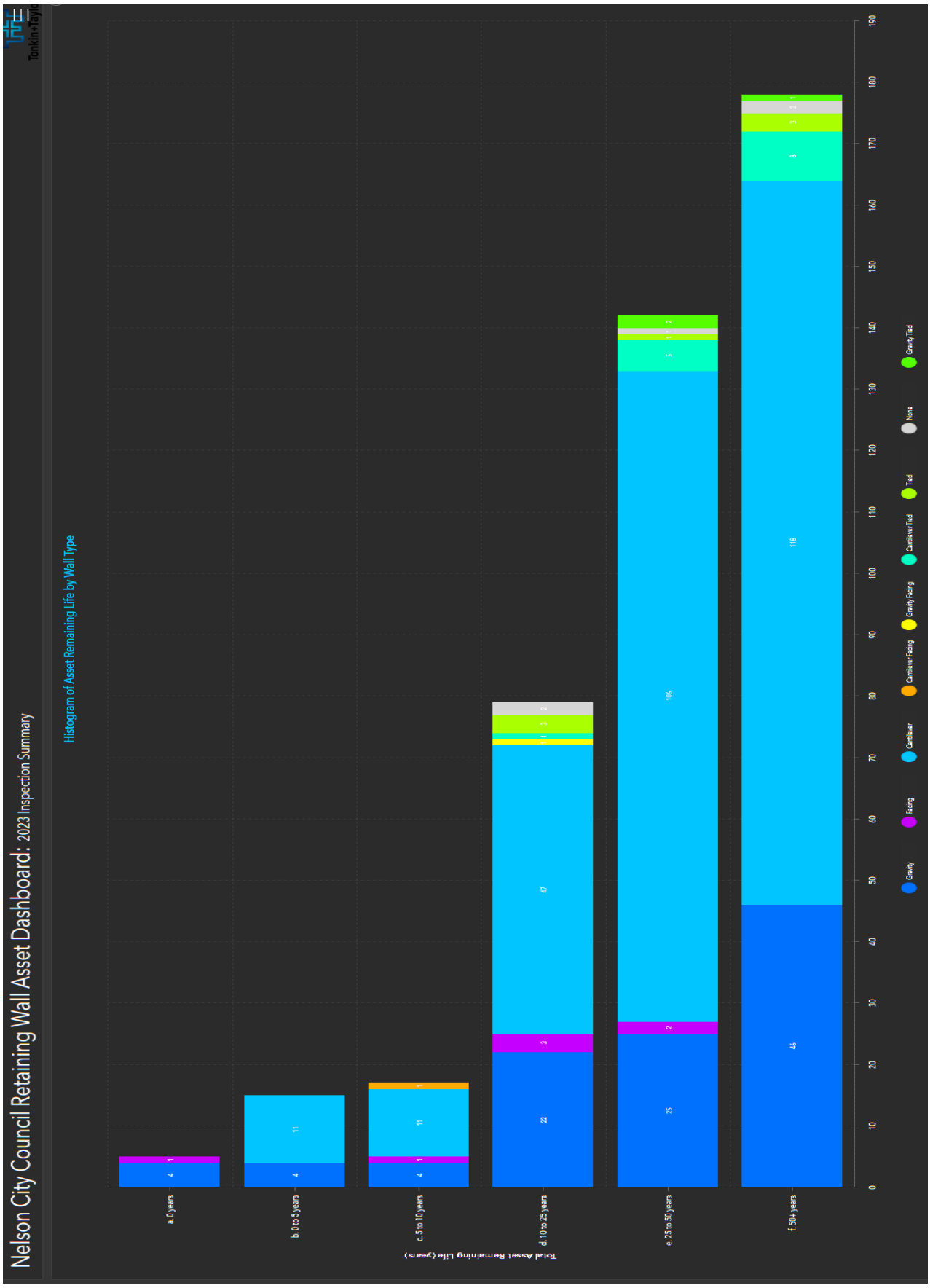


Figure8-6-2: Condition of retaining wall Assets (from 22/23 principal inspections)

8.5.3 Structures – Walls - Link to Strategic Case

Problem Statement	Environmental Impact/ Climate Change	Safety	Network Resilience/ Road Maintenance	Congestion/ Economic
Priority for this programme	3	2	1	

In Nelsons steep hillsides retaining walls are critical to the resilience of the road and other lifeline utility assets that are buried within the road reserve and rely on roads to access critical assets.

Option 1: updated renewal programme, includes works planned and deferred from 21-24, include more bank stability and resilience improvements in later years

Option 2: retain 2021 LTP budgets and reduce LOS to suit

Option 3: updated renewal programme, includes works planned and deferred from 21-24

8.5.4 Structures – Walls - Cost Service Risk

Cost, service and risk have been assessed for all structures including bridges, handrails and retaining walls, subsidised and unsubsidised. Risk based maintenance and renewal programmes are proposed based on service provided, safety, resilience risk and growth demands. When necessary, budgets are transferred between these to manage the most urgent demand if something changes.

8.5.5 Structures – Walls - Gap Analysis

There are estimated to be 4000 unclaimed private structures on legal road which remain a gap and result in requests for repairs. A new Road Encroachment Policy is being proposed and outlines Councils process to manage new applications. Existing walls are a growing risk as they age. One wall is leaning out and being monitored.

Unsupported banks remain a gap and risk of failure. Cable Bay Road is one area where these can cause unplanned closure to an isolated community. Resilience options are yet to be investigated.

Bank stability has potential to affect Waimea Road the key urban connector at Bishopdale hill where unstable ground above the road could cause the road to close where there is not an alternative route, as shown in figure 8-6-3. This is a resilience risk for Nelson.

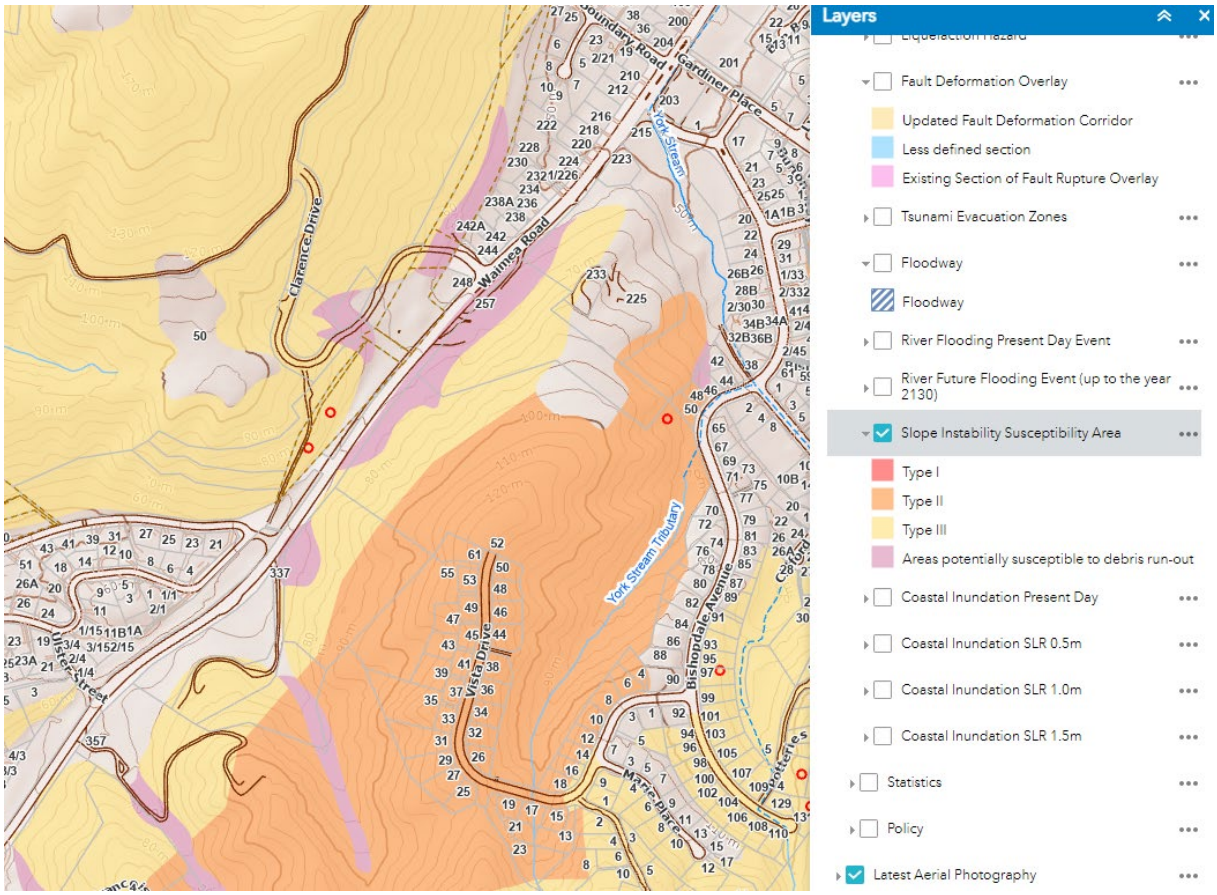


Figure 8-6-3: Waimea Road slope stability vulnerability

Konini Street, downhill edge of road slipped in the August 2022 flood event and Geotech investigations have identified the side cast fill construction as part of the problem. Construction is similar along this road, so further areas are at risk and require investigation prior to the utilities project planned for 2026. Many roads on Nelson hillsides are built in this fashion so the extent of this resilience problem maybe under estimated.

Rock Rip rap is not registered as a long term asset. It is an operating cost to top up and restack to sustain the intended erosion control of banks. A lot of new rock was added to the network for resilience after the 2022 flood event which increases the maintenance demand and more banks may require protection improve resilience.

Succession planning is required to ensure no gap in structure programmes on retirement of the current Engineer. The private walls, climate change, slope stability and resilience issues mean demand for this role could to grow to 2 FTE within the 10 year period.

8.5.6 Structures – Walls - Operations and Maintenance

Operations include network inspections. All inspections are done through the subsidised programme to meet NZTA S6 standards. Consultant engineers undertake principal inspections, and the road maintenance contractor undertakes routine surveillance inspections.

Maintenance includes drainage, vegetation removal, fixings and fastenings, and graffiti removal as required.

8.5.7 Structures - Walls – Renewals

Renewals planned in the first 3 years, through option 1 are:

- Jenner Road
- Coster Street timber crib wall
- #103.1 - Tosswill Road, wall and timber footpath
- 66 Tipahi Street – aligned with Tipahi/Motueka Street intersection upgrade
- Suffolk Road wall – component replacement to address rotation of poles
- Iwa Road catch fence

8.5.8 Structures – Walls - Renewal ranking criteria

Renewal Ranking is based on asset condition, criticality and ONRC. This is further refined into subsidised and unsubsidised based on risk to road users.

8.5.9 Structures – Walls - Summary of future renewal costs

There are a small number or retaining walls due for renewal in the short term but demand will increase with time. Currently asset age date does not align with condition and condition will drive the renewal programme. Walls on roads that are considered as private are not included in this programme.

Option budgets compared to expected renewal forecasts is shown in figure 8-6-2. The detailed Forward Works plan for 2024-27 is included in Appendix D.

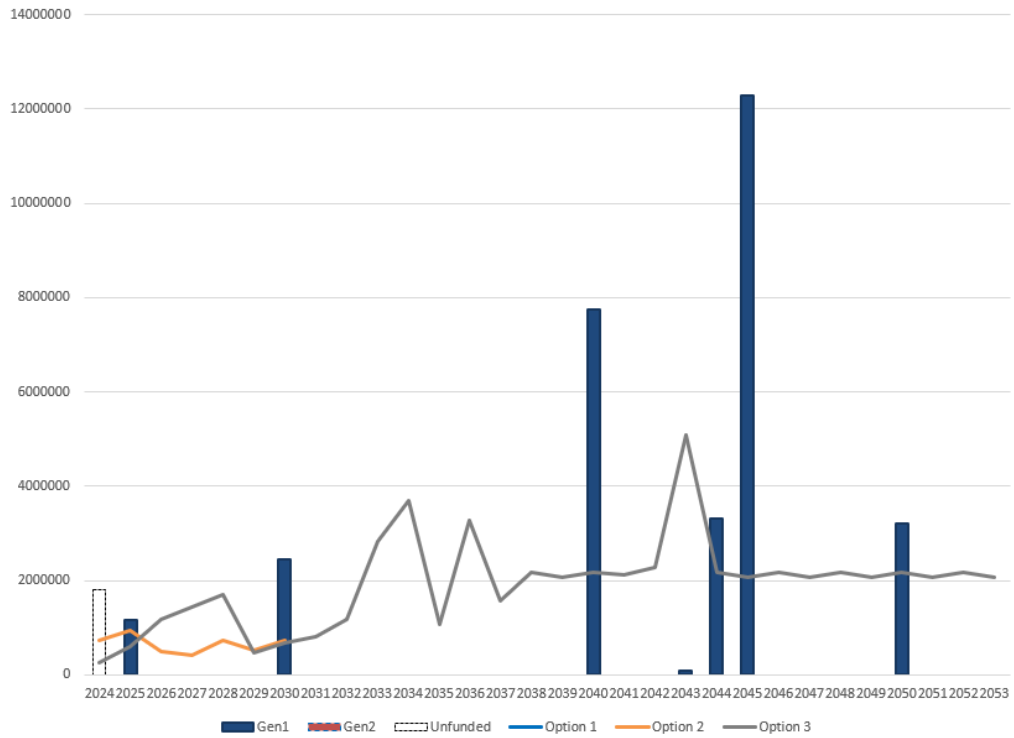


Figure 8-6-2: Retaining Wall Renewal Forecasts

8.5.10 Structures – Walls - Acquisitions

Private structures may be acquired as council assets if the Council agrees the benefit favours the road, not private property. Enquiries may increase as the new Road Encroachment Policy is consulted and adopted. These enquiries can be time consuming to investigate and negotiate with the landowner. Additional staff resource may be required.

New walls and rock protection have been acquired as a result of flood recovery works including: Cable Bay, Brook Street, Maitai Road, Maitai Valley Road, Moana Avenue, Atmore Terrace and new catch fences at Cable Bay Road and Moana Ave. In the future more new walls are expected with future flood recovery projects.

New walls will be acquired through hillside subdivisions where required to support roads.

8.5.11 Structures – Walls - Disposals

There are no disposal plans for retaining wall assets.

8.5.12 Structures – Walls - Preferred Programme

These are identified off the structure inspections and condition assessments. The full FWP is included in Appendix E.

8.5.13 Structures – Walls - Procurement

Structure maintenance and renewal contracts are tendered as required to suit the specific programme of works due to sometimes specialised skills required. Minor routine maintenance is done through the road maintenance contract.

Retaining wall inspections are directly appointed.

8.5.14 Structures – Walls – Risks

Refer also section 8.6.14 and section 10 for the risk section.

8.5.15 Structures – Wall - Improvement Programme

Ref	Improvement Action	REG Pillar	Who	Current Status	Timeframe	Cost
RW1	Confirm useful life expectancy of structures from 2024 condition assessments	Evidence	AM and structures operations	Not started	2024-25	Included in inspections, staff time to update records
RW2	Quantify and record rock rip rap assets	Evidence	AM and structures operations	To be done alongside the flood recover programme	2023-27	Staff time
RW3	Identify and assess private structures on road reserve	Evidence	NCC Legal, Property and Transport	On demand as public enquiries identify sites of concern	10+ year period	1 new FTE to manage enquiries and investigate.
RW4	Update Road Encroachment Policy, especially for	Systems	NCC Legal, Property	New policy drafted and ready for consultation	TBC	Est $50k plus staff time

	structures on road reserve		and Transport			
RW5	Develop a plan for assessing and monitoring unsupported slopes	Evidence	Engage consultant	Site specific assessments done for 2022 flood recovery. No comprehensive plan started	10 year period	TBC
RW7	Improve environmental and carbon outcomes from structures programme	Systems	NCC	Investigate green walls and similar alternative options	10+ year period	TBC

8.6 Structures - Bridges

The following section shows how the preferred programme affects bridges.

8.6.1 Bridges - Physical parameters

The assets covered by this Asset Management Plan are shown section 2**Error! Reference source not found.** Transport Assets and Services Register. Bridges includes culverts with a waterway area more than 3.4m2.

Bridge assets are assumed to have a lifespan of 100 years, one bridge has been extended to 120 years through strengthening and maintenance works. Large urban culverts that convey streams under and along roads are currently transport assets but are under review due to the Water Services Reform Programme. If they remain with Council they remain part of the transport asset portfolio and the Flood Protection team manage the waterway and drainage aspects. All bridges and large urban culverts are shown together in figure 8-7-1 below.

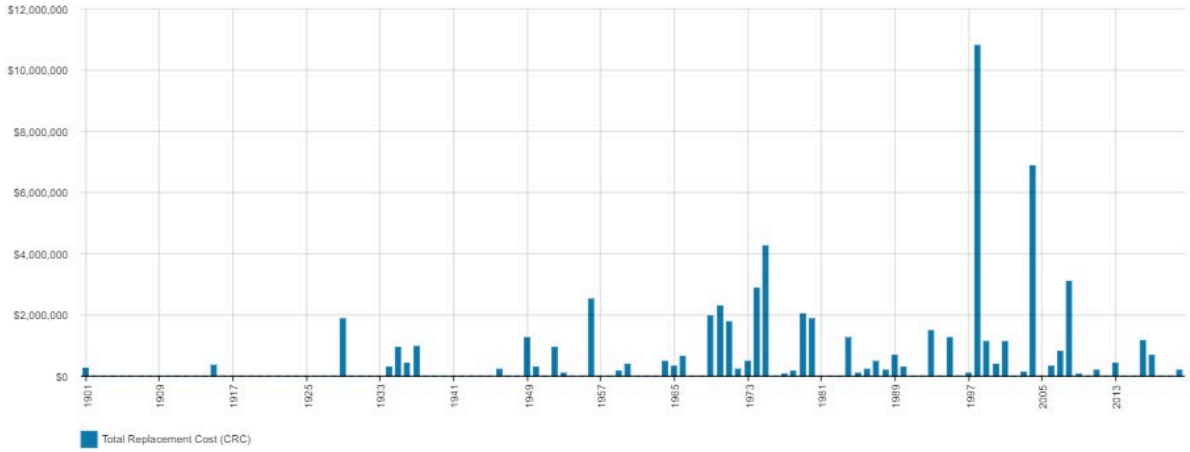


Figure 8-7-1: Bridges including large urban culverts

8.6.2 Bridge - Asset condition

Bridge asset condition is generally known and good. This will be updated when the 2023/24 condition assessments are complete. Few large urban culverts however have had any formal structural assessment and should be prioritised to get a baseline on condition of these.

Poleford Bridge maintenance was deferred in 2023/24 and is the highest priority in 24/25 to maintain asset condition.

Concrete testing is required to determine remaining useful life at Poleford, Poorman at Main Road Stoke and Hardy Street footbridge. They are planned in the same year as Poleford maintenance works for efficiency of resources to undertake assessments.

Arthur Cotton Bridge on Waimea Road, state highway detour route has speed restrictions for heavy vehicles.This is a resilience risk for continued use as a detour.

Trafalgar Street Bridge is especially of note: It requires ongoing maintenance to keep the water out of the concrete to minimise corrosion of the reinforcing. Without good maintenance and load management (further posting to restrict heavy

vehicles) renewal could be required as early as 2030. With good maintenance and load management renewal is planned for around 2049. A new bridge is expected to accommodate all modes of traffic, sea level rise and Maitai River flood capacity. A transport study is suggested to confirm the traffic demands at this location to confirm Trafalgar Street Bridge remains the "gateway" to Nelson, especially considering Collingwood Street bridge is also approaching end of life in the same timeframe.

8.6.3 Bridges - Link to Strategic Case

Problem Statement	Environmental Impact/ Climate Change	Safety	Network Resilience/ Road Maintenance	Congestion/ Economic
Priority for this programme	2	3	1	4

Bridges are critical for the resilience of the transport network and need to be managed to maintain access through the effects of climate change. The reason to retain the large urban culverts (pipes streams under roads) as a transport asset is to protect this access function. Long term bridges could affect congestion, if load or speed restrictions are required where capacity is also an issue eg Trafalgar Street Bridge and Arthur Cotton Bridge on Waimea Road.

8.6.4 Bridges - Cost Service Risk

Cost, service and risk have been assessed for all structures including bridges, handrails and retaining walls. When necessary, budgets are transferred between these to manage the most urgent demand.

A programme of bridge inspections, maintenance and component replacement is proposed to provide ongoing LOS and reduce risks for bridge assets and access.

8.6.5 Bridges - Gap Analysis

2 bridges with weight restrictions – Trafalgar Street and Collingwood Street. Arthur Cotton Bridge, on Waimea Road has speed restrictions for heavy vehicles. Maintaining these are critical to address resilience and congestion problems.

Succession planning is required to ensure no gap in structure programmes on retirement of the current Engineer.

8.6.6 Bridges - Operations and Maintenance

Operations include inspections in accordance with NZTA S6 specification. The large urban culverts require confined space procedures to inspect hence a large additional budget per structure. They are however a risk to leave uninspected due to the size and longitudinal traffic loading. All are on routes where heavy traffic can be expected.

Maintenance of bridges, and all assets with potential effects on waterways need to undertaken in accordance with the freshwater conditions of the RMA. Ensuring no contamination (eg paint, paint flakes, concrete residue) enters the waterways can

result in extensive shrouding and waterway bypass operations. Controls may need to increase to comply with the NPS-FW and address environmental problems.

Maintenance includes signs and delineation, vegetation and gravel clearance, rock protection when required, fastenings and bearings, and painting of steel elements. Poleford Bridge requires repairs to concrete spalling and waterproofing of aged concrete components. This work was planned for 2023/24 but deferred due to budget constraints after the flood event. Trafalgar Street Bridge requires water proofing.

8.6.7 Bridges - Renewals

Tosswill timber footbridge would be replaced when the wall is renewed. Whitby Road timber footpath is also to be investigated for renewal.

There are no further bridge renewals planned for 2024-27 except handrails are planned for renewal on Riverside footbridge and an investigation into the replacement options for Manuka Street ford. A programme of other ongoing minor component replacement is required to sustain asset condition, safety and resilience.

Other bridges that are being monitored and age suggests renewal is due on the 30 year period are:

- Cloustons – 2035
- Poleford 2036
- Arthur Cotton is due for renewal approximately 2037. This bridge requires widening for the Waimea Road bus priority lanes so exact programming will need to suit that project delivery.
- Trafalgar Street Bridge and Collingwood Street Bridges are signalled for renewal approximately 2030 and 2056. Trafalgar Street Bridge is still in reasonable condition considering age. The reinforcing is very carbonated. A renewal date of 2045 could be achieved by sustaining a good water repellent programme (beams soffit and deck). Footpaths every 3 years $5k, $150k for full waterproofing every 10 years. These are large bridges, and their design options have significant potential impact or benefit opportunities for the city centre, transport connections, walking and cycling facilities, amenity and Maitai River health. Planning for desired outcomes should start well ahead of bridge renewal to ensure these opportunities are maximised.
- Beatson Road Bridge no construction date – investigate repaired 2019, still has very bony old concrete which allows water corrosion of internal reinforcing, needs regular monitoring, replace 2036. Investigate concrete strength and integrity $10k plan for water proofing afterwards if all ok $150k.
- Nayland Road Bridge built 1949 replace 2029
- Gibbs Bridge built 1952 replace 2032
- Waterdale Way footbridge built 1950 remove 2050
- Poorman Stream Main Road Stoke built 1901 (oldest section) and extended 1956 strengthened in 2021 replace 2036

- Hardy Street footbridge built 1965. Narrow and a impediment to walking and cycling. Replace 2045. Because concrete is cracking about steel supports. Investigate concrete $10k.
- Manuka Street Ford and install a footbridge or bridge
- RHS sections on handrails of bridges replace – Riverside in next 3 years. $80k.
- Armco culverts Newman Drive built 1986, base repaired approx. 2014 replace 2046 Naumai base repaired 2021, replace 2040.
- Timber bridges, Maire Street needs work replace 2030, Richardson Street replace 2030, Marsden Valley Road replace 2035, Gracefield Street footbridge built 2000 replace 2040.
- Large urban box culverts. Some are identified for renewal by age in the short term. Condition assessment, investigation and data updates are required to determine the likeliness of these and adjust the programme to suit.
- Vanguard Street culvert is under the cycleway, with vehicle crossings but in poor condition, needs condition assessment.

8.6.8 Bridges - Renewal ranking criteria

Renewal Ranking will be assessed off the structural assessments, road hierarchy and NPV assessment. Options including component replacement, heavy maintenance, reducing speed and/or weight loadings are likely to need to be applied before full renewal is justified. Trafalgar Street Bridge and Collingwood Street Bridges already have some weight restrictions.

8.6.9 Bridges - Summary of future renewal costs

New bridges need to be designed to suit new flood levels and network requirements. This will have a significant impact on the design cost for bridges hence scoping is required well ahead of renewal programmes and forecast estimates need to be updated as information is collected. Option budgets are shown against the renewal forecast in figure 8-7-4.

The detailed Forward Works plan for 2024-27 is included in Appendix D.

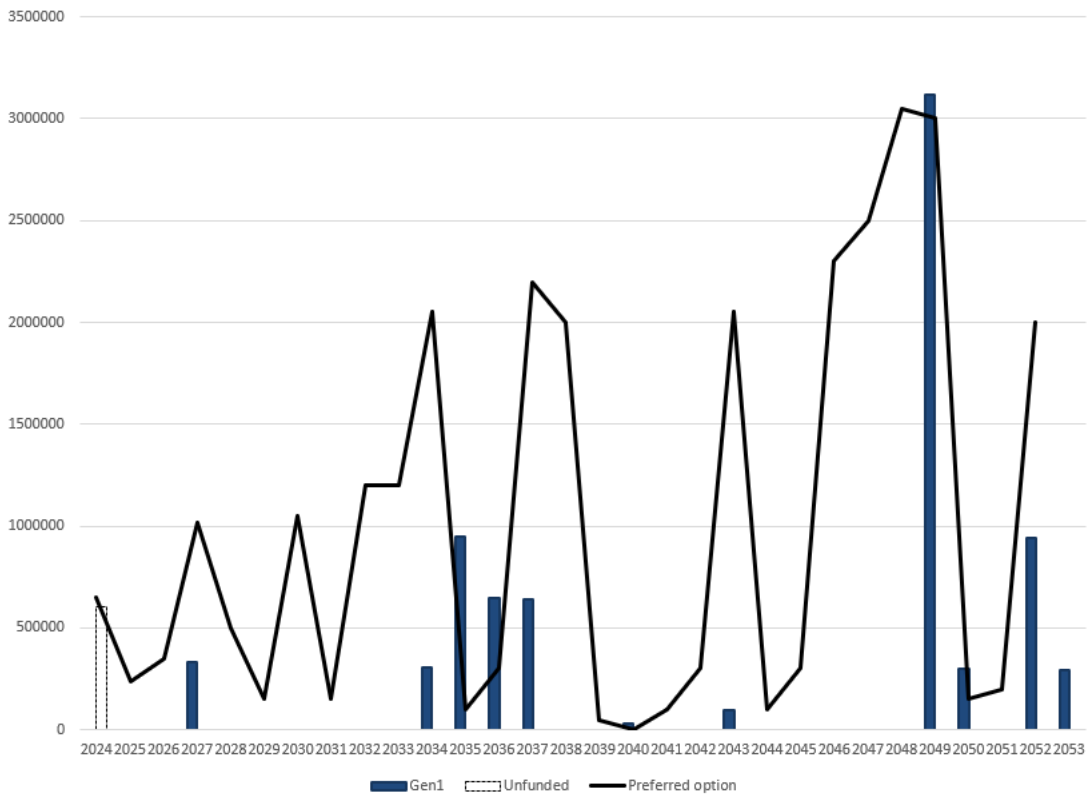


Figure 8-7-4: Bridge renewal programme at current valuation, incl large urban culverts

8.6.10 Bridges - Acquisition Plan

New Bridges are planned or underway as follows:

Quarantine Road footbridge build 2024. Maitai Development is expected to include a new footbridge at Gibbs Creek

Manuka Street is a ford but is being considered for renewal. This will require investigation to determine network benefits of changing this to a bridge, closing it, or making it a foot/cycle only connection.

Occasionally new bridges are acquired through land development. There are none known but information sources are being improved so we get early indications of these being planned for future planning purposes.

8.6.11 Bridges - Disposals

Saxton Creek culvert is being renewed in 2021-2024 period. This will replace the existing road bridge and dispose of the footbridge at Main Road Stoke.

The timber footbridge at the intersection of QEII Drive and Trafalgar Street will be investigated for renewal. Condition is declining, and it may be possible to replace this with an at grade path.

8.6.12 Bridges - Preferred Programme

The preferred programme is Option 3 and is funded through the LTP. This provides for the ongoing inspections in accordance with S:6, maintenance as required, and bridge renewals identified. The full FWP is included in Appendix D.

8.6.13 Bridges - Procurement

Bridge inspections are directly appointed to specialist assessing engineers.

Maintenance is currently either through the appropriate maintenance contractor or directly appointed. Tendering a programme of work will be investigated when the new inspection reports, and maintenance requirement are received.

Bridge renewals are tendered works.

8.6.14 Bridges – Risks

Risks specific to the Bridge programme include:

Risks - Structures							
Identification		**Analysis: Residual Risk**					
Event Description	**Consequence**	**Existing Controls**	**Consequence**	**Likelihood**	**Current Risk Level**	**Response e.g. Accept, Reduce, Share**	**Treatments**
No staff resource to manage structures programme	High costs for consultants to manage and deliver programme	Structural skills in house	4	5	V High (20)	Reduce	Recruitment of staff to manage structures programme
Bridge Maintenance required, Poleford, Trafalgar Street	Premature failure of bridge	AMP programme for maintenance	4	4	High (16)	Reduce	Undertake maintenance
Bridges constrain waterways	flooding or bridge damage	Inspection, maintenance, component replacement and timely capital works programme	3	3	Medium (9)	Reduce	Coordination with Stormwater Utilities programmes
Increasing severity of natural events	Catastrophic damage to bridge structure. Prolonged road closure	Inspect in accordance with NZTA S/6:2015 Bridge and other significant highway structures inspection policy.	5	3	High (15)	Reduce	Adaption, mitigation or retreat consideration of the future environmental demands (eg sea level rise) needs to go into future business cases for structures, and renewal, location, scale and design life of the proposed options (incl status

							quo) adjusted accordingly.
Transfer of private walls to council ownership as a result of investigations	increased budgetary demands for maintenance and renewal	Communication and negotiation with private structure owners to accept and manage their assets and liabilities	4	3	High (12)	Reduce	Policy review of road reserve encroachments, and structures on road reserve. Investigate quantity of private structures on road reserve
Requests for new HPMV routes	Structure upgrades or limited HPMV access	Decline applications that have structure limitations.	3	3	Medium (9)	Share	Decline applications that have structure limitations.
Multi Modal demands on existing structures	user conflict	Communications	2	3	Medium (6)	Monitor	Include in Network planning considerations to identify sites and future improvement criteria
Unknown extent of aging concrete affecting structural integrity of structures, especially in the marine environment and vested utility culverts	Catastrophic damage to bridge structure. Prolonged road closure	Inspect in accordance with NZTA S/6:2015 Bridge and other significant highway structures inspection policy.	5	3	High (15)	Reduce	Principal inspections on all structures and ongoing inspection programme
Changing conditions between detailed inspections is minimised by the routine and maintenance inspections.	Catastrophic damage to bridge structure. Prolonged road closure	Inspection and Maintenance programme implemented	5	3	High (15)	Reduce	Deliver inspection and maintenance programme
Vehicle crash damage	Road closure and chemical /load spill clean-up. Pollution of watercourse	Emergency Procedures Manual	3	3	Medium (9)	Accept	Investigate repeat crashes to identify cause and potential improvements to reduce future risks
Inadequate maintenance	Road failure	Maintenance programme implemented	3	3	Medium (9)	Reduce	Deliver maintenance programme
Increased traffic loadings	Increasing vehicle loading limits put additional stresses on bridges and culverts	Desktop structural assessment when loading rules are changed, and posting of bridges that do not accommodate new loadings.	5	3	High (15)	Reduce	Include loading data and demand into structural maintenance and renewal programme, so under capacity bridges and culverts are identified and monitored

Premature failure	Catastrophic damage to bridge structure. Prolonged road closure	Inspect in accordance with NZTA S/6:2015 Bridge and other significant highway structures inspection policy.	5	3	High (15)	Reduce	Principal inspections on all structures and ongoing inspection programme
Structures approaching end of useful life	High inspection and maintenance costs and risk of premature/seismic failure	Inspect in accordance with NZTA S/6:2015 Bridge and other significant highway structures inspection policy.	5	3	High (15)	Reduce	Principal inspections on all structures and ongoing inspection programme
Structural failure due to earthquake or landslide	Damage to retaining structure(s) and journeys impacted	Inspection maintenance and renewal programme	5	3	High (15)	Reduce	Implement a prioritised maintenance and renewal programme to meet and mitigate structure risks
Inadequate design	Damage to retaining wall	Design to comply with Building Control Act requirements	4	3	High (12)	Reduce	Adequate design and budget to comply with Building Act requirements and site constraints
Ownership of retaining walls	Unknown liability where a wall is not registered as a roading asset, and legal issues where a resident is unaware that they have responsibility	Current programme to identify all road retaining walls and undertake condition assessments	4	4	High (16)	Share	Principal inspections on all structures and ongoing inspection programme and improvement programme to confirm private ownership responsibilities for walls on road reserve that are not road assets
Bank instability below Mary Ann walkway	Path failure. Effect on neighbouring property	Neighbouring property building/resource consent conditions	3	3	Medium (9)	Share	Working with neighbouring landowner for a solution
Inadequate barriers or handrails not complying with Land Development Manual or Building Code for structural elements	Personal injury.	Include safety barriers and handrails as structural items and inspect in accordance with NZTA S/6:2015 Bridge and other significant highway structures inspection policy.	4	3	High (12)	Reduce	Inspection and inventory and ongoing monitoring and maintenance programme
Rocks Road chains - do not provide safety from falling for	Personal injury.	Annual inspections prior to peak periods and renewal and	5	3	High (15)	Reduce	Consider alternatives and seek funding in 2024-27 work with

pedestrians or vehicle traffic along Rocks Road		maintenance as required					NZTA for shared responsibilities
Geotech stability sites, Maitai Road – river, Walters Bluff – overslips, Iwa Road – over slips, Cable Bay	Damage to property, lifeline disruption, personal safety	Inspections	3	3	Med (9)	monitor	Ongoing inspections

Refer also to section 10 for the risk section.

8.6.15 Bridges - Improvement Plan

Ref	Improvement Action	REG Pillar	Who	Current Status	Timeframe	Cost
B1	Ramm ages are correct, valuations to be updated to match RAMM	Evidence	AM/accounts	To be checked	Before next full revaluation 2023/24	Staff time
B2	Add urban box culverts to asset valuation and RAMM	Evidence	AM and structures supervisor	In valuations but not clear and to be confirmed post water services reform and formalised	2024/25	Staff time
B3	Validate structural assessment of large diameter stormwater culverts (Utilities)	Evidence	NCC, consultant and Utilities operator	Desktop assessment complete. Inspect post water services reform and review if being retained	2024/25	Est $20k per large culvert because of confined spaces
B4	Combine traffic loading data and structural programme, so under-capacity bridges and culverts are identified and monitored	System	NCC	Separate systems	TBC	Staff time
B5	Quantify and assess hollow section bridge handrails, for structural integrity against rusting from inside	Evidence	Structures supervisor	Riverside schedule for renewal	2023/34	Staff time
B6	Initial scoping and renewal estimates for bridges for renewal in 30 year period	Evidence	AM, structures supervision and external resources	Structures identified and scoping to be done dependent on staff capacity and urgency	To inform future AMP	$20k per structure plus staff time
B7	Staff resources: Only one member of staff with the skills required to supervise structures programme (who could retire within this AMP period)	Resource	Manager Transport and Solid Waste	Not started	2024	

8.7 Structures - Barriers

The following section shows how the preferred programme affects the handrail and other minor structures except bus shelters which are addressed under PT Infrastructure. Other minor structures with high amenity value are included in the City Centre and unsubsidised programmes, eg Rocks Road Bollards.

8.7.1 Barriers - Physical parameters

The assets covered by this Asset Management Plan are shown section 2 Transport Assets and Services Register. Handrails are typically associated with steps and walkways and retaining walls. The rails dataset includes catch fences, bollards, and holdrails associated with pedestrian refuges however the data associated with these is poor. Handrails on bridges are included with the bridge asset.

The construction date for handrails are yet to be reviewed and currently reflect the date asset was recorded in RAMM as shown in figure 8-8-1 below. Renewals are generally done on condition - typically when damaged. All figure values are shown in current day dollars.

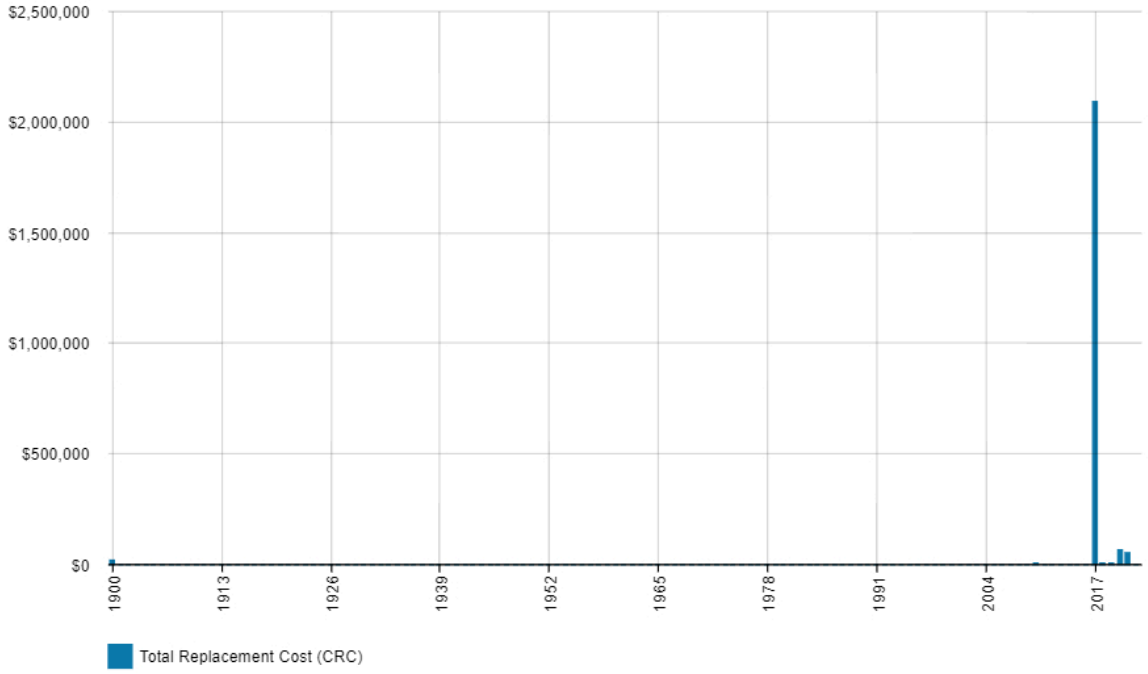


Figure 8-8-1: Age Profile of Handrail Assets

8.7.2 Barriers - Asset Condition

Handrails are generally in good condition. Some work has been undertaken to upgrade existing rails to meet building code for safety from falling by adding a toe rail and mesh. Some still need to be done. Hold rails and Aluminium handrails are prone to damage so can require significant repair or replacement at short notice.

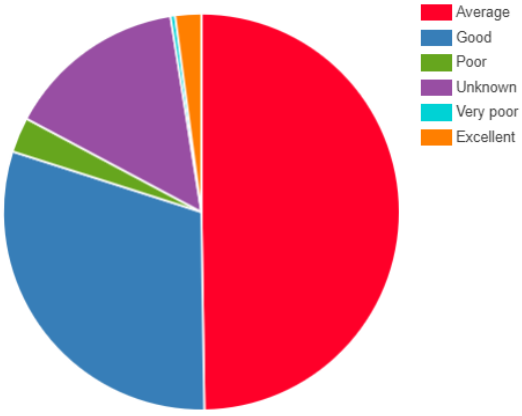


Figure 8-8-2: Condition of Handrail Assets

8.7.3 Barriers - Link to Strategic Case

Problem Statement	Environmental Impact/ Climate Change	Safety	Network Resilience/ Road Maintenance	Congestion/ Economic
Priority for this programme		1		

Handrails ensure safety from falling for pedestrian routes in steep terrain. They also provide support for users to climb steps or steep grades so contribute to safety They support walking and cycling use so providing for lower carbon emissions, network resilience/alternative routes and user safety but impact is small so have a low contribution to these problem statements.

No options have been assessed for handrails.

8.7.4 Barriers - Cost Service Risk

Refer bridges and retaining walls.

8.7.5 Barriers - Gap Analysis

Construction date, useful life and condition data are gaps that limit robust forward planning for handrails.

Old handrails are being retrofitted to improve compliance with regulations but many remain to be closed in and the retrofitted solution remains below standards.

Rocks Road bollards are a barrier along state highway 6 waterfront. The chain and bollard fence is registered as a historic feature and maintained as such. It does not meet any safety regulations and provides minimal protection from falling into the sea. The chains and bollards are in a better condition following a renewal programme in 2021. Ongoing component replacement is required until the fence is replaced by NZTA as part of the Rocks Road walking and cycling and sea wall upgrade. The fence is not subsidised through the NLTF.

8.7.6 Barriers - Operations and Maintenance

Operations include network inspections and condition assessments.

Maintenance includes fixings and fastenings, painting, straightening and damage repairs to handrails to maintain the rails in a safe condition.

8.7.7 Barriers - Renewals

There are no significant renewals planned except some require renewal at short notice due to damage. Where possible costs are recovered from who did the damage. When there is budget available older handrails are upgraded with a bottom rail and mesh to improve safety and compliance with the building code.

8.7.8 Barriers - Renewal ranking criteria

Handrails have condition assessments and are renewed based on condition and risk. These are scheduled for immediate renewal/repair when required.

Improved age data will help inform a long term renewal programme.

8.7.9 Barriers - Summary of future renewal costs

A small ongoing budget is proposed to manage the unplanned renewal requirements when hold rails and barriers are damaged beyond repair.

8.7.10 Barriers - Acquisitions

Older installations continue to be discovered and added to the database as acquisitions. Handrails, hold rails, bollards etc are otherwise acquired through subdivisions and new project works.

New catch fences were required on Moana Ave and Cable Bay Road as a result of the 2022 flood events.

8.7.11 Barriers - Disposals

There are no disposal plans for handrails or other minor structures.

8.7.12 Barriers - Preferred Programme

The preferred programme includes data improvement which is largely staff time, inspections maintenance and condition assessments and renewals as required.

8.7.13 Barriers - Procurement

Maintenance of handrails and other minor structures is through appropriate structural, or general maintenance contracts.

Handrail inspections are directly appointed through the structures programme.

8.7.14 Barriers - Risks

Refer also to structures section and risk register in section 10.

8.7.15 Barriers - Improvement Plan

Ref	Improvement Action	REG Pillar	Who	Current Status	Timeframe	Cost
H1	Update bollard, pedestrian refuge and hold rail information	Evidence	AM and operations	Incomplete. Improved processes to include data on new structures, but old asset data is generally missing	2024/30	Staff time
H2	Update condition assessments	Evidence	NCC, consultant and Utilities operator	With structure inspection programmes	2023/24	TBC plus Staff time

8.8 Environmental: Winter Routine and Minor Emergency

The following section shows how the preferred programme affects the winter gritting, winter signage, and minor emergency (minor slips, crash event recovery) services.

8.8.1 Environmental - Physical parameters

Roads prone to frost/ice are gritted in the winter, generally for about 15 weeks. Signage is required for the gritting, and Manuka Street Ford and some low lying paths have flood/high tide closure management plans requiring placement of signage and barriers.

Sweeping, slip removal, detritus (graffiti, litter and fly tipping) and crash debris are all removed as required.

8.8.2 Environmental - Asset condition

There are no assets as this is predominantly a service activity, but 6 shipping containers were purchase to protect the public from uncontrolled falling slip debris during the 2022 flood events. These are being retained and stored for future use if required. They are available as a regional resource for TDC or NZTA, or wider NCC use as required.

8.8.3 Environmental - Link to Strategic Case

Problem Statement	Environmental Impact/ Climate Change	Safety	Network Resilience	Congestion
Priority for this programme	2	1	3	

Option1: Increase Veg control budget to match estimate for current LOS (reduce LOS if tender is over budget). Minor increase budget to meet demand for routine emergency clean up, reactive and costs may still go over budget.

Option 2: 2021 LTP budgets and reduce LOS to suit, exceed budget for safety related emergencies.

Option3: Increased demand for environmental maintenance and higher budget to manage LOS demands for veg control and increased budget to match demand for routine emergency clearing including higher dump fees being imposed.

8.8.4 Environmental - Cost Service Risk

Cost service and risk of the options to address the problem statement is summarised below in figure 8-9-1. This includes the stock effluent facility and vegetation control which are detailed separately in the AMP.

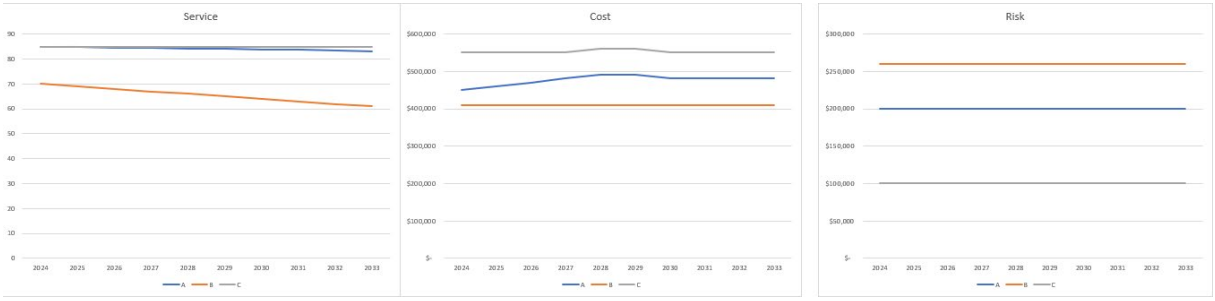


Figure 8-9-1: Environmental Winter and Minor Emergency Cost Service Risk, including vegetation control and stock effluent facility

Option 2 has been funded through the LTP. Cost increases for additional dump fee costs have not been factored into budgets. This work is reactive so there is a very high risk of costs exceeding budgets.

8.8.5 Environmental - Gap Analysis

There were no disposal sites available to receive the quantity of slip material from the 2022 flood events resulting in temporary stockpiles and double handling of material at additional costs. New sites are likely to have consent and ongoing operation costs that have not yet been investigated, or budgeted for. This is included in Minor and Major Event section 0 section of this AMP.

Rock for rock protection works was scarce by the end of the 2022 flood event resulting in delays will quarrying filled the supply chain. Alternative methodology has not yet been investigated to address scour sites, eg green walls, tetrapod blocks.

Waste Minimisation costs are expected to impact this activity as dump site fees increase of $10/tonne has been applied.

8.8.6 Environmental - Operations and Maintenance Plan

Gritting, emergency works and fly tipping rubbish collection are managed through the road maintenance contract. Routine rubbish bin clearing is an unsubsidised activity and covered in the solid waste AMP.

8.8.7 Environmental - Renewal Plan

N/A

8.8.8 Environmental - Acquisition Plan

If unsealed roads were sealed, there may be an increase in winter maintenance required (eg gritting). This is yet to be investigated.

8.8.9 Environmental - Disposal Plan

N/A

8.8.10 Environmental - Preferred Programme

Option 2 has been funded through the LTP and will result in reduced LOS and high risk of emergency management costs going over budget.

Investigation is required for future spoil disposal sites, through WC151.

8.8.11 Environmental - Procurement

Services are included in current contracts.

Investigation of spoil sites would require a consultant planner and Iwi engagement services. Estimated value means this would require tendering on the open market.

8.8.12 Environmental – Risks

Risks - Environmental							
Identification		**Analysis: Residual Risk**				**Response e.g. Accept, Reduce, Share**	**Treatments**
Event Description	**Consequence**	**Existing Controls**	**Consequence**	**Likelihood**	**Current Risk Level**		
Tree or tree limb falling	personal injury or property damage	inspection and maintenance	4	3	High (12)	Reduce	Increased inspections and adequate funding to undertake cyclic rather than unplanned maintenance
Disease or infection at stock effluent facility	personal injury or property damage	inspection and maintenance	4	1	Medium (4)	Accept	inspection and maintenance
Costs exceed budget	Financial	Reallocate budgets where feasible, accept over budget	3	5	V High (15)	Accept	Accept budget will be exceeded for reactive emergency works. Accept LOS will be reduced for cyclic works to remain within budget. Reporting LOS gaps and budget issues.

8.8.13 Environmental - Improvement Plan

Ref	Improvement Action	REG Pillar	Who	Status	Timeframe
W1	Investigate long term spoil disposal site	Resources	Ops	Not started	Investigation complete and scoped by end 2027
W2	Investigate security of rock supply for scour protection/reinstatement works	Resources	Ops	Not started	2024-27
W3	Investigate and consult alternative scour repair/protection methods eg green walls	Decision making	AM, parks, iwi, environmental and parks	Included in the Infrastructure Strategy. Needs to be bought forward into operational and response planning	2024/27

8.9 Environmental: Vegetation Control

The following section shows how the preferred programme affects vegetation control services. These are the subsidised core road maintenance services. Refer also street tree and garden maintenance sections.

8.9.1 Vegetation Control - Physical parameters

This section covers roadside verge mowing, sightline clearance in the rural area and maintenance of the vegetation clear envelope. There are no assets in this activity class.

Vegetation Envelope clearance

8.9.2 Vegetation Control - Asset condition

Control of roadside vegetation has been impacted by traffic management costs, to remain within budget so condition has been deteriorating. An assessment is underway in 2022/23 to quantify scope and condition to inform the ongoing vegetation control programme to manage the health and safety risks and deliver the required LOS.

8.9.3 Vegetation Control - Link to Strategic Case

Problem Statement	Environmental Impact/ Climate Change	Safety	Network Resilience/ Road Maintenance	Congestion/ Economic
Priority for this programme	2	1	3	

Vegetation control is predominantly done for safety, maintain sightlines and reduce fire risk.

There needs to be some increase in the envelope clearance programme to accommodate the new bus routes introduced to deliver congestion relieve and economic benefits. Reducing Glyphosate – environmentally friendly alternatives are also options to address our environmental impact.

Management of fire risk and removing trees at risk of falling on road to reduce risk of road closures partly addresses the network resilience problem statement.

8.9.4 Vegetation Control - Cost Service Risk

No significant budget changes have been funded through the LTP so LOS reductions and greater transfer of risk to the Council will be factored into the programme to keep costs within budget.

8.9.5 Vegetation Control - Gap Analysis

Nelson has used a flail mower with considerable health and safety provisions until 2023. Management of vertical road clearances without using a flail mower will be a focus in the future roadside vegetation contract procurement.

Options for banks and road frontages that the council has health and safety concern about maintaining but typically require the residents are unlikely to be resolved with current budgets.

New bus routes require envelope clearance on routes previously been low priority.

8.9.6 Vegetation Control - Operations and Maintenance Plan

The Vegetation Control contract will be tendered in 2024/25. A survey is underway in 2022-23 to quantify the vegetation control contract scope of work. Details will be recorded and maintained in the future in RAMM. The new contract rates are expected to be higher than current services so will compound the LOS reductions to remain within budget

8.9.7 Vegetation Control - Renewal Plan

N/A.

8.9.8 Vegetation Control - Acquisition Plan

The survey of roadsides will determine the scope of the current programme.

The new public transport routes have identified areas where vegetation management needs to be improved to give easier bus access.

Most new subdivision roads are urban, so do not introduce new vegetation control requirements to the network. Urban greening however is expected to increase the requirement for envelope clearance with time, unless standards are reduced.

8.9.9 Vegetation Control - Disposal Plan

The survey of roadsides will determine the scope of the current programme, analysis of this may identify alternative methods or locations that do not require vegetation management.

8.9.10 Vegetation Control - Preferred Programme

Programme will be confirmed to suit the LTP budgets. This is expected to include reduced LOS which can be confirmed after the new roadside vegetation contract is tendered in 2024/25.

8.9.11 Vegetation Control - Procurement

The roadside vegetation contract is being tendered in 2024/25. The new contract will be for 3 years with options to extend.

8.9.12 Vegetation Control - Improvement Plan

Ref	Improvement Action	REG Pillar	Who	Status	Timeframe	Cost
E1	Ensure Contractors are fully compliant with Health and Safety, Traffic Control and Corridor access regulations	System	NCC Parks and transport	Addressed. Increased budgets and a requirement of new contract.	ongoing	Staff time plus est $70k per year contract costs
E2	Survey all roads to quantify the roadside vegetation management requirements	Evidence	NCC Parks and transport	Underway	2022/23	Est $30k plus staff time
E3	Review sightlines at intersections and amend any vegetation trimming requirements	System	NCC Parks and transport	Addressed: added as a schedule item to the road maintenance contract so they clear of signs etc at critical locations. Eg stop/give way signs, bridge end marker posts, chevrons. More to go into the next roadside vegetation contract in 23/24	ongoing	Included in cyclic road mtce rates and staff time
E4	Freshwater Improvement. See also drainage, LCLR and Network and Asset Management	System	NCC Transport and Utilities	Reduce Glyphosate use	ongoing	TBC when an alternative option becomes available
E5	Include Vegetation Management Policy direction in the next AMP	System	Transport and Parks	Policy development is ongoing. Urban Greening Strategy complete and referenced in demand section of AMP.	2024-27	Staff time plus assume Parks have budget for consultant - unsub

8.10 Environmental - Stock Effluent facility (SEF)

The following section shows how the preferred programme affects the stock effluent facility.

8.10.1 SEF - Physical parameters

The stock effluent facility is part of a network in the Top of the South supported by NZTA and the three councils (Marlborough, Tasman and Nelson). It was built in 2015.

8.10.2 SEF - Asset condition

The stock effluent facility is new and in good condition.

8.10.3 SEF - Link to Strategic Case

Problem Statement	Environmental Impact/ Climate Change	Safety	Network Resilience/ Road Maintenance	Congestion/ Economic
Priority for this programme	2	1		

The Stock Effluent facility provides road safety and environmental benefits by giving stock trucks a place to empty effluent so it does not discharge onto roads causing slippery surfaces and contamination or roadsides and waterways.

Option 1: An option where Council invests in new alarms and monitoring equipment has not yet been investigated. A contingency budget of $200k is required in year 3 in WC221 if this is required.

Option 2: Current contract and operating systems.

Option 3: tender new contract, incl new controls operating system.

8.10.4 SEF - Cost Service Risk

Cost service and risk of the options to address the problem statement is summarised in WC121 Environmental Maintenance.

Option 2 is recommended, because the current service agreement suits the specialised alarm and operating system.

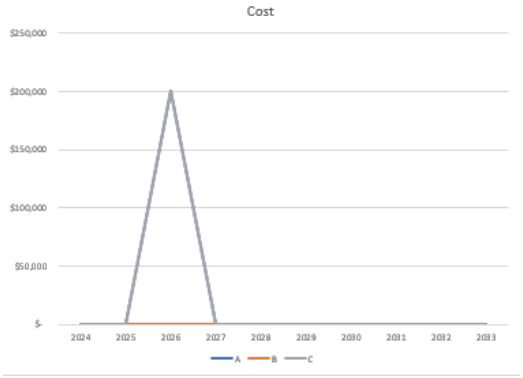


Figure 8-11-1: Cost for Renewals of Stock Effluent Facility

8.10.5 SEF - Gap Analysis

The stock effluent system is recorded as one item in the asset register. Interrogation of this is required to plan component replacement requirements for the future.

Style of alarm system should be reviewed when these are due for renewal. The current system uses the SCATS alarms compatible with wastewater monitoring but do not allow alternative suppliers to become involved. This was highlighted as an issue if 3 waters reforms took effect.

8.10.6 SEF - Operations and Maintenance Plan

Ongoing services.

8.10.7 SEF - Renewal Plan

None planned.

8.10.8 SEF - Acquisition Plan

None expected.

8.10.9 SEF - Disposal Plan

Nil.

8.10.10 SEF - Preferred Programme

Option 2 is funded through the LTP to continue to provide the safety and environmental benefits required by this AMP.

8.10.11 SEF - Procurement

N/A.

8.10.12 SEF - Risks

Refer also Risk Register Section 10.

8.10.13 SEF - Improvement Plan

Ref Priority	Improvement Action	REG Pillar	Who	Status	Timeframe	Cost
SEF1	New contract separate from the Water Services Reform Programme.	Service Delivery	AM/Ops	Cancelled	2023-25 ahead of Water Services Reform	Est $10k to get advise on systems options and tender new contract plus staff time
SEF2	Identify asset components to improve renewal planning	Evidence	AM	Not started	With tender prep new mtce contract	TBC

8.11 Traffic Network Services –Signs, Rails and Markings

The following section shows how the preferred programme affects the signs, sight rails, hold rails and markings assets and services. Handrails are managed as a structure – other.

8.11.1 Signs and Markings - Physical parameters

The assets covered by this Asset Management Plan are shown section **Error! Reference source not found.** Transport Assets and Services Register. This category covers assets and services on roads, walkways, footpaths and cycle ways. High amenity assets are covered in the City Centre section.

The age profile of the assets are shown in figure 8-12-1 below. Markings are not classed as an asset so are not included in this graph. All figure values are shown in current day dollars.

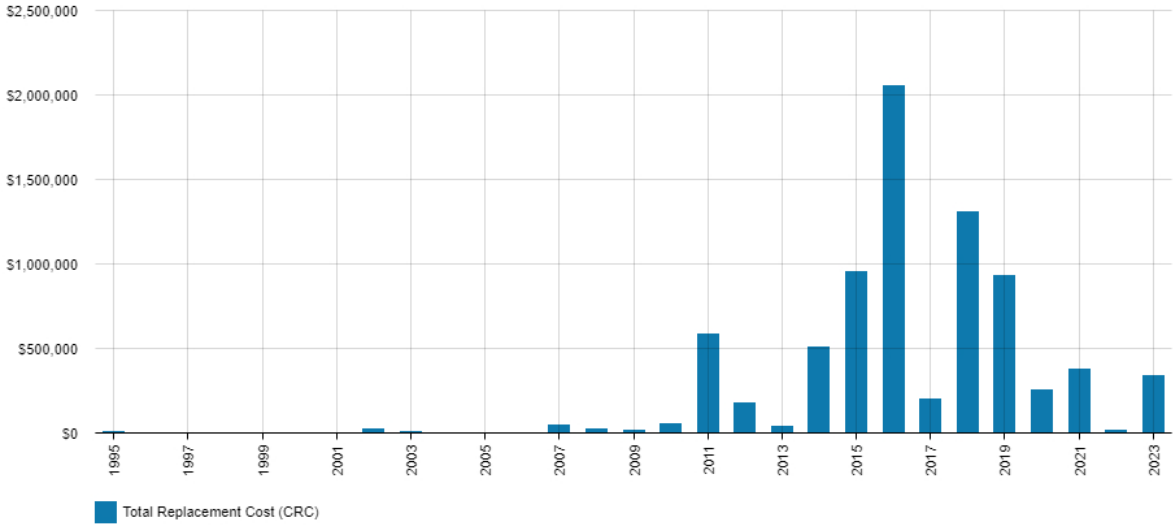


Figure 8-12-1: Age Profile of Signs and Sight Rails Assets

Speed humps and raised safety platforms are assumed to be part of the traffic services assets but have been excluded from the age profile because the data for speed humps and raised safety platforms is very poor.

8.11.2 Signs and Markings - Asset condition

Signs assets are generally in good condition, however condition assessment are generally out of date, so condition assessments need to be reviewed. There is poor information on sign post, or supports.

Sight rails (including degraded guard rails) are generally in good condition, but the posts are in poor condition.

Figure 8-12-2: Condition of Signs and Sign Posts

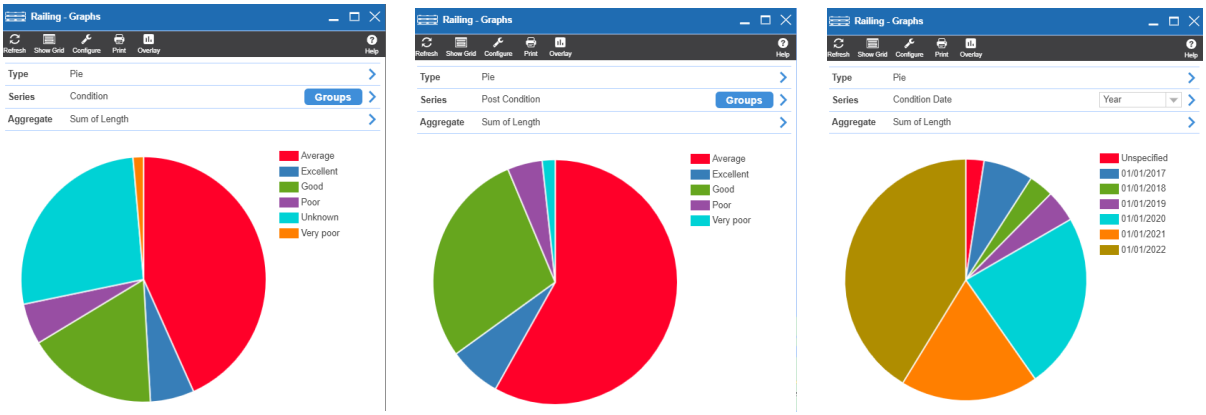
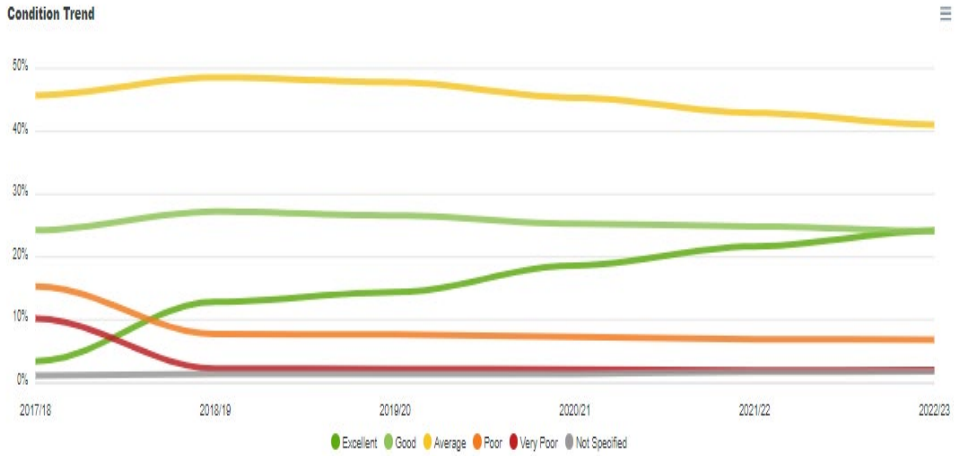


Figure 8-12-3: Condition of Rail (excl hand rails) and Rail Post



Assets

Figure 8-12-4: Signs condition over time – Te Ringa Maimoa – 2022/23

The condition of the signs assets has been improving with time. However updated condition assessments is required to confirm this result. Some are noted to be as old as 2011.

Markings have not been assessed for condition as an asset. They are however known to be in poor condition because costs are rising so the budget in the 2021-

24 period has been inadequate to mark the whole network and there have been supply issues between contracts securing pavement marking contractors to undertake the work.

8.11.3 Signs and Markings - Link to Strategic Case

Problem Statement	Environmental Impact/ Climate Change	Safety	Network Resilience/ Road Maintenance	Congestion/ Economic
Priority for this programme	2	1		

Signs, markings a sight rails are installed for safety of road users (PS2). Signs and markings for cycleways and pedestrians are also included in this activity addressing PS1 by making active travel facilities more accessible and useable.

Option 1: Full remark of whole network on a 1-4 year cycle depending on ONF. Signs maintenance increase to match contract rates for mtce and inspections for current LOS. No planned renewals for 2 years then increased programme.

Option 2: 2021 LTP budgets for all categories and manage LOS to suit.

Option 3: Full remark of whole network on a 1-3 year cycle by ONF priority. Signs maintenance increase to match contract rates for current LOS. More cycleway marking. Includes a renewal programme for sight rails.

8.11.4 Signs and Markings - Cost Service Risk

Test Levels of Service. Cost service and risk of the options to address the problem statement is summarised below in figures 8-12-5 and 8-12-6.

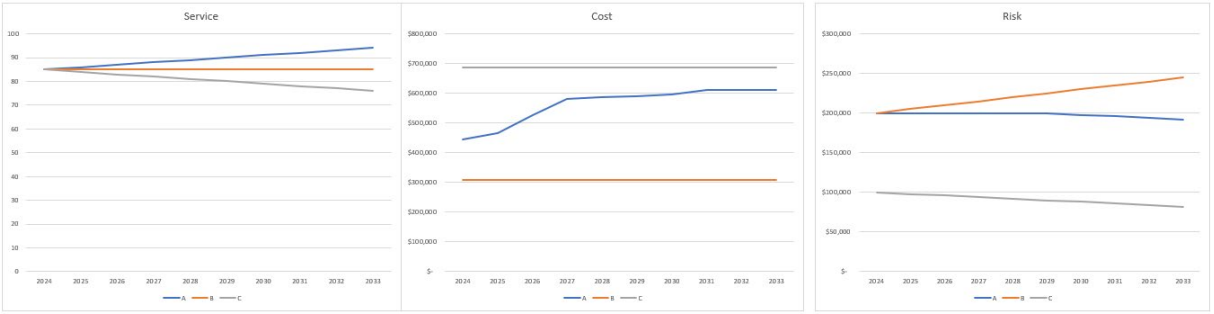


Figure 8-12-5: Signs rails and markings Cost Service Risk for operation and maintenance activities

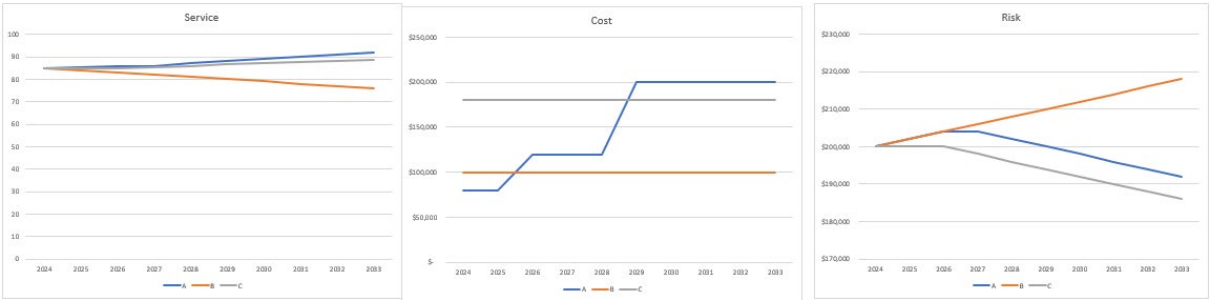


Figure 8-12-6: Signs rails and markings cost service risk for renewals

Option 2 has been funded through the LTP with a significant drop in budget for road marking in year 1 that will cause contract complications and safety implications on the network if not re-addressed. Signs renewal budgets are increased over time through the LTP.

8.11.5 Signs and Markings - Gap Analysis

Growth in the signs and markings assets are expected to exceed any savings that can be achieved by rationalisation of these resulting in growth of the asset portfolio to be maintained.

How bi-lingual signs will be introduced to the network is not yet determined. Option 1 proposes a moratorium on programmed renewals to allow time to plan for these with local Iwi involvement.

Signs, posts sight rails and sight rail post conditions are not current, low confidence in condition assessments.

All guardrails have been downgraded to sight rails because they don't meet crash barrier standards. There is no function data for sight rails. Investigation would be required to determine if some should be guardrails and providing a vehicle protection function. When sight rail posts need replacing the whole rail would get replaced.

Parking signs are included in the signs asset. Separation, would be required to accurately manage a subsidised and an unsubsidised programme.

Useful lives of signs is to be reviewed, eg ped crossings to be 15 years, give way, stop and chevrons 20 years and name blades 30 years affects renewal programme planning.

Assessment of long life marking options for the network has not yet been done and maybe an option to address network condition and cost issues.

8.11.6 Signs and Markings - Operations and Maintenance

Maintenance of signs and rails is included in the Road Maintenance contract. This includes renewals and inspections.

Line marking has been removed from the Road Maintenance contract from 2022 and new cyclic contracts are being started from 2023. Option 1 would allow more

frequent marking in the future. Additional budget (option 3) would be required to do markings more frequently and more cycleway coloured/green paint markings.

Each reseal site is reviewed for opportunities for upgrading markings or removing markings especially on low volume and access roads. No stopping, and other regulatory changes are frequently added to the network through the Traffic and Parking Bylaw resolutions.

Coloured markings (green paint) are the lowest priority to remark.

8.11.7 Signs and Markings - Renewals

A small increase in renewals budget is required to manage the current damage repairs going over budget without doing any planned renewals. Increased renewal budgets are planned from 2027 once condition data is updated. Locations that have vehicle crash risk need to be assessed for load capacity and may require replacement with certified guardrail systems. This demand is reduced with the lowering of speed limits.

Old sections of the cycle network do not meet current standards. Audits will be used to identify and developed options to upgrade signs, markings, way finding and barriers.

8.11.8 Signs and Markings - Renewal ranking criteria

Renewal Ranking will be assessed off the ONF hierarchy, NPV considering condition, maintenance costs and safety risks. A prioritising matrix is to be created as the condition and function data is updated.

Pavement markings are an operational cost but are considered as a renewal for aspects of AMP. The desired renewal programming is shown in figure 8-12-7 below.

Remarking Frequency (Road Hierarchy by Year)			
2022/23	2023/24	2024/25	2025/26
Regional Roads	Regional Roads	Regional Roads	Regional Roads
Arterial Roads	Arterial Roads	Arterial Roads	Arterial Roads
Primary Collector Roads	Primary Collector Roads	Primary Collector Roads	Primary Collector Roads
CBD Roads	CBD Roads	CBD Roads	CBD Roads
CBD Car Parks	CBD Car Parks	CBD Car Parks	CBD Car Parks
Access and Low Volume Roads (Zones 1 & 2)	Access and Low Volume Roads (Zones 3 & 4)	Access and Low Volume Roads (Zones 5 & 6)	Access and Low Volume Roads (Zones 7 & 8)
Major Shared Paths	Major Shared Paths	Major Shared Paths	Major Shared Paths
Other Car Parks	Minor Shared Paths	Other Car Parks	Minor Shared Paths
Selected Green/Red Cycle	Selected Green/Red Cycle	Selected Green/Red Cycle	Selected Green/Red Cycle
Markings (Provisional)	Markings (Provisional)	Markings (Provisional)	Markings (Provisional)

Figure 8-12-7: Desired Cyclic Road Marking Programme

8.11.9 Signs and Markings - Summary of future renewal costs

The proposed renewal budgets are shown below in figure 8-12-8. Pavement marking renewal demand has been shown (gen2), although it is not managed as a renewal. Options assume the peak of renewal demands can be flattened into the future.

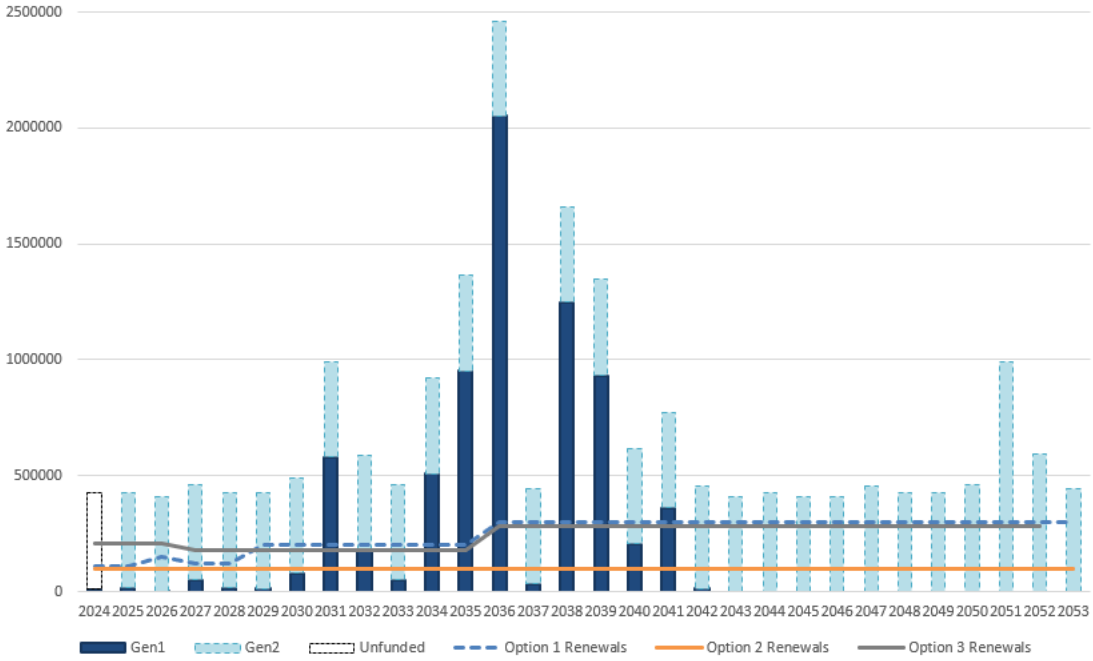


Figure 8-12-8: Signs, Sight Rail Renewal Forecasts (line marking is gen 2 and a renewal budget is not shown)

Line marking has been shown based on asset valuations but is not treated as a renewal for budgeting purposes.

8.11.10 Signs and Markings - Acquisitions

New signs and markings are added to the network from subdivisions. cycleways and parking management. The speed management plan is also expected to require new signs.

Most other new signs and markings are added to the network through parking regulation, cycleway project costs, and increasing LOS for cyclists. When there is not enough maintenance budget the coloured markings are left to fade.

8.11.11 Signs and Markings - Disposals

Disposal of line markings are proposed long term by reviewing the LOS for low volume and access roads to reduce the markings applied. Disposal would have no cost if done through the resurfacing programme. Disposal otherwise as costs higher than remarking costs (and associated pavement and surfacing risks) if removed by waterblasting. Disposal by abandoning is an option and has no cost but will be aesthetically less attractive as these fade so could cause some public complaint. Leaving markings creates a safety issue, or additional maintenance cost to black out so is not favoured.

8.11.12 Signs and Markings - Preferred Programme

Option 2 has been funded through the LTP and will require drop in LOS to manage the programme within budget. There will be higher risks associated with this including safety and compliance risks as signs are not maintained and markings left to fade.

8.11.13 Signs and Markings - Procurement

Maintenance of signs and rails is included in the Road Maintenance contract. This includes renewals and inspections.

New cyclic pavement marking contracts are being tendered from 2023. Short duration contracts allows the LOS variations to be adopted between contracts.

8.11.14 Signs and Markings - Risks

Risks specific to the signs and markings activity are:

Risks - Traffic Services							
Identification		**Analysis: Residual Risk**				**Response e.g. Accept, Reduce, Share**	**Treatments**
Event Description	**Consequence**	**Existing Controls**	**Consequence**	**Likelihood**	**Current Risk Level**		
Inadequate maintenance	Increased safety risk/personal injury	Maintenance and renewal programme implemented	3	5	V High (15)	Reduce	Review budgets and make adjustments in programme to maximise delivery of line marking where safety would otherwise be compromised.
Inadequate maintenance	Increased safety risk/personal injury	Maintenance and renewal programme implemented	3	5	V High (15)	Accept	Reduce LOS in all areas to maximise focus on safety outcomes
water blasting off lines	Pavement failure	Avoid water blasting	3	3	Medium (9)	Manage	Avoid water blasting, manage improvements/changes to occur before resurfacings

8.11.15 Signs and Markings - Improvement Plan

Ref	ONRC Pillar	Description	Who	Current Status	Timing	Cost
TS1	Evidence	Useful asset lives in Ramm and valuations, update to match what is being achieved, and criticality	AM	Done for AMP but not done in Ramm and valuations	2024-27	Staff time
TS2	Communication	Iwi engagement in bi-lingual signs updates	Transport operations	Not started. Delay any programmed renewals involving	TBC	TBC

				words till consulted local Iwi		
TS3	Evidence	Update sign, post and railing condition assessments in RAMM.	Maintenanc e contractor	Process in development	Annually	
TS4	Evidence	Review function of rails and update RAMM/ valuation if need to replace with guardrails for site risks	AM	Not started	2024-27	Staff time
TS5	System	Intersection safety. Review site specific intersection controls for appropriateness.	Transport asset managers and operations	To be reviewed alongside speed management plan	2021–24	Staff time
TS6	System	Review use of signs and markings as part of network management.	Transport asset managers and operations	Site by site with renewals. Overall joint policy with TDC to be written into LDM review	LDM review	Staff time Cost implications TBC
TS7	Evidence	Relay active travel mapping back into Traffic services for cycle lane management and maintenance planning	Transport asset managers	ONF update will do this	2023	
TS8	Evidence	Network safety audits	Transport asset managers	Not started	TBC	Requires staff resource capacity
TS9	Evidence	Useful asset lives in Ramm and valuations, update to match what is being achieved, and criticality	AM	Done for AMP but not done in Ramm and valuations	2024-27	Staff time

8.12 Traffic Network Services – Lighting

The following section shows how the preferred programme affects lighting services and assets.

8.12.1 Lighting - Physical parameters

The assets covered by this Asset Management Plan are shown section **Error! Reference source not found.** Transport Assets and Services Register. Streetlights are on roads, walkways and cycleways. Aesthetic lighting and carpark lighting are covered in City Centre and parking.

The age profile of the assets are shown in figure 8-13-1 below. The spike in 2018 is the LED renewal programme. This data includes, Council owned poles, brackets, switch gear and lanterns only. Shields, and streetlight cable circuits, and internal wiring are not currently quantified or valued. Power and telephone company pole renewal programmes can also affect lighting services where they host a streetlight. All figure values are shown in current day dollars.

New streetlights will be added to the network in 2023-24 with the lighting of the Railway Reserve.

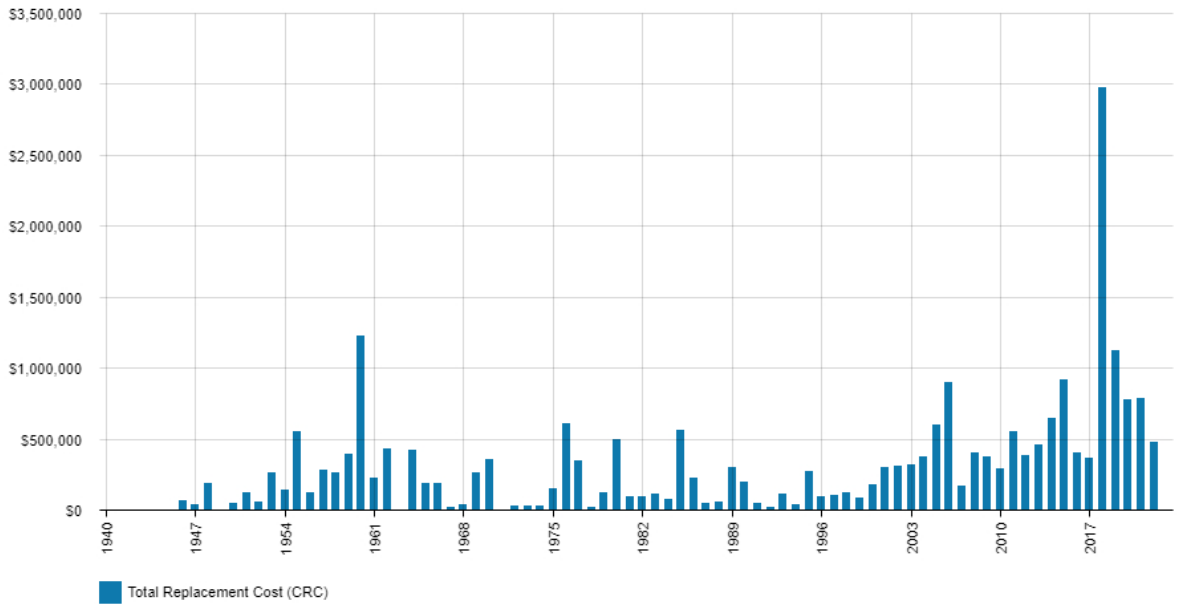


Figure 8-13-1: Age Profile of Streetlight Assets

8.12.2 Lighting - Asset condition

Condition data for streetlights is of average quality but programmes have been included in the Electrical Maintenance contract tendered in 2022 to undertake condition assessment programme. Pole condition testing is ongoing, but with refined parameters from prior experience. Electrical compliance testing is mandatory through the electricity supply regulations.

As shown in figure 8-13-2 the number of excellent assets continues to grow with the ongoing renewal programme. There however remains a large number of assets with unknown condition which need investigation to inform the maintenance and renewal programme.

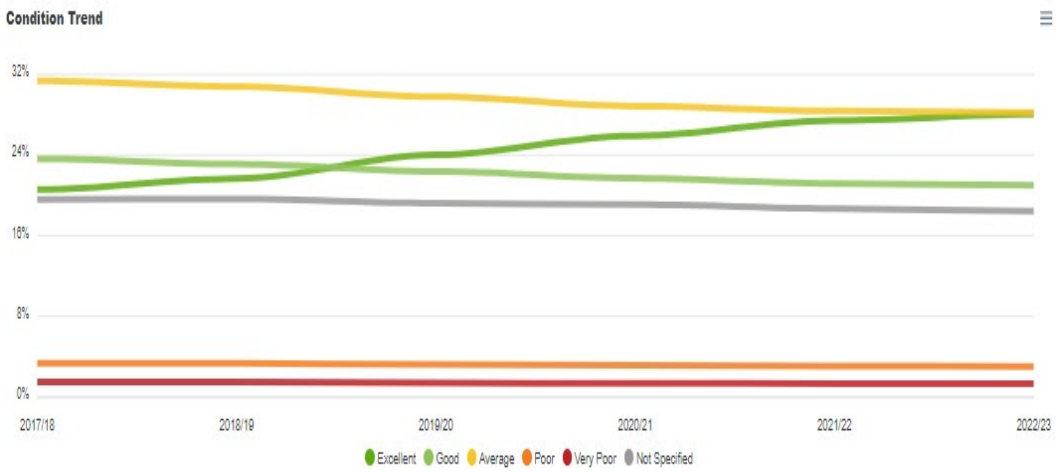


Figure 8-13-2: Streetlight condition with time – Te Ringa Maimoa 2022/23

As shown in figure 8-13-3 lantern condition is the most unknown, but some pole condition is also unknown.

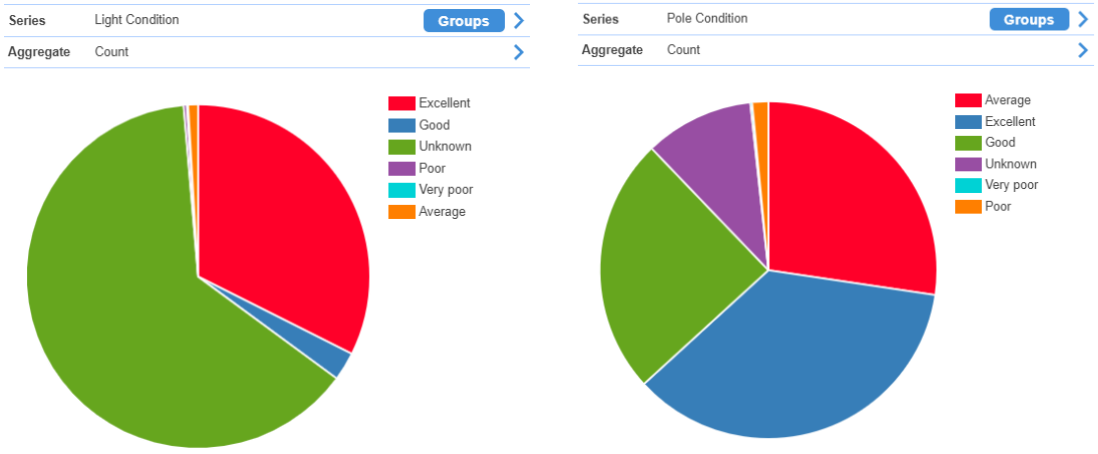


Figure 8-13-3: Condition of Streetlight Lantern and Pole Assets

8.12.3 Lighting - Link to Strategic Case

Problem Statement	Environmental Impact/ Climate Change	Safety	Network Resilience/ Road Maintenance	Congestion/ Economic
Priority for this programme	3	1		2

PS 2: Lighting is used in the urban area, roads without footpaths and rural intersections for safety for road users to continue to address the strategic case. Electrical compliance and pole integrity also remain key safety aspects of streetlighting in a public space.

PS 4: Lighting is increasingly being requested on paths and cycleways to enable more people to feel safe and use alternative modes of transport at night. This especially has potential to help winter morning and evening peak traffic commutes.

Lighting of walkways and cycleways is frequently requested by users to extend the accessibility to people wanting to walk or cycle these routes especially in the evening peak period in winter when they would otherwise revert back to vehicle use. Lighting the Railway Reserve (2022-24) has commenced this programme.

Dimming of streetlights could be introduced to reduce the emissions associated with lighting (PS1). The Railway Reserve could be used as a trial site to gauge public feedback and inform future energy saving light dimming steps to address the strategic case.

Council streetlighting complies with the NZTA M30 specification so meet dark skies standards and best lifecycle and emission standards to address the strategic case.

To address the strategic case and lifecycle programme 3 options are considered:

Option 1: inspection, maintenance and renewal programme based on assessed asset requirements. Includes LED cleaning starting with a trial to confirm benefits.

Option 2: 2021 LTP budgets and adjust LOS to suit.

Option 3: Option 1 plus investigation of smart technology.

8.12.4 Lighting - Surfacing Cost Service Risk

Test Levels of Service. Cost service and risk of the options to address the problem statement is summarised below in figure 8-13-4 and 8-13-5.

Option 2 has been funded through the LTP with increases for inflation.

Figure 8-13-42: Streetlight Cost Service Risk – WC122 Street light maintenance and operations

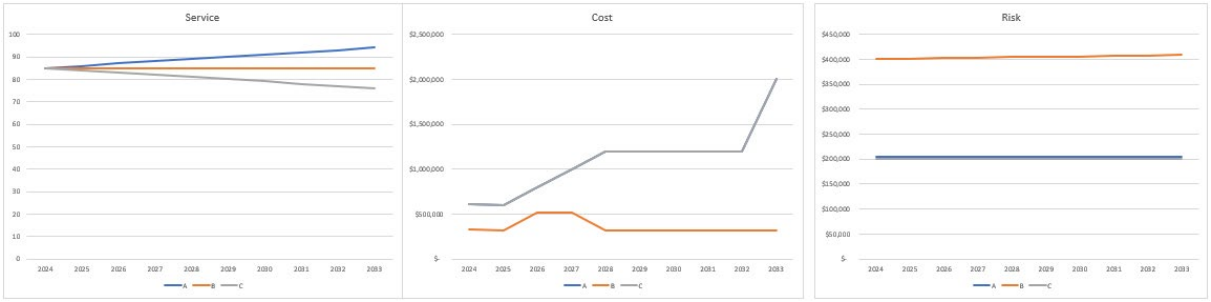


Figure 8-13-5: Streetlight Cost Service Risk – WC222 Renewals

8.12.5 Lighting - Gap Analysis

Banding due to spacing of lights was identified as a potential issue with LED lanterns and there was an improvement programme until 2022 to address some gaps. Further gaps will only be addressed in exceptional circumstances or if safety is proven to be compromised.

It is unclear if environmental dust and dirt affect the quality of light from the LED. A cleaning programme was included in the approved business case but has not yet been included in the LTP for a budget.

City centre heritage lights were not replaced with LED in 2017 because there were no suitable LED options. Renewals are expected to commence in 2023-24.

Assess to the Railway Reserve in the hours of darkness was proven to be a gap for low emission transport options and safety so addressed in 2022-24. More walkways and cycleways need to be lit to extend the coverage to address the strategic case emission reduction, congestion relief and safety.

Power and telephone company pole removal programme can be a gap resulting in unplanned new streetlight poles or renewals.

8.12.6 Lighting - Operations and Maintenance

Demand increases when more lights are added to the network through either Council projects (eg lighting walkways) and vested assets from subdivisions.

2021 LTP Operating and maintenance budget are not adequate so result in reduced LOS and higher risks especially for network resilience and safety.

Council aims for 100% renewal energy sources from its power suppliers. The cost to achieve further power savings needs to be assessed before committing to smart technology.

8.12.7 Lighting - Renewals

The LTP budgets have been increased to renew the assets when structural or electrical condition fall below the compliance criteria.

The recommended programme (option 3) increases renewal budgets to undertake pole and LED renewals to suit the condition programme. Hence budget is proposed to increase with time.

8.12.8 Lighting - Renewal ranking criteria

Pole condition assessments determine condition and risk which determine the pole replacement programme.

8.12.9 Lighting - Summary of future renewal costs

LED renewal is expected to need to commence approx. 2030 with the main programme between 2035 and 2040. Because these were all installed at once renewal could create a spike in the renewal budgets.

Renewal forecasts are graphed against the preferred and 2021LTP budgets in figure 8-13-6 below.

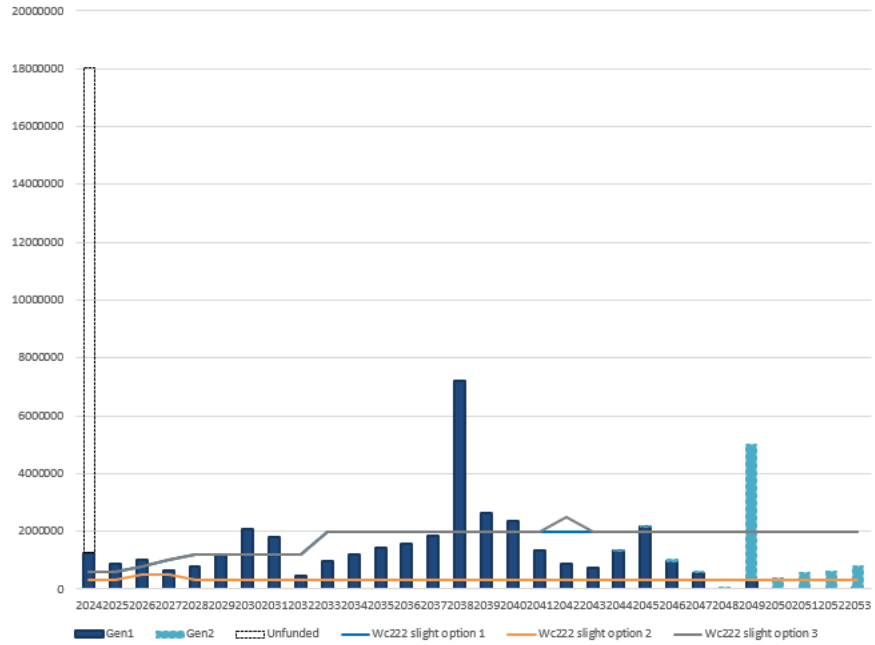


Figure 8-13-6: Streetlight Renewal Forecasts – and option budgets

8.12.10 Lighting - Acquisitions

Acquisition is primarily from subdivisions at a rate of 100 lights and associated infrastructure (cabling etc) per year.

The Railway Reserve is being lit in 2023-24. This will add 125 new lights and approximately 6km of new cables to the network. Further lighting of walkways and cycleways will all be done as acquisitions.

New streetlights are required through the minor works programme when a host power or phone pole is removed and the light needs to be retained.

8.12.11 Lighting - Disposals

There are no disposal plans for streetlight assets.

8.12.12 Lighting - Preferred Programme

Option 2 is funded through the LTP, with more renewals and a trial of cleaning the LED which will determine future benefits or costs before committing to this.

8.12.13 Lighting - Procurement

Streetlighting services, renewals and improvements are included in the electrical maintenance contract let in 2022 for a 5 year period.

8.12.14 Lighting - Risks

Risks - Drainage							
Identification		**Analysis: Residual Risk**				**Response e.g. Accept, Reduce, Share**	**Treatments**
Event Description	**Consequence**	**Existing Controls**	**Consequence**	**Likelihood**	**Current Risk Level**		
Electrocution	Personal injury	Electrical compliance testing	5	1	Medium (5)	Manage	Electrical compliance testing, and controls
Inadequate streetlights that do not comply with Land Development Manual	Poor lighting contributing to low levels of perceived night time safety and rate of night time crashes	Streetlight improvement programme	3	3	Medium (9)	Reduce	Deliver improvement programme
Inadequate maintenance	Streetlights or streetlight column failure	Inspection, testing, data recording and monitoring for intervention needs	3	3	Medium (9)	Reduce	Deliver maintenance programme

Refer also Risk Register section 10.

8.12.15 Lighting - Improvement Plan

Ref	ONRC Pillar	Description	Delivery	Progress	Timing	Cost
SL1	Evidence	Lux survey on CBD footpaths and compare to NZS P6/P7 standards	Operations	Not started	23/24	$10k plus staff time
SL2	Evidence	Check and fill gaps in asset installation dates and useful life data	Operations	Started 2023	2023-24	
SL3	Evidence	Capture condition data in RAMM against pole information	Operations	Pole testing condition is captured in a UDT. Links to asset data required	2024-27	Included in contract rates
SL4	Decision Making	LED renewal prioritisation and programme	AM/operations	Not started	2024-27	Staff time

SL5	Systems	Shift walkway lights to subsidised footpath programme (Year 1).	Asset Management, Operations and Accounts	TBC	June 2023 for 2024–27 AMP	Staff time
SL6	Service Delivery	Undertake LED cleaning trials to determine if add benefit to light output	Operations	Not started	2024-27	Est $20k plus staff time
SL7	Service delivery	Continue to monitor the smart technology requirements of the community, for dimming of lights at night or other desired outcomes.	NCC	ongoing	Monitor NZTA/ MOT direction	Staff and contractor time
SL8	Service delivery	Develop a process for working with private streetlight owners and the power supply company for the operation maintenance, renewal and ongoing electrical compliance of private streetlights.	NCC Operations	ongoing. Got too hard?	2021–2023	
SL9	Evidence	Include streetlights/vegetation/ street trees in forecasting of new assets from subdivision works for future programming	Asset management and subdivisions and consents	ongoing	2024-25	
SL10	Service Delivery	Investigate electric charging for Electric Vehicles (City Centre activity GL)	Asset Management and Planning	ongoing	2021-27	
SL11	Evidence	Include amenity lighting and Muller Fountain electrical and lighting into RAMM for completeness (unsubsidised)	Asset Management and operations	complete		

8.13 Operational traffic services

The following section shows how the preferred programme affects the traffic signals and electronic signs assets and services. Electronic signs include driver feedback signs and school speed zone signs. Area wide local area traffic management schemes, including speed control devices and threshold treatments can also be managed under this NZTA work category but Council does not currently have these schemes.

8.13.1 Operational Traffic Services - Physical parameters

The assets covered by this Asset Management Plan are shown section 2. Transport Assets and Services Register. Traffic signals are considered a critical asset due to the safety control they provide at high risk intersections. They are installed to solve safety issues.

The age profile of the assets are shown in figure 8-14-1 below.

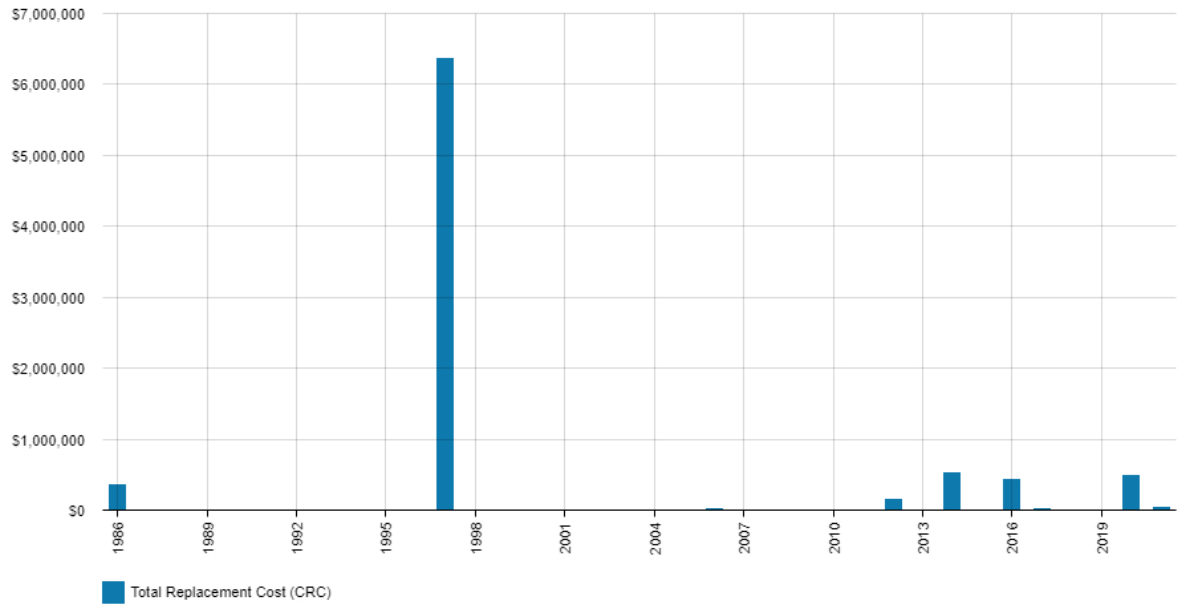
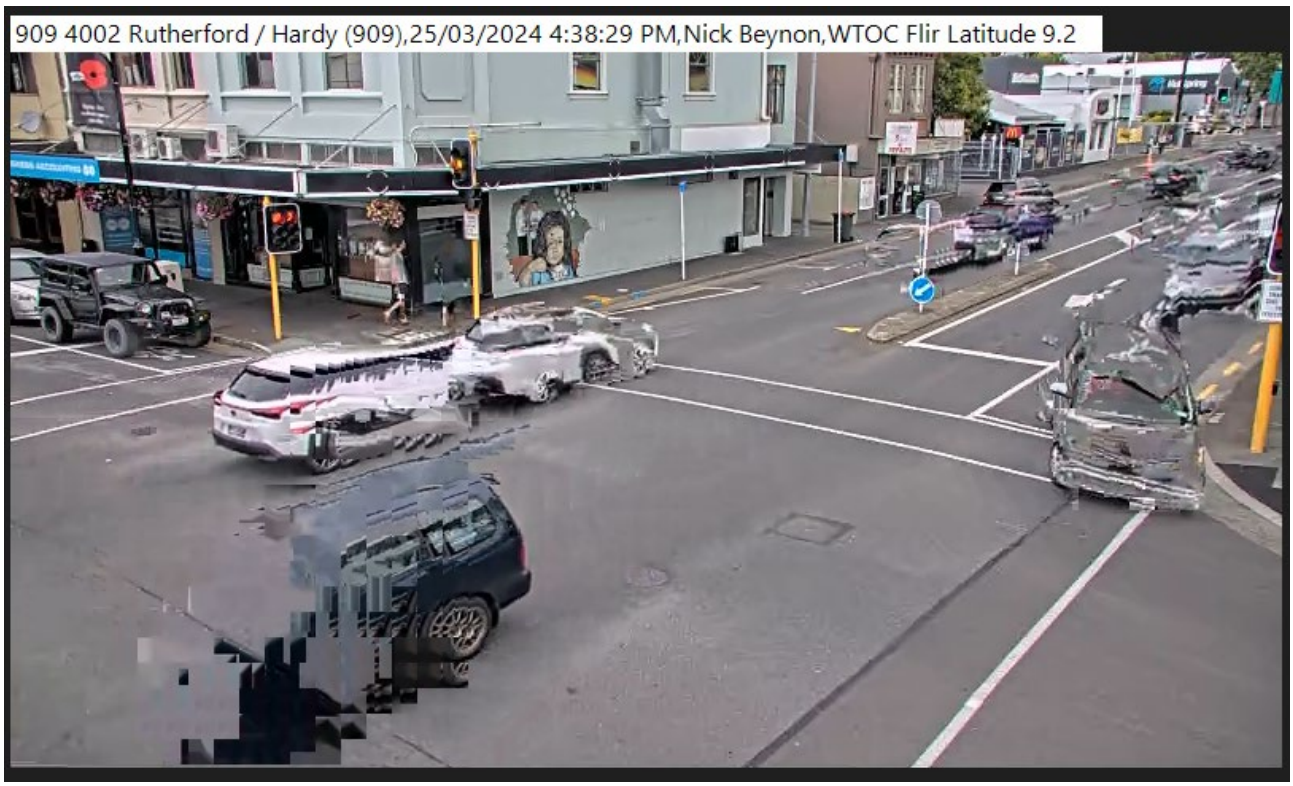


Figure 8-14.1: Age Profile of Traffic Signals and Electronic Sign Assets

There is a spike in the acquisitions in 1997 because the traffic signals on the City Centre ring road were all installed at the same time. This can be better managed by breaking up the asset records to better plan for the lifecycle profile on the components (eg signal lanterns have a shorter life than the signal pole). All figure values are shown in current day dollars.

8.13.2 Operational Traffic Services - Asset condition

Cameras are generally in good condition but require renewal approximately every 8years to maintain the image quality and reliability required to service the operations from Wellington. However the network connections that enable CCTV are causing the cameras to fault meaning management of these sites is compromised. Power supply cables to the signals are also due for renewal. Failure to renew cables will increase the risk of power failures to and within sites.



Council holds one set of spares for the mainframe but technical staff to maintain this system may not be available if there was a fault. All ring road signals are considered at risk due to this old system.

Control cabinets are an essential kit to protect the electrical and communications connections to the signals and the signals controller. One has been vandalised and will require replacement. The signal boxes do not have any external ports for connection of a generator when there is a power failure. This means the site has to be manned because of exposed electrical connections.

A selection of oldest poles have been structurally tested. These appear to be in good condition.

All school speed zone signs need renewal because they are becoming unreliable. Main Road Stoke installations are particularly problematic. They will need variable faces to accommodate future speed limit change.

Driver feedback signs are all in good condition and there are enough to have some redundancy and maintain services if repairs are required.

8.13.3 Operational Traffic Services - Link to Strategic Case

Problem Statement	Environmental Impact/ Climate Change	Safety	Network Resilience/ Road Maintenance	Congestion/ Economic
Priority for this programme	3	1	2	

Traffic signals are predominantly installed to address safety. School speed signs and driver feedback signs are also aimed at safety. Signals also provide some network resilience where main traffic flows merge or cross and benefit to pedestrians and cyclists.

8.13.4 Operational Traffic Management - Cost Service Risk

Costs for operational traffic services are routine. Risks are associated with failure of equipment if renewals are not implemented in time.

8.13.5 Operational Traffic Services - Gap Analysis

Gaps in the detailed knowledge of signals age, useful lives and condition continues to make forward planning difficult resulting in a new renewal programme for the cabling and cabinets from year 1 for option 1 and option3 to address discovered condition issues.

Quality of CCTV imagery is affected by the old copper connections. This is affecting the operation of traffic signal and arterial network monitoring services based in Wellington. These contribute to problems statements 2 and 3 for safety and congestion if not addressed. The cables at Hardy Rutherford Street are causing faults and are in poor condition. The cabinet is in poor condition due to vandalism.

8.13.6 Operational Traffic Management - Operations and Maintenance

Operations include network inspections. Electrical compliance testing is mandatory through the electricity supply regulations. Structural pole testing is being investigated to start an assurance process around condition of the older signal poles. Maintenance includes callout for faults, cleaning, painting of poles, installation, relocation and downloading of data from the driver feedback signs, replacement of consumables.

Wellington Traffic Operations Centre (WTOC) assists Council with 24/7 operational management of the traffic signals. This service is provided across the Nelson Tasman region at no cost to Council. Traffic cameras have been installed at intersections to support their remove management.

Nelson City Council manages the Electrical Maintenance contract for traffic signals across the top of the south including Tasman and NZTA sites. This has a staff resource demand that is on charged to TDC and NZTA where possible.

School speed signs are also managed and monitored via an external agency to ensure data capture is suitable for police enforcement if required.

If there was a regionally significant event affecting all traffic signals the priority for providing temporary power and response are as shown in figure 8-14-4, thus these sites are prioritised for external power connections in case a generator is needed. Regionally significant state highway signals would take priority over local road signals.

Site ID	Traffic Signal	Priority
4015	SH6 / Lower Queen Street	1
4013	SH6 / Bisley Ave (Tahunanui)	2
4002	Rutherford St / Hardy St	3
4011	Main Road Stoke / Songer St	4
4019	Waimea Road / Motueka St	5

Figure 8-14-4: Regional Emergency Response and Temporary Power supply priorities for traffic signal sites

8.13.7 Operational Traffic Management - Renewals

The Copper cable that runs around the ring road and control equipment held in Civic House for the central city traffic lights is obsolete and faults at the Halifax/Collingwood Street signals are being traced to this cable. Renewal by swapping the signals over to the telephone network is underway as budget permits. All signals on the ring road need to be transferred then the copper cable can be abandoned.

Failures to pedestrian call buttons causes the phase to be activated when not required, or noise issues or non- responsiveness. This is an ongoing replacement programme now installations are aged and the buttons wear and fault.

Traffic signal site cabling has been identified as causing faults so programmed for renewals, subject to budget. Estimated cost of $80k per site.

The future of the school speed signs is not yet clear because the speed management plan has not yet been consulted. Current plan is to retain these and upgrade them through the speed reduction implementation plan. They are otherwise included in the renewal programme. Signs would be replaced with a sign that can be programmed to display appropriate speed limit.

8.13.8 Operational Traffic Management - Renewal ranking criteria

Renewals are prioritised from asset condition and intersection criticality. Signalised intersections are prioritised over electronic signs, which are prioritised over driver feedback signs. Operational traffic management renewals are prioritised over other renewals due to their safety outcomes.

LED require replacement when 30% of the diodes have failed. This is an ongoing replacement programme across all signals sites now the installations are coming of age where renewals are required. Refer Appendix E for programme.

8.13.9 Operational Traffic Management - Summary of future renewal costs

Transferring the ring road signals to fibre communication system will incur higher operating costs from service provider.

Cables and cabinet for the Hardy Rutherford Street intersection should be renewed in 2024-27. And school speed signs should be renewed.

The exact LED renewal programme is yet to be developed based on expected life and degree of risk of sudden bulk failures.

As shown in figure 8-14-5, refinement of the asset component records and useful lives will greatly assist with forecasting the operational traffic services renewals.

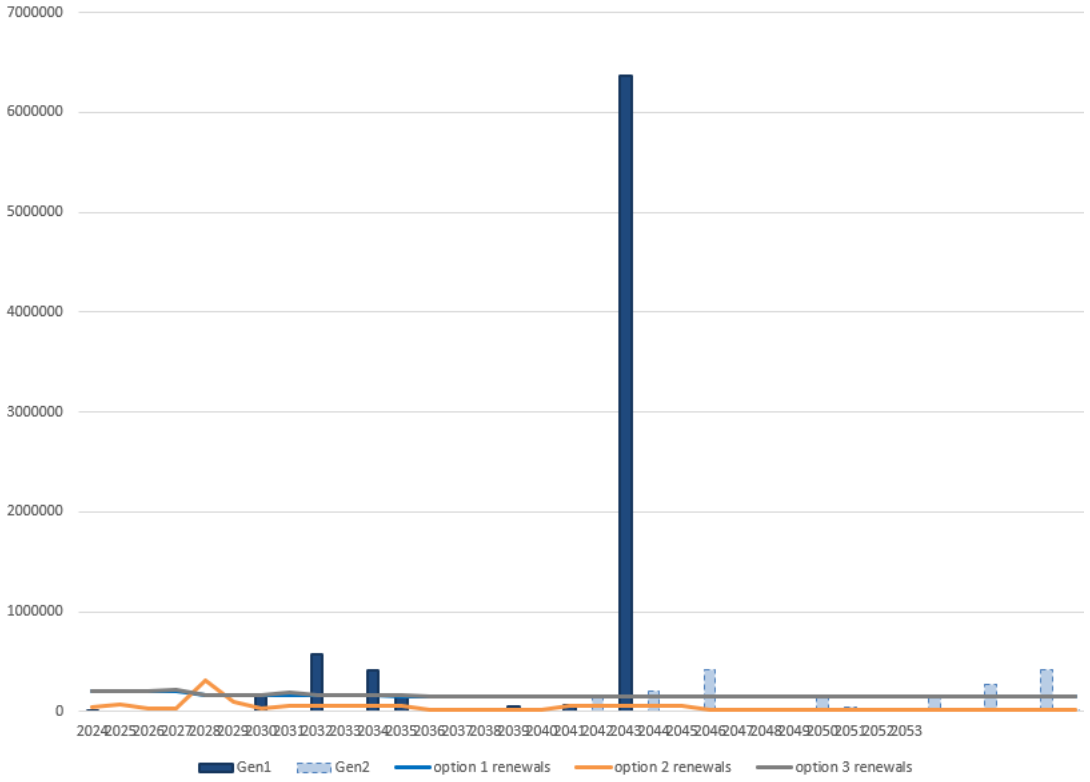


Figure 8-14-5: Operational Traffic Management Forecasts – and option budgets

8.13.10 Operational Traffic Management - Acquisitions

New signalised intersections are planned for Waimea Road and Franklyn Street intersection and Toi Toi Street Vanguard Street intersection and being assessed for Haven Road/Halifax Street intersection for safety. A further set is likely for Tipahi Street and Motueka Street intersection as permanent works following the streets for people project.

The Nelson Future access project also includes signalised intersections and signalised pedestrian crossings along Waimea Road in the medium term. These will be added to the asset portfolio as acquired.

8.13.11 Operational Traffic Management - Disposals

The copper cable around the ring road is determined as contribution to some signal outages. Connection to fibre telephone network is required. This will abandon the copper cable and inhouse framework. There is no known valuation for these assets. There will be a disposal cost of approx. $1000 to decommission the redundant system after change over is completed.

8.13.12 Operational Traffic Management - Preferred Programme

The preferred programme is ongoing operation and maintenance of the equipment with renewals of school variable speed signs and traffic signals communications equipment and cabling.

Financial summary is included in section 10.

8.13.13 Operational Traffic Management - Procurement

Council tendered the Electrical Maintenance Contract in 2022. The new contract is for a 5-year term. The contract is multi-party and includes the maintenance and renewal of traffic signals for Tasman District Council and NZTA state highway traffic signals in the one contract.

8.13.14 Operational Traffic Management – Risks

Risks specific to the operational traffic management activity are:

Risks - Operational Traffic management

Identification		Analysis: Residual Risk				Response e.g. Accept, Reduce, Share	Treatments
Event Description	Consequence	Existing Controls	Consequence	Likelihood	Current Risk Level		
Closure of the Digital Telemetry website and support	School speed zones are unsupported	Supply contract	1	3	Low (3)	accept	Ongoing arrangements
Failure of the copper cable for the ring road traffic signal system.	All ring road signals are out of action	Spare parts	4	3	High (12)	reduce	Upgrade connections to fibre $25k per site
Electrocution	Personal Injury	Skilled approved maintenance personnel	5	1	Medium (5)	Manage	Electrical compliance testing and controls, skilled maintenance personnel
Power failure or damage	Increase in travel time and increase in safety risk due to lights being inoperable	Maintenance intervention to ensure ongoing operation, 24hr day/7day week	3	3	Medium (9)	Reduce	Manage as uncontrolled intersection and install appropriate signs except at critical asset intersections in peak hour where

		maintenance service to bring signals back into service					Police appointed as Pointsmen until signals are operational
Power failure or damage	Traffic cameras inoperable	Cable traffic cameras independently of signals to retain service in event of signals failure	2	4	Medium (8)	Reduce	Re-cable existing cameras and all new cameras to be independent of signals for power and comms
Inadequate maintenance of structural components	Structural failure of signal pole or arm	Inspect in accordance with NZTA S/6:2015	3	2	Low (6)	Reduce	principal inspections and establish ongoing inspection programme
Inadequate maintenance	Increase in travel time and increase in safety risk due to lights being inoperable	Maintenance programme implemented. When signals disconnected install temporary priority give way signs	3	3	Medium (9)	Reduce	Manage as uncontrolled intersection with signs or Police appointed as Pointsmen until signals are operational
Unanticipated New technology demands	Budget Constraints	Reallocate current improvement budgets	3	2	Medium (6)	Accept	Ongoing monitoring of technology developments
Crash event damages signals infrastructure	Signals failure	Maintenance of signals, road code rules	3	2	Medium (6)	Accept	Skilled personnel detailed design of new signalised intersections for infrastructure layout and placement

Refer also Risk Register section 10.

8.13.15 Operational Traffic Management - Improvement Plan

Ref	ONRC Pillar	Description	Who	Current Status	Timing	Cost
OP1	Evidence	Identify and register asset component install dates and life expectancy to break up the signals asset records for renewal	AM and Operations	Not started	2024-27	Staff and contractor time est $10k contractor costs
Op2	Evidence	Include condition assessments in RAMM	Transport operations	Underway with Mtce contractor	ongoing	Staff and contractor time est $10k contractor costs
Op3	System	Require electrical maintenance contractor to do payment claims through RAMM	Transport operations	Mtce contract done and included this	complete	
Op4	System	Determine Policy requirements for on site and off site electric charging stations	AM and Planning	Included in the Road Encroachment Policy	TBC	

8.14 Cycleways

The following section shows how the preferred programme affects cycle assets and services.

8.14.1 Cycleways - Physical parameters

The assets covered by this Asset Management Plan are shown section 2 transport Assets and Services Register. Cycle facilities include separated cycle paths, shared paths, bike stands, bike shelters, and bike service stations. Sign, markings, barriers, lighting, drainage and vegetation to support the cycleways are covered in respective programmes. On road cycle lanes are covered in the sealed pavement programmes. Asset data includes the NZTA Whakatu Drive and Atawhai Drive cycleway because these are managed and 50% funded by Council. Funding is split with state highways by agreement before a FAR is applied.

The age profile of the cycleway paths are shown in figure 8-15-1 below. Cycle stands, shelters and service stands are yet to be included in the valuation.

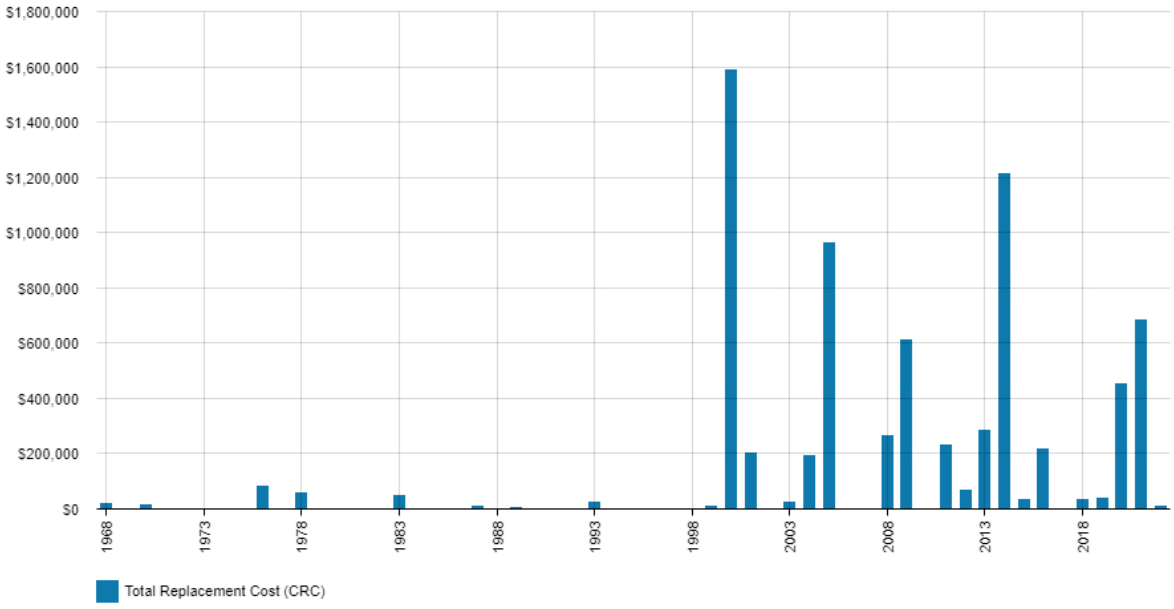


Figure 8-15-1: Age Profile of Cycleway Assets

The Railway Reserve in Stoke was Nelsons first shared path and was built in 2000. Cycle facilities before this date are old footpaths and walkways that have been redesignated to allow cyclists to use them.

Any new cycleways or significant upgrades to cycleways that are not renewals are included in the Low Cost Low Risk (LCLR) programme.

8.14.2 Cycleways - Asset condition

Cycle facilities are generally in good condition. The Railway Reserve in Stoke is due for resurfacing approximately 2025 based on 25-year life but would be deferred because condition is still satisfactory. There are sections of this where use demand is higher than the facility caters for. This is being monitored and will inform the renewal/improvement planning.

Many cycle paths have poor functional capacity. These are poorly connected paths, and footpaths and walkways.

Sections of Whakatu Path are in poor condition. Some is very coastal and subject to tidal inundation.

Cycle facilities like service stations and bike shelters and bike stands are not complete in RAMM. Their condition is generally good because these are new facilities.

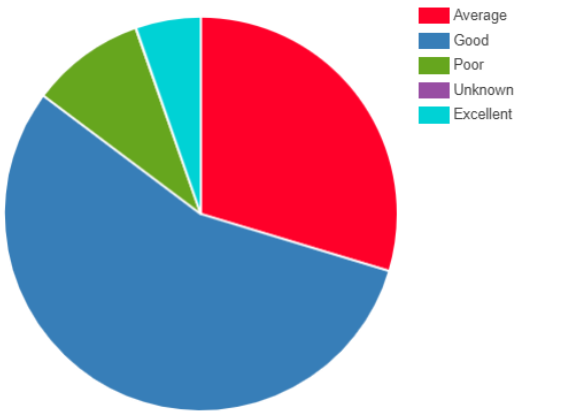


Figure 8-15-2: Condition of Shared paths and Separated cycle facilities (includes NZTA Whakatu Drive and Atawhai Drive shared paths)

8.14.3 Cycleways - Link to Strategic Case

Problem Statement	Environmental Impact/ Climate Change	Safety	Network Resilience/ Road Maintenance	Congestion/ Economic
Priority for this programme	1	3	4	2

Separated cycle facilities are increasingly demanded by the public to allow them to use low emission transport, for a safe travel option away from cars and pedestrians avoid congestion. This addresses problem statement 1 and 4. Cycle infrastructure can also provide some network resilience as an alternative route in an emergency for walking or cycling modes.

8.14.4 Cycleways - Cost Service Risk

Increases in budget are required to address growing cycle network and provide a consistent LOS for maintenance and renewals and keep cycling as an attractive option to address climate change, environmental and traffic congestion problems.

Demand for cycle facilities is growing. High costs are not directly improving the service delivery or risks due to the increasing LOS expectations from the growing user base. Cycleway projects that are included in the LCLR programme are addressed through site specific businesses cases and optioning.

8.14.5 Cycleways - Gap Analysis

E Tu Whakatu identified the desired cycleway network. There are significant gaps between the current network and the desired state. These are included in the Minor and Major works programmes for investment. It is assumed that closing gaps is a higher priority than renewal of current facilities, as long as current facilities are managed in a safe condition. User numbers, and pedestrian/cycle mix will also affect upgrade programmes for existing facilities.

Many old shared paths are 2m wide. This is less than the desired minimum but unlikely to be remedied until the path is due for renewal or use demand requires separation of pedestrian and cyclists.

CIPTED for isolated paths, at night has not been assessed. Some may require improvement as user numbers grow. Others may require lighting, and will be assessed following monitoring of the Railway Reserve lighting project.

The Railway Reserve require drainage improvement, and removal of high shoulders for pavement and formation integrity and user safety. This has not yet been investigated.

Cyclists use roads as any other vehicle. Speed and safety are being addressed through the Speed Management Plan to maximise use of roads in the cycle network and will require focus in the road safety promotion programme.

Electric cycles have increased the operating speed of cycles. This compounds safety concerns already expressed by pedestrians on shared paths. Management of speed of cyclists on shared paths, and enforcement of speed limits for cyclists on road is yet to be determined.

Requests to make it mandatory for cyclists to use a cycle facility when provided are yet to be investigated, for legality, practicality and enforceability.

Micromobility is not covered as a separated mobility group and has been included in the cycle activity because of the speed differential compared to pedestrians. There are however some differences and the public expectation of where these can be used can vary. This conflict is expected to grow with more use of scooters, skateboards and other recreational mobility equipment.

Skateboards, scooters and other recreational mobility equipment is currently banned on the CBD streets. Continuing the provision to ban these users is being consulted the traffic and parking bylaw. If a continued ban is supported then alternatives, like mobility friendly road environment is required, especially in the city centre.

The shared path through Nayland College connects Thetford Chase to the Whakatu Cycleway. It also serves children accessing the schools from the wider areas. There is no maintenance or ownership agreement with the school which would allow Council to maintain and formalise this connection for general public use.

The shared path from Bolt Road to Whakatu cycleway is on Airport land. A land agreement needs to be formalised for this to be maintained by Council.

Whakatu Drive underpass at Poorman Stream remains a gap. Gravel buildup affects the underpass more that the state highway, although the Bridge is a NZTA asset. Gravel removal poses a risk to freshwater outcomes. There is no clear solution.

Development of cycleways that take road space continue to be contested in Nelson for the loss of parking. Committing budgets when programmes cannot be delivered continues to be a tension in the delivery programme. A new approach could be adopted to resource the pre-engagement and urban design/planning before developing more plans for cycleways. Cycleways require more commitment from the community before being progressed for funding (Council and NZTA or other sources) to minimise waste of budget and resources experiencesd to date.

The cross town links project to connect cyclists from Nelson East/Brook and Maitai areas to the Railway Reserve and schools is expected to cost more than $2M. It would require a detailed business case for NZTA funding (refer WC151 NAM).

8.14.6 Cycleways - Operations and Maintenance

Network inspections and maintenance of cycleways are undertaken through WC124 – footpath maintenance because most cycle facilities are shared paths also used by pedestrians and there are much more footpaths than cycle facilities.

Sweeping of cycleways and walkways (normally shared paths), and maintenance of bike parking and service stations are charged to cycle facility maintenance activity.

Cycleway projects included in the LCLR programme result in additional operations and maintenance costs which will be incurred in the programme on completion of these works.

8.14.7 Cycleways - Renewals

The Streets for People project is temporary works and will need permeant renewal within approximately 5 years.

Sections of the Whakatu cycle path have been identified as in poor condition, and subject to coastal inundation. Renewal on a new alignment of some sections is required to sustain this facility.

8.14.8 Cycleways - Renewal ranking criteria

Renewal Ranking will be assessed off the asset condition, cycleway hierarchy and use demand.

8.14.9 Cycleways - Summary of future renewal costs

Future renewal costs need to consider more separation of pedestrians and cyclists on high volume routes and higher LOS expectations, so are expected to be higher than valuation. Costs are shown as renewal costs figure 8-15-5 but may require capital improvement budgeting instead.

The detailed Forward Works plan for 2024-27 is included in Appendix D.

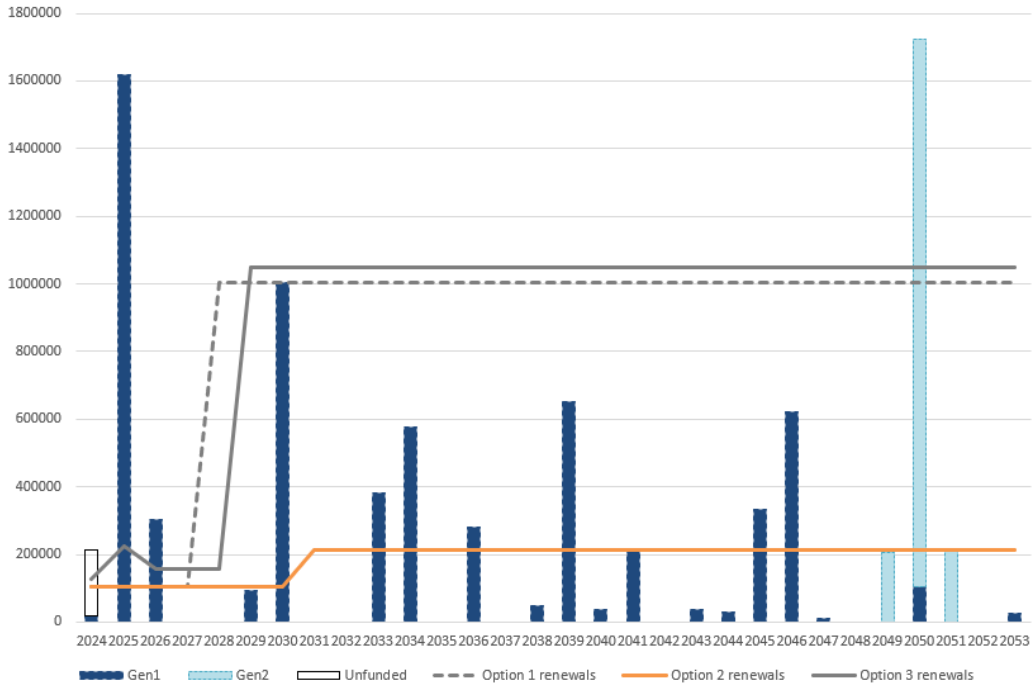


Figure 8-15-5: Cycleway Renewal Forecasts and option budgets

All figure values are shown in current day dollars.

8.14.10 Cycleways - Acquisitions

The minor works programme has a high focus on new cycle facilities because of the gaps in the network and may not attract NLTF funding because of the direction of the 2024GPS.

As shown in figure 8-15-6, many Councils in our peer group have enjoyed great success delivering walking and cycling facilities because they have maximised reserves and esplanade corridors whereas new facilities in Nelson are needing to use the road corridors because the reserves path network is substantially complete. Other councils are expected to slow as they meet the challenges of providing on road facilities which will also help Council as the on road facility designs and delivery is now becoming streamlined. Now that Nelson has a walking and cycling strategy and action plan delivery of cycle facilities is only limited by funding, consultation and resourcing.

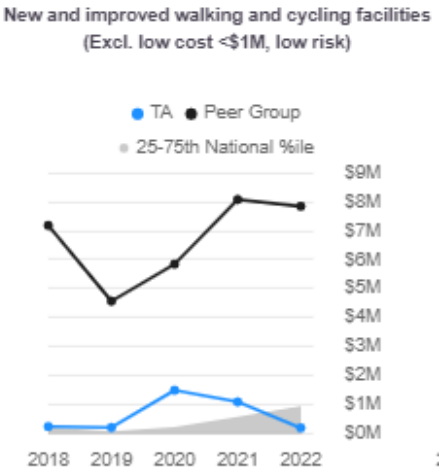


Figure 8-15-6: New and Improved walking and cycleing facilities – Te Ringa Maimoa 2021/22

The Streets for People project is expected to create approximately 1km of temporary cycle facility in 2023/24. This will become a vested asset and require ongoing monitoring and operational maintenance until demand is confirmed and a permanent solution is designed and built.

Connections to PT will result in new bike stands at bus stops. Cyclists are demanding secure bike storage. What this includes, and ownership models are yet to be determined but could result in facilities added to the cycleways asset portfolio for operation, maintenance and renewal.

8.14.11 Cycleways - Disposals

The covered bike rack in Millers Acre would be removed for the bus interchange. A new facility would be included with the bus interchange.

8.14.12 Cycleways - Preferred Programme

A step change in cycleway renewals would be introduced from 2029, which is earlier and bigger than planned through the 2021LTP to address the climate change, environmental and congestion problems. The preferred programme includes a small increase in maintenance programme and more sweeping.

Cycleway projects included in the LCLR programme are listed in Appendix F.

8.14.13 Cycleways - Procurement

Maintenance of cycle facilities is included in the road maintenance contracts.

Renewals are tendered in packages of similar works including footpaths and drainage.

Cycleway projects included in the LCLR programme are packaged for design and construction tenders as appropriate to the works. Specific details will be developed in the Procurement Strategy when funding is confirmed.

8.14.14 Cycleways - Risks

Risks -Cycle Facilities							
Identification		**Analysis: Residual Risk**				**Response e.g. Accept, Reduce, Share**	**Treatments**
Event Description	**Consequence**	**Existing Controls**	**Consequence**	**Likelihood**	**Current Risk Level**		
Inaccurate growth information/ assumptions	Inappropriate decision made about future infrastructure and services	Growth monitoring to be frequent and trends related to national/international data where possible	4	3	High (12)	Reduce	Regular monitoring regime and consultation with stakeholders and customers
Increasing standards	Public expectations of Transport safety, quality and environmental standards are increasing	Mitigation strategies vary depending on the outcomes required.	3	4	High (12)	Share	The implications of increased levels of service, resulting in increased expenditure are fully recognised by Councillors
Changed use requires different infrastructure	Poor level of service for changed user expectations of network	Consider aged population, technology and mode share considerations in all asset management decisions	4	3	High (12)	Reduce	Consider aged population, technology and mode share considerations in all asset management decisions. Monitoring and consultation with stakeholders and customers
Changed use results in poor safety outcomes	Crash risk associated with change of use layout or design	Awareness of Safe Systems Approach in all aspects the transport system	5	3	High (15)	Reduce	Safety audits at appropriate stages of concept design and construction
Inadequate road width to accommodate all desired transport mode facilities (footpaths/ cycleways/traffic lanes and parking)	One mode or user will need to change	Consultation and use of multi-criteria analysis for business cases	3	4	High (12)	Reduce	Consider aged population, technology and mode share considerations in all asset management decisions. Monitoring and consultation with stakeholders and customers
Changing rules to allow cyclists on footpaths	Crash risk associated with change of use layout or design	Monitor introduction of new rule	5	4		Reduce	Introduce bylaw to control cycle access to footpaths if required
Current design standards not appropriate for different devices eg e-scooters and e-bikes	Confusion, LOS and safety risks with competing and incompatible users	Monitor design and implement guidance from Waka Kohati	4	4	High (16)	Reduce	Include new design guidance when available

8.14.15 Cycleways - Improvement Plan

Ref	ONRC Pillar	Description	Who	Current Status	Timeframe	Cost
C1	Communication	Public and political consultation about what urban form looks like, with respect to better environmental outcomes and responding to the climate change emergency and urban intensification. Improvement engagement and engagement practices	Transport and Communications	TBC	2021–23 for 2024–34 AMP	Est $300k for new staff resources
C2	Resources	New urban design/planning and consultation experts 2 FTE	HR and team leaders	TBC	TBC	Est $200k pa for new staff resources
C3	Evidence	Add bike shelters, bike stands and service stations to Ramm and valuations	AM/Operations	Incomplete	2024	Staff time
C4	Resources	Formalise agreement with Nayland College to maintain and permit public access path between Thetford Chase and Whakatu Cyclepath	AM and Operations	Path exists but no maintenance or ownership agreements	2024/25	Staff time and ongoing path maintenance and surfacing costs
C5	Evidence	Better understanding of Nelson's specific cycle crash risks.	Transport asset managers	Requires ongoing monitoring.	ongoing	Staff time
C6	Evidence	Demand for cycle facilities across the network. Cycle counting.	Transport asset managers	counting options being investigated for new Traffic Counting Contract	2023/24	TBC
C7	Communication	Public-facing route maps.	Transport asset managers, Operations and GIS	underway. And maybe through vehicle control bylaw?	2024	Staff time

8.15 Footpaths

The following section shows how the preferred programme affects the footpath (including walkway) assets and services. Shared paths are also used by pedestrians but are included as a cycleway asset.

8.15.1 Footpath - Physical parameters

The assets covered by this Asset Management Plan are shown 2. Transport Assets and Services Register. The portfolio includes the footpaths on SH6 through Nelson urban area. Line marking, drainage and signs for footpaths are managed in the respective programmes.

The age profile of the footpath assets are shown in figure 8-16-1 below. When a construction date is not known, 1901 has historically been used. Approximate construction and surfacing dates for these paths is yet to be reviewed. Footpath assets include pedestrian refuges and crossings but there is poor data on these so need to be quantified prior to the next AMP.

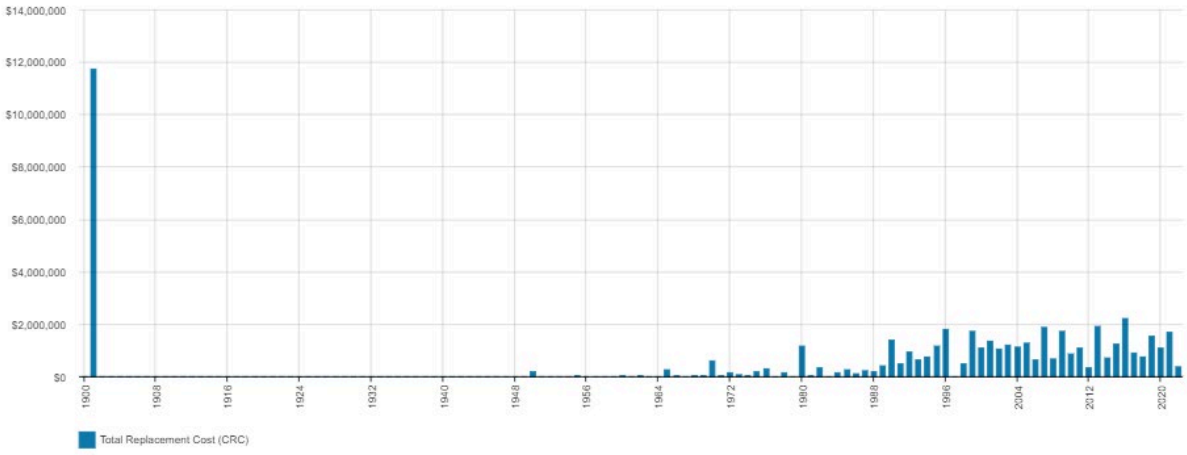


Figure 8-16-1: Age Profile of Footpath Assets

Asphalt footpaths are valued with an expected life of 25 years and concrete footpaths with an expected life of 50 years.

8.15.2 Footpath - Asset condition

Footpath condition was assessed in 2023/24 against the new 2023 NZTA guidelines and on completion of the 21-24 footpath renewal programme. This does not assess driveway shape which was included in the previous survey. Condition is summarised below in figure 8-16-2. 2% of assets are in poor or very poor condition showing the success of the previous renewal programme and a nationally consistent performance metric. Many of the faults require maintenance intervention eg vegetation trimming, or removal of trip hazards.

Higher LOS is demanded in the City Centre. This is discussed in the CBD section of this AMP, but from 2023 will be funded through the subsidised footpath programme.

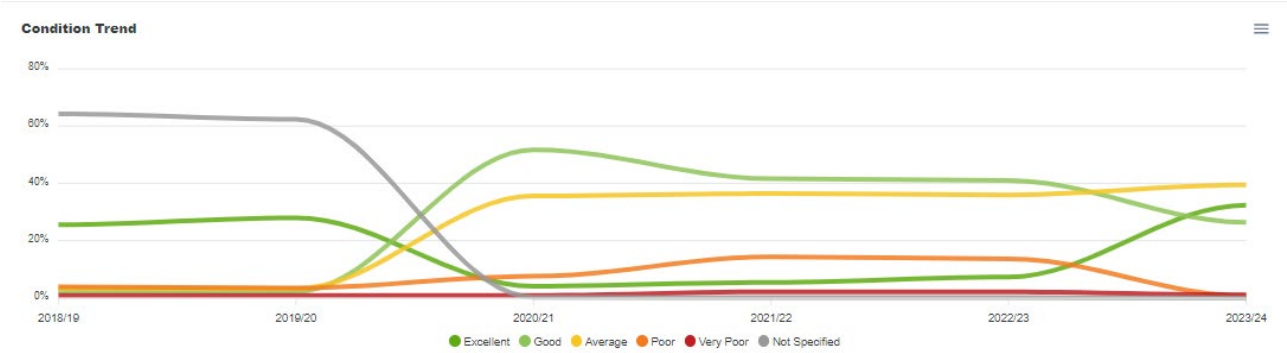


Figure 8-16-2: Condition of Footpath Assets over time - Te Ringa Maimoa – 2023/24

8.15.3 Footpath - Link to Strategic Case

Problem Statement	Environmental Impact/ Climate Change	Safety	Network Resilience/ Road Maintenance	Congestion/ Economic
Priority for this programme	1	2	3	4

Good footpaths support environmental outcomes of walking and a low emission mode of transport. Walking (including use of mobility devices) is also the most accessible mode of transport for all age groups. Walking facilities prove health and environmental benefits for at short distances and access to local facilities and bus stops to provide alternatives to private cars.

Condition and connectivity of walking facilities affects the safety outcomes. The footpath network is largely complete in the urban network, but speeds on roads where pedestrians share with vehicles, and road crossing facilities remain gaps.

Resilience affects the footpath facilities because low lying assets are subject to inundation, scour and flood risks. Safe alternatives are required when normal routes are not accessible.

Options for footpaths to address the AMP problem statement and lifecycle management are:

Option 1: Increase maintenance to reflect aging condition of footpath, new contract rates, and to address the defects in the condition survey. No change to footpath renewal programme.

Option 2: Retain 2021 LTP budgets for maintenance and renewals and adjust LOS to suit.

Option 3: Smaller increase to maintenance and increase renewal programme.

All options include reallocation of CBD footpath maintenance budgets to the subsidised footpath programme. Options 1 and 3 include renewal of CBD footpaths with pavers from the new palette.

Footpath projects that are included in the LCLR programme are identified to address the problems in the AMP that cannot be addressed through maintenance, operations or renewals. They are typically physical works projects.

8.15.4 Footpath - Surfacing Cost Service Risk

Test Levels of Service. Cost service and risk of the options to address the problem statement is summarised below in figure 8-16-3 and 8-16-4.

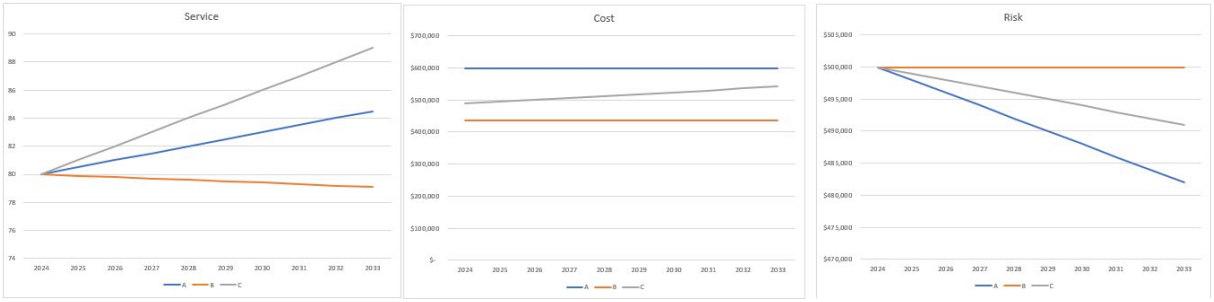


Figure 8-16-3: Footpath Maintenance Cost Service Risk

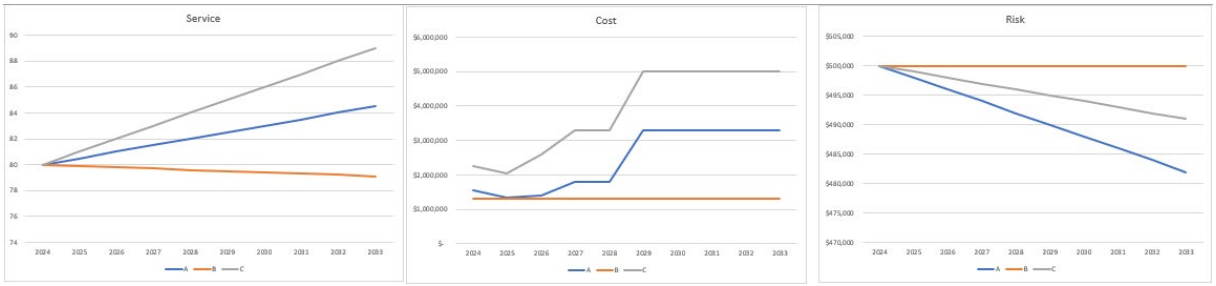


Figure 8-16-4: Footpath renewal – cost service risk

Option 2 has been funded through the LTP.

8.15.5 Footpath - Gap Analysis

Lichen/moss/slippery surfaces create slip/trip/fall hazard for pedestrians especially in winter. Nelson has a high population of active older people who can be seriously injured by these falls. Control of moss and lichen is currently reactive on response to a complaint. Adequate budget would permit planned programming of problem areas.

There is some risk with a large renewal programme that network improvement opportunities are missed with a like for like response. Upgrades to new standards are planned (refer renewals section 8.15.7 below).

The proposed Road Encroachment Policy highlights to adjoining property owners that vehicle crossings are a private use of the road, and residents have some maintenance and renewal responsibilities. Council however continues to expect to renew vehicle crossings where required to achieve the required footpath standard, which is different to the LDM standards. There is increased potential for residents to disagree with the footpath standard if they perceive their crossing is adversely affected. This could be addressed through future LDM upgrades.

There are roads on the network that do not have a footpath, so the carriageway is used for walking. Lighting, and speed management remain a gap for these roads that are addressed through other programmes.

City Centre footpath connections are a contested space due to retail activity, community connection and congregation and movement functions. All functions are required to meet the scope of city centre activity. A management, renewal and/or upgrade plan, that is acceptable to retailers and the public is yet to be developed. This is being addressed through the City Centre AMP.

The City Centre has zebra crossings and raised platform courtesy crossings. Both are essential to the pedestrian LOS for the city centre to deliver the benefits desired from this AMP. Neither however meet current design standards so are due for review. This is also a safety risk. A project is expected in the minor works programme.

Parking meter facilities at carpark entrances are no longer required. This is an opportunity gap, with the carparking resurfacing programme to improve pedestrian facilities along and across carpark entrances.

Tactile pavers are missing from most road crossing points for pedestrians. The gap is particularly evident in the city centre and ring road.

Vigorous grasses, eg kikuyu, grow into asphalt path surfaces and are difficult to control except by chemicals which are unfavoured. More concrete maybe the best response. All path surfaces options however have advantages and disadvantages which need to be accommodated in their site selection.

Harley Street footpath renewal is limited by the Heritage NZ requirement to retain the heritage timber kerbs.

Shared paths are managed as cycle facilities for renewals (usually require widening and corners eased for sightlines) but walking facilities for maintenance (more focus on trip hazards) to simplify funding requirements, and deliver the appropriate LOS focus.

8.15.6 Footpath - Operations and Maintenance

Footpath condition assessment are proposed every 3 years by an independent contractor (WC151). Footpath assessment criteria (2021 AMP Appendix D) continues to be the guiding framework.

The new road maintenance contract includes minor footpath maintenance as a cyclic activity at $15,000 per month which appears to be reducing the overall maintenance cost. This is a change in delivery from previous years and is aimed at improving LOS, cost of compliance and budget demands. Substantial repairs are additional cost.

Maintenance budget trends are difficult to use to report demand because these have been traditionally capped, and/or reduced to suit budget constraints. Reporting of open dispatches as a maintenance Pool is being introduced to understand asset requirements.

Upper Trafalgar Street is closed to general traffic and is an ONF Civic Space. Stoke and City Centre Streets are ONF Main Streets and because of the high pedestrian demands for civic spaces and Main Streets these receive a higher LOS for cleaning and maintenance. These are included in the footpath programme.

2021 LTP Operating and maintenance budget are not adequate so result in reduced LOS and higher risks especially for network resilience (option 2). Moderate increases in operating budgets and a renewal programme (option 1) would deliver higher LOS, reduced risks especially for safety, management of budget demands and asset integrity.

8.15.7 Footpath - Renewals

The planned footpath renewal programme for 21-24 has not been completed due to tender prices being higher than estimates. Outstanding renewal programme will be deferred to 24-27 period and reprioritised.

16% of footpaths have a poor or very poor condition. These have a combined value of $8m. A renewal programme of $1.5M per year would not address all poor condition footpaths. It would address very poor condition and allow a programme or other sites based on demand.

Footpath renewals typically only involve resurfacing but widening, driveway and crossfall reshaping can result in extensive works. Widening of existing narrow footpaths to a maximum of 2m is classed as a renewal to meet current desired standards. Further widening is likely to be associated with change of use (permitting cycle use) or significant area upgrades (eg retail centre frontages) so are classed as project improvement works to gain the appropriate scope, design and assessment.

The Councils vehicle Crossing Guidance for existing developments (2021 AMP Appendix D) continues to be used and is proving successful.

8.15.8 Footpath - Renewal ranking criteria

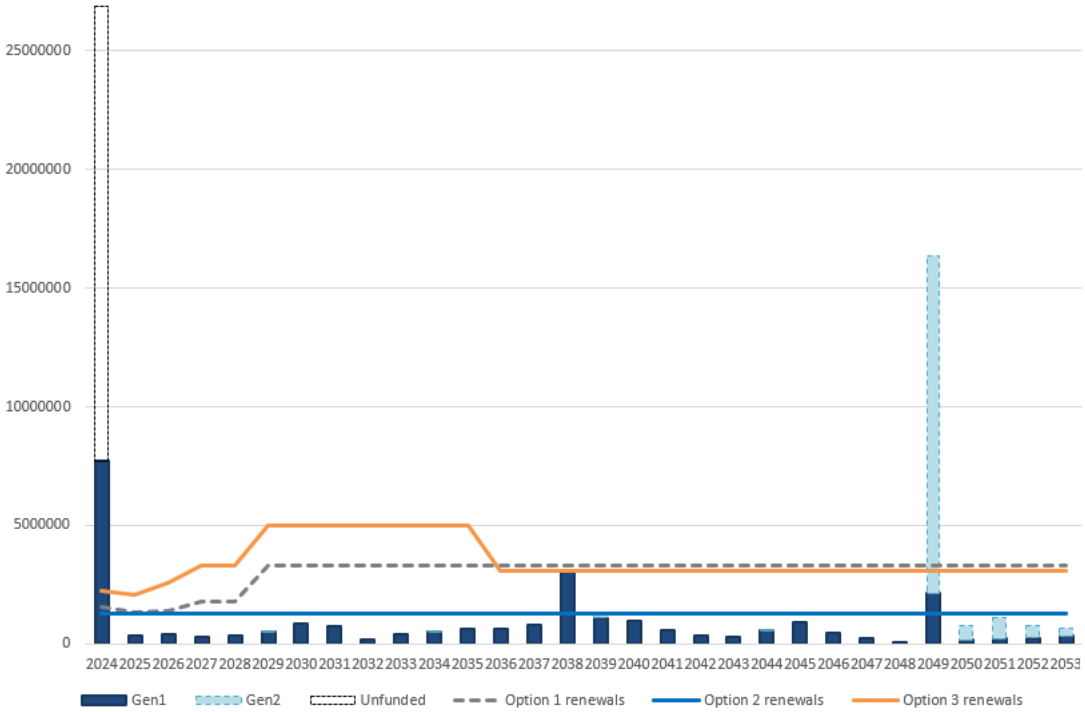
Renewal Ranking is assessed off condition, ONF and alignment of other programme demands (eg watermain renewals or cycleway improvements).

8.15.9 Footpath - Summary of future renewal costs

Future footpath renewals includes widening footpaths to 2m where required and vehicle crossing changes to provide adequate width and flat footpaths. Valuations would be updated with the additional width as acquired.

Footpath valuations do not include the cost of vehicle crossing improvements to provide the flat footpath LOS. These costs are approximately $200/m2 higher that like for like asphalt footpath reinstatement. The cost associated with these reduces the deliverable programme. Adequate industrial or commercial crossings are retained where possible.

Figure 8-16-5: Footpath Renewal Forecasts and option budgets



Increased budgets (option 3) remain inadequate to renew the footpath asset. It is assumed some renewals through utility upgrade programmes and transport minor works programmes would contribute renewal outcomes, however a further step change in the future is likely to be required.

The detailed Forward Works plan for 2024-27 is included in Appendix D.

8.15.10 Footpath - Acquisitions

Acquisition is primarily from subdivisions at a rate of 50-100 drainage assets and 1-4km of new footpath per year or ongoing discovery of unrecorded footpaths.

Other acquisitions include new footpaths from where demand conditions are met, footpath connections to public transport services. These increase operating and maintenance costs and future renewal costs. Renewals are also vested from the utility upgrade programme.

New pedestrian refuge facilities are planned through the minor works programme. Typically, these are now also including raised safety platforms.

8.15.11 Footpath - Disposals

Footpaths along state highways through the urban area have traditionally been owned and maintained by Council. This is being queries through the NZTA Boundary agreement and could result in divestment of approximately 8km of footpath assets.

The footpath on Waimea Road between Beatson Road and Ulster Street is no longer required because of the shared path adjacent. It is in poor condition and removal will enable mechanical maintenance of adjacent vegetation.

8.15.12 Footpath - Preferred Programme

The preferred programme is option 3 small increase to maintenance and increase renewal programme. The full FWP is included in Appendix D.

Footpath projects included in the LCLR programme are listed in Appendix F.

Financial summary is included in section 10.

8.15.13 Footpath - Procurement

Footpath maintenance is included in the road maintenance contract.

Footpath renewals are programmed and tendered in packages of construction works. Large programmes will be broken into multiple contracts to remain attractive and deliverable for tier 2 and 3 contractors. This is particularly important because the subdivision market in Nelson has slowed and these contractors are available for work. Design and consultation is generally done in house for renewals.

8.15.14 Footpaths - Risks

Risks specific to the footpath activity are:

Risks -Walking Facilities							
Identification		**Analysis: Residual Risk**				**Response e.g. Accept, Reduce, Share**	**Treatments**
Event Description	**Consequence**	**Existing Controls**	**Consequence**	**Likelihood**	**Current Risk Level**		
Inaccurate growth information/ assumptions	Inappropriate decision made about future infrastructure and services	Growth monitoring to be frequent and trends related to national/internati onal data where possible	4	3	High (12)	Reduce	Regular monitoring regime and consultation with stakeholders and customers
Increasing standards	Public expectations of Transport safety, quality and environmental standards are increasing	Mitigation strategies vary depending on the outcomes required.	3	4	High (12)	Share	The implications of increased LOS, resulting in increased expenditure are fully recognised by Councillors
Changed use results in poor safety outcomes	Crash risk associated with change of use layout or design	Awareness of Safe Systems Approach in all aspects the transport system	5	3	High (15)	Reduce	Safety audits at appropriate stages of concept design and construction

Inadequate road width to accommodate all desired transport mode facilities (footpaths/ cycleways/traffic lanes and parking)	One mode or user will need to change	Consultation and use of multi-criteria analysis for business cases	3	4	High (12)	Reduce	Consider aged population, technology and mode share considerations in all asset management decisions. Monitoring and consultation with stakeholders and customers
Seismic risk to Walk/cycle bridge structures	Failure of structure	Structures inspections and maintenance	4	3	High (12)	Manage	Inspection and maintenance of structures
CIPTED for walkways with low public surveillance	personal injury or misadventure	vegetation management and sightlines	4	1	Medium (4)	Share	Safety messaging and consultation with customers
Changing mobility device use and technology	crash risk/personal injury	Monitoring trends and consultation with stakeholders and customers	5	3	High (15)	Reduce	Regular monitoring regime and consultation with stakeholders and customers
Changing rules to allow cyclists on footpaths	Crash risk associated with change of use layout or design	Monitor introduction of new rule	4	4	High (16)	Reduce	Introduce bylaw to control cycle access to footpaths if required and not covered by the accessible streets package when/if adopted nationally

Refer also Risk Register section 10.

8.15.15 Footpath - Improvement Plan

Ref Priority	ONRC Pillar	Description	Who	Current Status	Timeframe	Cost
W1	Evidence	Review (estimate and update) construction date and surfacing dates on old footpaths	AM	incomplete	24-27	
W2	Evidence	Add pedestrian refuges and raised crossings to RAMM	AM and Operations	incomplete	2024-27	
W3	System	Map the primary and secondary walking routes along with all other network functions in a planning map, to coordinate connections and improvements.	AM	ONF future state	2021–23 for 2024–34 AMP	
W4	Evidence	Mark areas in RAMM where footpath is not viable or required, to avoid these being caught in the gap analysis.	Operations	not started	Not urgent	
W5	Communication	Public and political consultation about what urban form looks like with respect to better environmental outcomes and responding to the climate change emergency.	AM, Comms, Operations and Nelson Plan teams	not started	2021–25 for 2027–37 AMP	

8.16 Natural Events

The following section shows how the preferred programme affects the provision for Minor and Major Unplanned Events, eg storm events.

8.16.1 Natural Events - Physical parameters

A minor event is a natural short term event that temporarily reduces the level of service on part of the network. The August 2022 floods were a major event. Climate change influences mean these are predicted to get more frequent and severe in the future.

8.16.2 Natural Events - Asset condition

How the network is managed and funded also affect the risk of damage from an unplanned natural event. Condition of surface, drainage, pavement and structural assets also affect outcomes.

The network suffered rainfall August 2022 flood events which caused more than $14M of damage to roads with $4M being required for the initial clean up and a further $10m on recovery sites. Refer to Appendix E for ongoing recovery sites.

Further locations that performed poorly in the 2022 flood event are being investigated for future pavement, drainage and structure renewals or resilience improvements subject to funding.

8.16.3 Natural Events - Link to Strategic Case

Problem Statement	Environmental Impact/ Climate Change	Safety	Network Resilience/ Road Maintenance	Congestion/ Economic
Priority for this programme	3	2	1	

Emergency response is the risk associated with the resilience and environment impact of climate change. Emergency response is reactive, during and post event.

Options are not considered for the emergency works programme because it is reactive post event. The most improvement can be achieved in resilience planning (NAM) and improvement works (WC341).

8.16.4 Natural Events - Cost Service Risk

N/A.

8.16.5 Natural Events - Gap Analysis

Council has the option to carry a budget for emergency works or not. $100,000 is recommended per year. Current decision is not to carry a budget meaning emergency costs are not budgeted.

The state highway and Local roads operate efficiently together. An event on either can result in combined traffic upto 45,000 VPD including freight. The network resilience to manage this, or is both roads are affected is a gap.

Emergency events require heavy vehicle access (freight from state highway and/or recovery construction equipment) on Nelsons aged and fragile road pavement network further reduces the resilience of these routes to flood and rainfall events. This is being investigated through the pavement and surfacing improvement plans.

Nelson Port access is a single access route. It is in the coastal inundation zone.

Locations for dump sites for spoil material are rare and the commercial sites are nearing capacity. Material from the 2022 event was stockpiled until a site in Tasman was arranged. TDC and NZTA are affected by this gap too, and a regional solution may be required. A new dump site would require management to the new standards which have not yet been assessed for impact.

There is only 1 site for quality rock for rock armouring. This site failed to meet demand post 2022 event and delays resulted. Planned resilience works in preference to emergency response will allow managed supply of materials and due consideration of alternatives. Refer structures rock rip rap maintenance programme.

Unsupported banks can become slips and create unplanned closures in roads during natural emergency events. No assessment of the risk has been undertaken to date and these will continue to be cleaned up as required as emergency works.

8.16.6 Natural Events - Operations and Maintenance

All maintenance contracts have on call provisions to manage emergency events and cross boundary support to /from adjoining road controlling authorities when required. The new road maintenance contract includes pre and post storm event check to prepare for and assess recovery requirements.

Arrangements are being made to allow Saxton Field to be opened to arterial traffic if there is an event that affects SH6 or Main Road Stoke between Stoke and Richmond. Arrangements could incur operational costs, to open, and supervise the detour. Future cost apportionment may be required for maintenance of Saxton Field roads as a result. This route cannot open when there is an event at Saxton Field.

Catch fences require ongoing maintenance to clear debris. Moana Ave sea cliff, and Walters Bluff are active erosion zones that will require ongoing inspection, and management if future road closures are to be avoided from loose material dropouts. These would be managed through the structure inspection programmes.

8.16.7 Natural Events - Renewals

N/A.

8.16.8 Natural Events - Renewal ranking criteria

N/A.

8.16.9 Natural Events - Summary of future renewal costs

N/A.

8.16.10 Natural Events - Acquisitions

Greenfield subdivisions in Nelson are developing the foothills of Atawhai and Stoke. These are closely associated with the Flaxmore fault line and steep terrain. Most are extending no exit roads. We need to be aware of these single points of access and maintain an increasing resilience on these as the demand for access and emergency access grows. Options to provide alternative resilience link in conjunction with the subdivisions need to be carefully considered as roads that traverse between valleys are even less stable, expensive to establish and maintaining the higher LOS on the existing single access route is best value and most secure option long term.

As more people rely on the walking and cycling networks as a primary means of travel storm damage to these networks also becomes a priority for response and recovery and alternative routes when the road network is compromised.

8.16.11 Natural Events - Disposals

Low volume road affected by the 2022 storm event could be considered for disposal:

The end of Ross Road can be reviewed because the last 50m provide access to a single driveway. The road edge is however likely to need reinstating before consulting with the affected landowner of the change due to historical repairs.

The end of Little Todd Valley Road has been positioned to suit the legal road boundary. There are very few road users on Little Todd Valley Road however it needs to be retained as an access to a potential future subdivision, so disposal is considered unrealistic.

End of Kokoroa Road (500m) which serves forestry blocks that have impacted the road in 2022 flood events.

New guidance is being prepared by NZTA for low volume roads.

8.16.12 Natural Events - Preferred Programme

The preferred programme includes the ongoing recovery programme in Appendix E, a detour route through Saxton Field when required, and investigate and establish a spoil dump site.

8.16.13 Natural Events - Procurement

Emergency response is managed through the appropriate maintenance contract. Resilience, dump site investigations and slope stability assessments will require procurement planning through the Procurement Strategy because the value of consultancy and physical works is expected to exceed $100k per activity.

A spoil dump site is expected to require management. Whether this is via maintenance contracts or specific to the site is yet to be determined depending on site location, scale and operating rules.

8.16.14 Natural Events - Risks

Risks specific to the natural event activity are:

Risks - Emergency Works							
Identification		**Analysis: Residual Risk**				**Response e.g. Accept, Reduce, Share**	**Treatments**
Event Description	**Consequence**	**Existing Controls**	**Consequence**	**Likelihood**	**Current Risk Level**		
Significant Natural Event	Resources reapportioned as necessary which compromise AMP implementation and agreed LOS.	Delay implementation of this plan and reviewed modify as necessary when resources re-established	4	3	High (12)	Reduce	Improve resilience planning and delivery to minimise impacts of future events
Climate change increases the risk that response to emergency events is required.	More frequent events	Emergency response	**4**	**4**	High (16)	**Reduce**	Planning for adaption, mitigation, or retreat. Consider climate change in all business cases
Worker and public Health and Safety are managed risks during emergency events.	Personal injury or misadventure	COPTTM and Health and Safety Guidelines	4	3	High (12)	Manage	Ongoing support and training for staff and contractors.
Insurance	Unplanned expenses following a natural event or disaster.	Funding through NZTA.	3	4	High (12)	Review	Review current provisions and demands and risks.
Desired NZ Transport Agency funding not obtained	Additional costs to Council	Emergency Reserve funding	3	3	Medium (9)	Share	Follow NZTA application Guidelines and ensure politicians are fully informed
Lifelines plan not fully integrated with transport asset management plan	Lifeline asset failure reducing effectiveness Emergency Management procedures. Failure to comply with Civil Defence Emergency Management Act	Improvement programme for lifeline understanding	4	3	High (12)	Reduce	Coordinate with Civil Defence for best integration of Lifelines Plan into AMP. Understand critical assets
No dumps sites	Double handling and delays to storm damage response	Nil	3	3	Medium (9)	Reduce	Investigate dump site options. Share with TDC and NZTA

Inundation	New inundation risks at Maitai/Nile intersection and Grove Street	Nil	3	3	Medium (9)	Share	Flood protection – raise road levels

Refer also Risk Register section 10.

8.16.15 Natural Events - Improvement Plan

Ref	Improvement Action	REG Pillar	When	Who	Current Status	Cost
EM1	Formalise Saxton Field opening plan for emergency response, including maintenance agreement	System	2023/24	Am and Parks	Ad hoc when event has caused the issues to escalate	Est $25k per year
EM2	Site and management plan for dump sites from emergency event	Resources	2024-28	Operations and AM	No official dump site. Bells Island was used for 2022	Est $2M to set up, $50k/year ongoing management costs. Cost sharing with TDC and WK may be an option
EM3	Record the shipping containers in RAMM for tracking to know location when event occurs	Resources	2022/23	Operations	Containers will leave Moana Ave when catch fence is installed	Staff time
EM4	Stability assessment for unsupported slopes	Evidence	2024-2028	AM	Not started	TBC
EM5	Review end point for Ross Road and Kokoroa Road	Service delivery	2024-27	Transport asset management	Not started	TBC
EM6	Review emergency procedures and Lifelines to include any changed priorities from the NFAS and PT reviews	System	2024-27	Transport asset management and Civil Defence team	Civil defence to lead a review	Staff time
EM7	Undertake DAPP review and planning following community consultation	System	2024-27	Transport and Utilities	Consultation planned for 23/24.	Staff time, but expected to require new drainage, urban design and consultation resources est. $200k per year.
EM8	Develop a monitoring plan to gain lessons to improve future performance, and to carry out proactive improvements.	System	2024–27	Transport Asset management and Operations	Not started	Staff time

8.17 Network and Asset Management – (WC151) (NAM)

The following section shows how the preferred programme affects network and asset management services. Nelson is a unitary authority so there is not a regional council and most regional functions are managed through WC151 NAM.

8.17.1 NAM - Physical parameters

The Nelson network includes the roads, cycleways, footpaths and associated bridges and other infrastructure supporting an estimated to 222 million vehicle kilometres travelled (2021/22) (plus walking and cycling trips). The network and associated demands require management to deliver best outcomes for the road users and assets.

8.17.2 NAM - Asset condition

Network condition is poor and declining. This reflects the age of the assets. Nelson is one of New Zealand's oldest cities. Condition also reflects under investment, and inadequate asset management. Poor asset management is being addressed by data improvement and analysis, resourcing and forward works programming. The current state of the assets, and investment required are however an opportunity at this time where change is required to build a network for the future. Renewals may need to be like for like in the short term but are expected to be quite different by the end of the AMP period. Robust community engagement is required to inform this change. Additional resources are proposed throughout the programme to lead this change and inform the forward works programme so renewal and projects efficiently deliver what is desired.

NAM relies on the condition of the data collected and held in the asset management database. Council uses RAMM for this. Gaps in condition, function, criticality and age profiles have been identified. These gaps are identified throughout the AMP where they affect the decision making process.

Nelsons spend on Network and Asset Management is within the national average. This is lower than our peers who spend more than the national average.

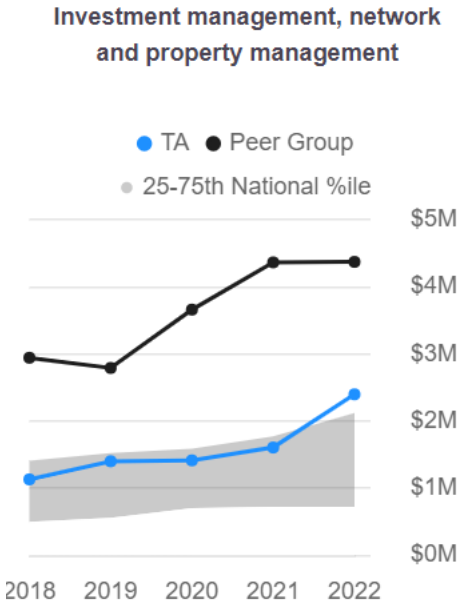


Figure 8-18-1: Investment management, network and property management (Te Ringa Maimoa 2021-22)

8.17.3 NAM - Link to Strategic Case

Problem Statement	Environmental Impact/ Climate Change	Safety	Network Resilience/ Road Maintenance	Congestion/ Economic
Priority for this programme	3	2	1	4

NAM is critical to addressing all the problems identified in the AMP to identify and quantify the problems, related evidence and monitoring programmes to secure funding for solutions.

Good NAM should address financial resilience of the transport network funders (eg ratepayers), and by fostering good communication and decision making, good awareness of the asset conditions and demands, but also risk and programme management.

Options for NAM to address the AMP problems are:

Option 1: Ongoing and known programme costs, assuming new staff resources identified in the AMP are engaged. This option includes a step change in Iwi engagement and pre-engagement with the community where changes to the transport system could deliver wider outcomes but could result in change in the way people use the transport network.

Option 2: retain 2021 LTP budgets and adjust LOS and programme to suit.

Option 3: Ongoing and known programme costs, assuming no new staff resources and external consultants are engaged for investigation and business case works.

8.17.4 NAM - Cost Service Risk

Test Levels of Service. Cost service and risk of the options to address the problem statement is summarised below in figure 8-18-2.

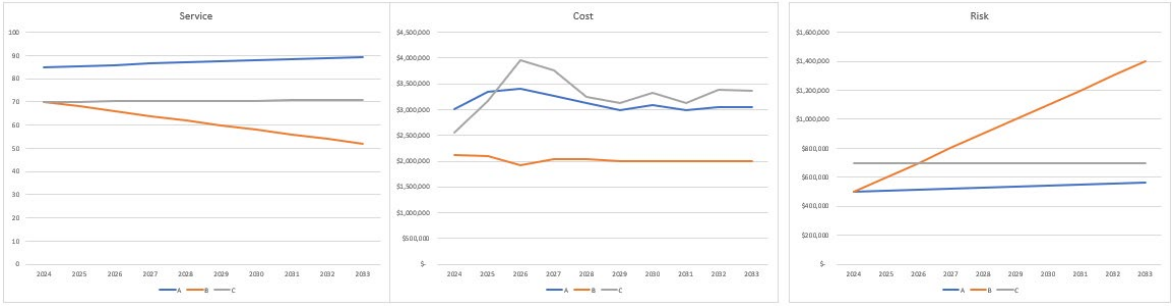


Figure 8-18-2: Network asset management Cost Service Risk

Option 2, with provision for an additional staff resource beyond year 1 is funded through the LTP.

8.17.5 NAM - Gap Analysis

Staff recruitment struggles to match attrition. If filling resource gaps remains an issue, alternative delivery structures could be considered: eg Alliance Maintenance Contract with asset management functions included, or using a Consultant for all Asset management or project delivery functions. Either option is expected to be higher cost, and higher risk initially while being established. There is potential to be lower risk to Council once established but potentially difficult to move back from once intellectual knowledge is shifted out of Council.

Asset Management Maturity Assessment (appendix L) shows weakest areas are Management Systems, Audit and Improvement, Risk and Resilience and Service delivery. These issues are significant. Review through the REG excellence programme is proposed to initiate and focus improvement actions.

https://www.nzta.govt.nz/assets/Road-Efficiency-Group/docs/REG-asset-management-framework.pdf

Iwi engagement and cultural awareness remain an improvement action. Early and appropriate engagement for routine activity management and projects is required. Option 1 includes resources to develop this culture between Council and Iwi.

Succession planning for a structures supervisor remains a gap and risk for management of the network.

The Stoke area is a gap between the Nelson Future Access Study and Richmond Programme Business Case areas. Stoke also has high growth areas in the Marsden and Ngawhatu valleys to the east, and Suffolk to Hill Street in the south. Better understanding of how the traffic generated connects to arterial roads is required, including how The Ridgeway, Main Road Stoke and Nayland Road work together, and how connecting roads are used. Problems include intersections safety, conflict between schools on all arterial routes, and the Stoke Shopping Centre on Main Road Stoke where high traffic volume are also managed. Outcome would inform where traffic calming is required, what intersections treatments are required, what roads could experience more traffic, what roads need upgrading, where cycle facilities are required, whether another connection to Whakatu Drive is required, how Richmond, Nelson and Stoke are connected. A programme business case is proposed to consider and consult issues together before committing any projects for delivery.

The land between Hill Street and Suffolk Road is zoned for residential development. Understanding how this potential new connection will affect the network is a gap. An investigation is planned for 23/24 and will inform the 27-30 AMP and Stoke Programme Business Case.

Marsden Ridgeway, and Nayland Quarantine intersections are in areas of traffic growth and competing active travel demands. Both are complex sites that have safety risks. Marsden Ridgeway intersection could be investigated separately or included in the Stoke Programme Business case.

Best value for money can be achieved before funding approval is granted, and before a delivery project manager can be assigned as shown in figure 8-18-3. Additional staff resources, programme business cases, early Iwi and community engagement, and trial works are proposed to shift the decision making further into the value for money space before projects are committed for funding and delivery.

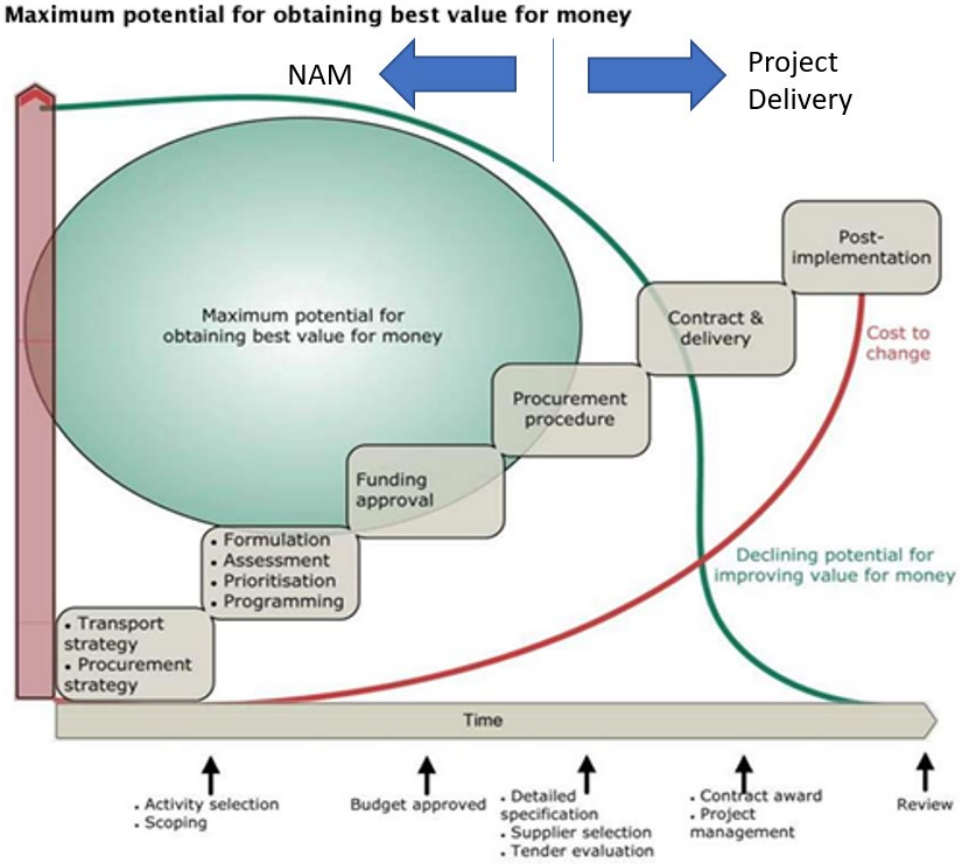


Figure 8-18-3: Value for Money Project Delivery – NZTA Procurement Manual

The best outcomes for carbon reduction can be achieved initially through good planning and asset management as shown in figure 8-18-4 below. Option 1 and the recommended AMP programme are aimed at shifting the carbon planning cycle into the planning and procurement phases. Baseline for emissions has been estimated for this AMP. Future work is to consider and consult options to reduce this.

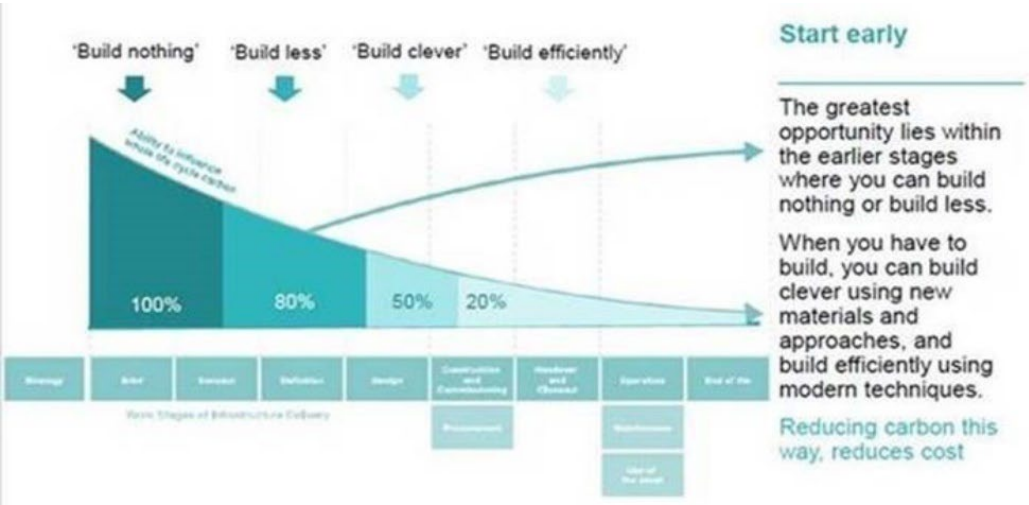


Figure 8-18-4: Carbon Reduction through Planning

The intervention hierarchy, like the Carbon reduction programme aims to minimise costs by early interventions and small changes rather than waiting for project funding to solve network problems. Option 1 and the recommended AMP programme are aimed at shifting the carbon planning cycle into the planning and procurement phases. Baseline for emissions have not been estimated for this AMP. Future work is to consider and consult options to reduce this.

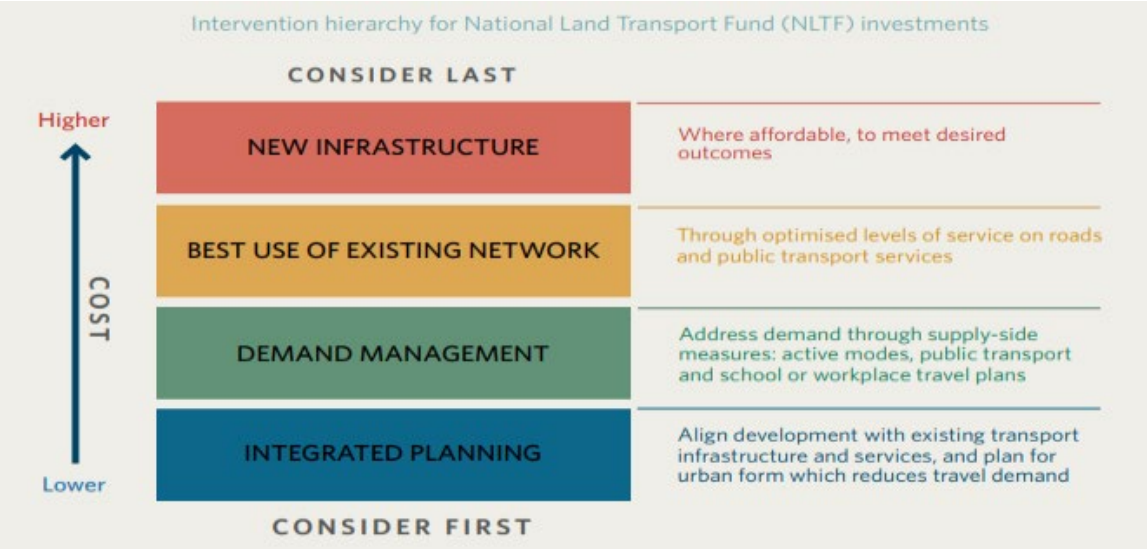


Figure 8-18-5: Intervention Hierarchy

Council has reflected the current network use into the One Network Framework (ONF) current state. This has yet to be aligned with LOS measures and integrated into the maintenance and service delivery contracts. ONF future states are yet to be mapped and consulted. This step is required before gap analysis can be undertaken to inform future improvement or changes for the network. The current strategies and ONRC performance measures continue to inform decision making until the future state can be agreed. The future state is intended to be included in the future Nelson Plan (Resource Management Plan). The date for this is unknown due to reforms of the RMA and Local Government Acts.

The Infrastructure Strategy requires vulnerability assessments to inform future resilience planning. Community consultation is planned for 2023/24 to commence this process and inform the 27-30 AMP.

Unsupported banks and the integrity of private structures on road reserve affect the resilience of the transport network. These are not currently assessed and bank slippage, above and below roads, was one of the worst effects of the 2022 flood event. This gap is currently funded through recovery programmes.

Availability of disposal sites for slip material was a gap in the 2022 flood event and resulted in temporary stockpiles and double handling of material. This gap is regional and Council will work with NZTA and Tasman District Council for solutions. The Tasman area is less geographically constrained so more likely to offer a potential site but would result in high transport costs for Nelson events. Investigation of this would be undertaken through NAM.

Tendering a long term maintenance contract requires staff time and resources above routine workloads. This was a gap tendering the contracts in 2021-23 and

resulted in delays and gaps in service delivery between contracts. Adequate staff resourcing and/or budget for external assistance is required in the future when major contracts are tendered to avoid this shortfall.

Data quality, especially construction dates, useful lives and connection between valuations and asset data is a gap that affects the renewal forecasting and depreciation calculations. This is highlighted across multiple areas of this AMP. Understanding the function and capacity performance of assets is a future improvement action.

Nelson and Tasman councils have a joint Land Development Manual (NTLDM). This was updated in 2020 but transport sector design and data standards have evolved so much since then that these are now out of date. Subdivisions and developments are tied to the NTLDM by the resource consent process so there are gaps between desired state and current process. The new NZTA Asset management Data standards will also require NTLDM review to obtain data in the new format for vested roads.

The current Nelson Resource Management Plan (NRMP) references the LDM so updating the LDM could require a plan change. The NRMP also uses the local road hierarchy and this is used for all transport planning, and resource consent functions outside the transport operations activity. This is a gap that continues to affect consultation, transport planning and resource consent processes until ONF can be included in the new Nelson Plan.

A comprehensive programme to have a traffic count on every road within 5years was completed in 2023/24. This will now be used to create a programme to best inform traffic loading and estimates and growth on the network. This is expected to include less counts than the required minimum for NZTA guidelines.

The urban cycleway cordon count programme will be reviewed in 2024 to provide the data required at reduced cost. The current counting programme is high cost, and data difficult to use.

The NZTA Asset management data standards programme (AMDS) will incur costs that have not been previously budgeted. This is a short term project cost.

8.17.6 NAM - Operations and Maintenance

Staff time for renewals is charged to NAM for the subsidised activity.

NAM also includes the contract overheads cost for the road maintenance contract, condition assessment, database costs, traffic counts, structures inspection costs, and minor investigations.

Council will move to adopt NZTA Consistent data collection programme from 2024.

The 2021 AMP required annual footpath condition assessment surveys. Once all paths were surveyed in 2021 it became evident that annual surveys are not necessary. Surveys will be undertaken 2-3 yearly in future. Surveys include all footpaths, shared paths, walkways and cycleways registered as transport assets.

RAMM can be used to manage asset values and the annual revaluation process. It is proposed to migrate to RAMM for this in 2024-27 to improve the connection

between asset lives and renewal programme, asset valuation and depreciation. Ongoing improvement of the asset install dates and useful lives is required to improve these outcomes.

Structure inspections are undertaken through the NAM programme. Council uses the NZTA S:6 Bridges and other significant structures inspection policy to guide the inspection programme.

Council has entered into a cadetship programme through the road maintenance contract to help recruit people to the industry. The cadet would spend half their cadetship in the field with the road maintenance contractor the remainder of their time would be with Council working on network and asset management. One cadet has been budgeted in the LTP from year 3. Cadets are required to help build the industry resource for the future.

Council has invested in 10 automatic pedestrian and cycle counters ad a result of the Urban cycleways programme. These are more cost effective than manual counts and provide more data but have an ongoing operation and maintenance requirement that need budget through NAM progamme.

Council is part of the South Island Transport working Group. Costs associated with partaking in this group are included in NAM. As are the costs of running the Regional Transport Committee, attending Te Ringa Maimoa workshops, and senior executives and elected members participation in subsidised transport related events.

8.17.7 NAM – 004 Business Cases

Business cases are included in option 1, subject to NZTA Point of Entry agreement and funding, for major projects and programmes listed below:

- Waimea Road priority lanes, from year 4. This is expected to define the priority lane project and identify phasing to begin delivering benefits from the corridor upgrade, eg intersection upgrades. Waimea Ridgeway intersection is included in this package, but to be prioritised because it has high safety risk and crash history.
- Stoke Programme Business case. This is expected to identify and prioritise routes through Stoke for arterial traffic (future ONF), traffic calming, intersection upgrades, Stoke residential growth areas and freight routes and confirmation of proposed the Et u Whakatu cycleway routes. Marsden Ridgeway intersection could be included or investigated separately.
- Cross town links cycleway between Brook/Maitai and Railway Reserve. Previously included in the transport choices package at $5M.

8.17.8 NAM - Renewal ranking criteria

The NZTA asset management data standard upgrade is prioritised for year 1. This can be followed by transfer of valuations to the RAMM system.

ONF future state will be developed and consulted prior to inclusion in the new Nelson Plan or updating the NTLDM.

8.17.9 NAM - Summary of future renewal costs

Council currently uses the GHD Max platform to assist its data improvement and maintenance contract monitoring. Review of this before tendering the maintenance contracts maybe required. Council needs to maintain some form of independent contract monitoring process which this currently provides. Establishing a new system would require investigation and development resources. Te Ringa Maimoa monitoring reporting may however be able to provide adequate and suitable reporting by then.

8.17.10 NAM - Acquisitions

N/A

8.17.11 NAM - Disposals

N/A

8.17.12 NAM - Preferred Programme

Option 1 is the preferred programme. Adequate staff resourcing is required to deliver the programme safety, resilience, and environmental outcomes. Staff are more able to provide value for money and direction to the programme than use of external resources alone.

Specific investigations and programmes to be developed as budget and staff time allow include:

- Hill Street/Main Road Stoke resilience options
- Stoke Programme Business Case
- Manuka Street Ford to inform renewal options
- Cable Bay resilience options
- Migration of valuations to RAMM
- MSD/FWD pavement condition surveys
- Maintenance Management Plan, agreed LOS and maintenance intervention strategies
- Asset management advise to continue improvement programme
- Large urban culvert condition inspections
- Cleanfill site option investigations and business case for funding
- Ridgeway/Marsden Valley Road intersection improvements business case
- Waimea Road priority lanes business case
- Konini Street slope stability investigation, to align with/inform works required with utility upgrade in 2026 with new knowledge from 2022 flood event
- Speed Management Plan consultation and implementation
- Ongoing development of LCLR programmes

- Startup of a pavement rehabilitation programme
- Investigate capacity and renewal programmes for drainage assets

Future investigations include:

- City centre ring road functionality review
- River Scour risk areas and resilience options
- Nayland Quarantine intersection business case
- Trafalgar Street / Nelson north access – to inform Trafalgar Street Bridge renewal options
- Management of Roadside Berms (unsubsidised)
- Finalise freshwater improvement programme and options

Financial summary is included in section 1.

8.17.13 NAM - Procurement

Procurement is by direct appointment for specialised advise less than $100k and contracts as set out in the NZTA/NCC procurement strategy.

8.17.14 NAM - Risks

Risks - NAM							
Identification		**Analysis: Residual Risk**				**Response e.g. Accept, Reduce, Share**	**Treatments**
Event Description	**Consequence**	**Existing Controls**	**Consequence**	**Likelihood**	**Current Risk Level**		
Lack of staff resources	Failure to manage network, risks and deliveries	Nil	4	4	High (16)	Reduce	System design, staff recruitment, suitable management and deliverable job descriptions
Increased costs to manage carbon emissions	budget increases or reduced LOS	Improvement planning to understand carbon emissions problem and options	4	4	High (16)	Share	Consultation with stakeholders, customers and cross council to develop emission reduction plan
Changed use requires different infrastructure	Poor level of service for changed user expectations of network	Consider aged population, technology and mode share considerations in all asset management decisions	4	3	High (12)	Manage	Consider aged population, technology and mode share considerations in all asset management decisions
Inaccurate growth information/ assumptions	Inappropriate decision made about future infrastructure and services	Growth monitoring to be frequent and trends related to national/international data where possible	4	3	High (12)	Reduce	Regular monitoring and updating of planning forecasting

Poor financial forecasting	Reflects on Council as poor planning	Ensure assumption to project cost estimates are fully understood and refine estimates before each Annual Plan and Transport Investment On Line entries.	4	3	High (12)	Reduce	Ensure robust asset management and project management practices are followed
Desired NZ Transport Agency funding not obtained	Additional costs to Council or implementation of projects delayed, maintenance deferred or projects removed from programme	Monitor NZ Transport Agency funding procedures and manuals and submit application in a timely manner	4	3	High (12)	Share	Follow NZTA application Guidelines and ensure politicians are fully informed
Non-compliance with NZ Transport Agency funding agreement	Reduction or refund of NZ Transport Agency contributions	Annually report on compliance requirements	4	3	High (12)	Reduce	Implement measures to address any non-compliance
Failure to act on identified risk	Potential legal action against Council	Robust risk analysis process in places and reviewed quarterly	4	3	High (12)	Reduce	Identified risk improvements implemented
Data Management Improvements not undertaken	Reduction in NZTA funding to reflect data accuracy	Improvement Plan for RAMM data quantity and quality	4	3	High (12)	Reduce	Staff training, and contractor involvement to improve data
Asset Management Plan improvement plan not undertaken	Reflects on Council as poor planning	Undertake improvement works	3	3	Medium (9)	Reduce	Undertake improvement works
Performance monitoring of levels of service not completed	Levels of service not met resulting in public dissatisfaction	Undertake performance monitoring	3	3	Medium (9)	Manage	Review annually
Unauthorised construction on road reserve	Public liability risk to Council. Risk of underground service damage	Maintenance contractor record of defects and activity affecting the road network and auditing of the CAR process	3	3	Medium (9)	Reduce	Occupation of road reserve policy review
Network modelling and condition assessments not applied	Failure of assets or systems	Undertake and analyse condition assessments and traffic modelling	3	3	Medium (9)	Reduce	Road Asset Maintenance Management database (RAMM) and traffic models are regularly updated and assessed
Private Resource Consent Conditions affecting road reserve and	Private consent conditions limit or restrict transport outcomes on	Transport team to work with planning team for future resource consents so future and changing	3	3	Medium (9)	Manage	Ongoing transport involvement in resource consent application processed

transport activities	the road network	traffic demands can be accommodated					
Asset Management Plan not fully implemented	Reflects on Council as poor planning	Ensure robust project management practices are followed	4	2	Medium (8)	Manage	Communication and improvement planning to inform next AMP
Negative public reaction to possibly delaying works to complete network planning	Staff time and poor media coverage	Enter requests for infrastructure improvements into deficiency database	3	5	High (15)	Manage	Community engagement in Network planning

Under resourcing remains the highest risk for NAM because it affects the delivery programme, and value for money/carbon reduction benefit realisation.

8.17.15 NAM - Improvement Plan

Ref	ONRC Pillar	Description	Who	Current Status	Timeframe	Cost
NAM1	Evidence	Audit and update age and useful life data in RAMM and for valuations	AM/ finance	Some data remains out of date.	ongoing	Staff time
NAM2	Systems	Update risk registers to new NCC format and review	AM	Old format	2024	Staff time
NAM3	Decision making	Develop a forward works programme. Including for whole activity.	AM/ Operations	Physical FWP Started. Activity FWP not started	For 24-34 AMP	$50k per year plus staff time
NAM4	Communication	Iwi engagement and involvement in appropriate aspects of NAM and projects	Iwi/AM/ Projects	Started	ongoing	TBC on site by site and programme basis plus staff time
NAM5	Communicate	Progress towards Te Ao Maori improvement themes – continuous improvement over time	AM	Underway	ongoing	Staff time plus $20k per year for Iwi engagement and Iwi rep on RTC
NAM6	People/ Culture	Address gaps in the AM maturity assessment	Training	NAMS and IIMM access created. More IIMM training required. Review AM maturity and adopt REG Asset Management Competency Framework	ongoing	Est $100k plus staff time and some staff training budgets

Ref	ONRC Pillar	Description	Who	Current Status	Timeframe	Cost
NAM7	System	Undertaken and Implement speed management review	AM	Underway jointly with TDC	2023/24	Staff and TDC staff time
NAM8	Evidence	Network Safety Assessments to be completed annually to inform the safety improvement programme.	AM	Safety Management Plan and staff resource required	TBC	Requires resourcing
NAM9	Evidence	Review urban cycleways count locations and data	AM	started	To in from 24/25 reporting	Reduce $30k per year
NAM10	Evidence	Data improvement. Audit and fix errors in the Ramm database.	AM/ Operations	REG score improved from 68 to 95 but new measures require ongoing improvement.	Ongoing to embed good processes to retain data quality	Staff time
NAM11	Systems	Review what data collection and network inspections programme included in the road maintenance contract.	AM/ Operations	Complete new contract in place future review to provide most efficient use of resources and outputs	Ongoing	Staff time and committed contract costs
NAM12	Decision making	Update the NCC/NZTA Procurement Strategy, including a robust forward work programme	AM	2024 Procurement Strategy update	2023-24	Staff time
NMA13	Resourcing	Consult with suppliers when developing forward works programmes and procurement strategy	AM	2024 Procurement Strategy update and before 2027 Amp update	2023-2026	Staff time
NAM14	Evidence	Reporting Councils internal cost apportionment to NZTA	Am and finance	Include in the 2024 Procurement Strategy or AMP reporting	2024/24	Staff time
NAM15	Systems	ONF implementation	Transport and Planning	Existing ONF complete. Future state and dLOS to be developed and consulted. Nelson Plan is on hold	2024-27	Staff time plus future consultation costs TBC
NAM16	Evidence	Updating the traffic estimates	Traffic count supervisor	Process and responsibilities complete. To be written into the next traffic counting contract commencing 23-24.	2023	Est $50k plus staff time
NAM17	Evidence	Upgrade the permanent traffic count stations from single tubes to new technology to	AM and Operations	Scope included in the 2023-28 traffic counting contract, pending budget availability	2021-24	Est $50k plus staff time

Ref	ONRC Pillar	Description	Who	Current Status	Timeframe	Cost
		enable directional, speed and traffic composition data to be collected.				
NAM18	Evidence	ADMS programme	NZTA/AM operations and GIS	Pending NZTA programme	Est 2026	Staff time and NZTA resources
NAM19	Evidence	Make it possible to do valuations directly from RAMM, and use the valuation process to audit data quality.	Transport and Accounts	Delayed due to resourcing issues. Now delay till after ADMS is introduced in 2026	2027-30	Est $50k plus staff time
NAM22	Evidence	Update the transport model every 6 years to inform future AMP/LTP direction.	AM	Scope and programme is constrained by budget. External resource required	TBC	Est $100k every 3 years
NAM23	Resources	Review NTLDM vertical speed control provisions	Transport AM	not started	Next LDM update	Refer unsub
NAM24	Resources	Investigate system for tracking subdivision development from consenting into Ramm /Infor databases	Consent officers/ Ramm manager / Utilities	underway through Consents/GIS	2021-24	Staff time
NAM25	Resources	Staff recruitment and training to ensure staff resources can deliver programme	Council	Complete, but new programme and staff turnover required further action. Succession planning to be considered.	TBC	TBC

8.18 Public Transport (PT) services

The following section shows how the preferred programme affects the public transport services.

8.18.1 PT Services - Physical parameters

Council operates a public transport service jointly with Tasman District Council. The buses are owned by the contractor.

Uptake of the Ebus service has been healthy with high levels of patronage compared with the previous nBus service. Figure 8-19-1 below shows the daily patronage for the whole service to the end of January 2024.

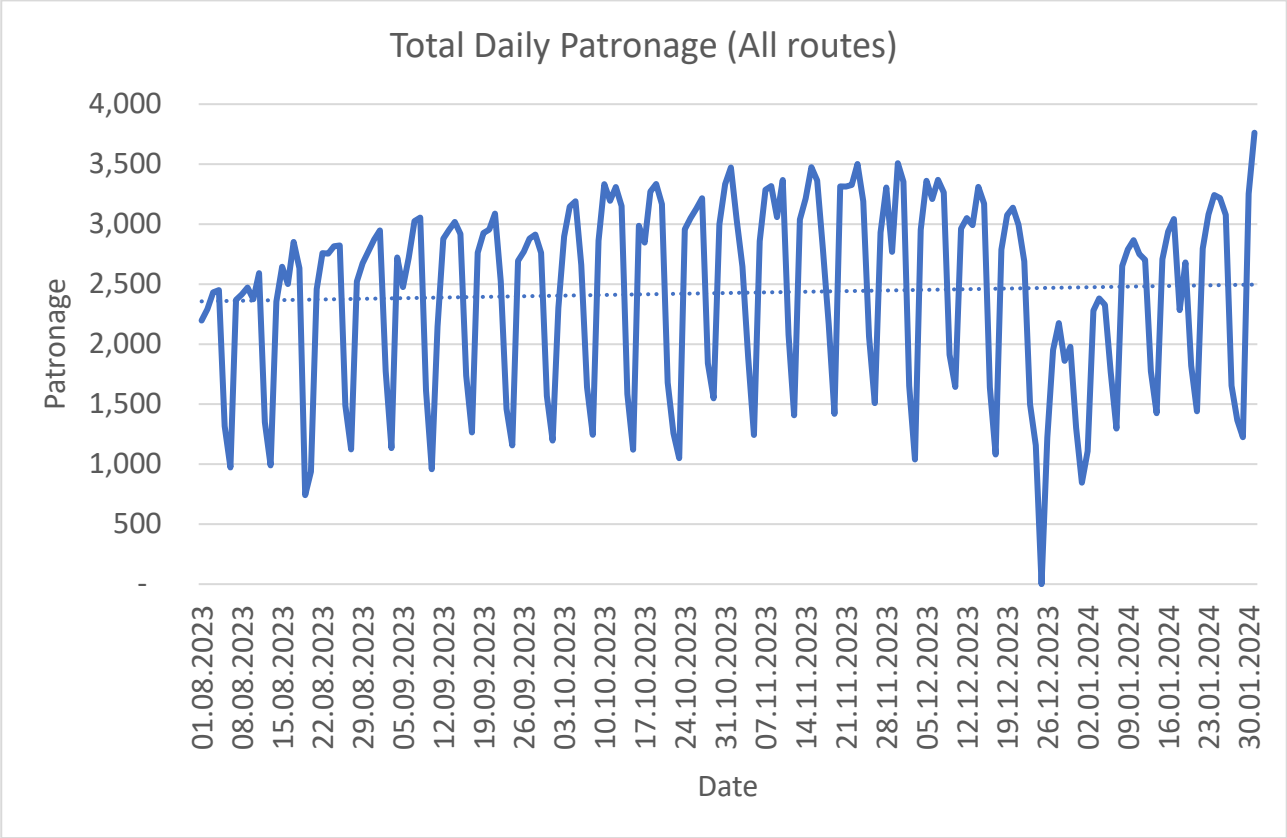


Figure 8-19-1: eBus service patronage

As a result of the transition to much heavier electric buses with a single rear axle, the pavement structures along the bus routes are showing signs of rapidly accelerated deterioration. Figures 8-19-2 below shows an examples of the pavement deterioration that has been observed.

Figure 8-19-2: Pavement failures on bus routes

Additional investment in pavement rehabilitation works is proposed in sections 8.2 (surfacing) and 8.3 (pavements) of this AMP.

8.18.2 PT Services - Asset condition

The Council does not own the public transport services assets.

8.18.3 PT Services - Link to Strategic Case

Problem Statement	Environmental Impact/ Climate Change	Safety	Network Resilience/ Road Maintenance	Congestion/ Economic
Priority for this programme	1			2

Public transport improvement are a direct result of the Councils desire to address climate change, and provide commuters with options to reduce their contribution to congestion from the 2021LTP and RLTP. These are 2 key problems that continue to shape this AMP. Electric buses will also reduce emissions from the bus fleet, and give the public a low emission transport option.

8.18.4 PT Services - Cost Service Risk

Cost service and risk have not been assessed for PT services because these will be assessed at the end of the 1 year trial period and adjusted accordingly, if required. Ongoing monitoring will be used to inform acceleration or deceleration of service increases or other programme changes.

8.18.5 PT Services - Gap Analysis

The 1 year trial period for the new services concludes in August 2024. This AMP assumes they will be successful and continue as planned however this will be determined by the 1st year review.

Based on the current tendered costs to deliver PT services the 2021 LTP budgets are not adequate to implement the service increases in 29/30. Additional budget would be required.

Nelson, north of Clifton Terrace School, is not connected to a public transport service. A community service proposed in the 2021RPTP, is not currently funded.

The next Ministry of Education (MOE) review of school bus services for the Nelson/Tasman region is expected to identify routes where students could catch a public service. MOE have signalled they would remove the school service from these routes. This would generate demand for additional buses before and after school to cater for the number of students involved. The demand has not yet been quantified.

The government half price fares scheme has been very successful for Nelson and is attributed with returning patronage number to pre-covid levels by 2023 but has been discontinued in 2024. Community Connect has been introduced from 2023. The full impact of these schemes on the new bus services is not yet fully quantified.

A new public transport contract manager was appointed in 2023. The scope of the public transport programme, and planning future improvements also requires Activity Management resource which is currently a gap.

Increases in demand and scarcity of bus drivers, and living wage increases have affected the operational costs for providing bus services and budget pressures.

8.18.6 PT Services - Operations and Maintenance

A tri-party contract is in place to deliver public transport services across Nelson and Tasman. This includes the contractor who provides and runs the buses, and contract manager employed by Nelson City Council. All costs and fare income are managed by Council and apportioned to Tasman. Public Transport is now reported to a joint Nelson/Tasman Regional Transport Committee.

Nelson is a unitary authority hence manages Regional Public Transport Planning (RPTP) and the bus service delivery. A new 0.5FTE position is proposed to manage the programme, funding and service improvements.

8.18.7 PT Services – Service Improvements

Services have been upgraded with the new bus services from August 2023 and will be included in the 1st year PT review so have not been considered here.

8.18.8 PT Services - Acquisitions

A Community Service for Nelson north will be considered through the PT review.

8.18.9 PT Services - Disposals

Reduction of services could be considered with the 1st year PT review.

8.18.10 PT Services - Preferred Programme

The LTP includes budgets to support the ongoing provision of bus services established in 2023 subject to the 1st year review. A new 0.5FTE Activity Management position to manage the PT programme, funding and service review and improvements, including facilities management is not funded through the LTP.

8.18.11 PT Services - Procurement

Public transport services were tendered on the open market in 2022. A 9-year contract commenced August 2023. Any service changes or additions in this period would be managed as a variation to this contract.

A voluntary trust, or similar, is required to operate a community service north of Nelson if this is to be established.

8.18.12 PT Services – Risks

Programme risks specific to the PT services are:

Risks – PT Services							
Identification		**Analysis: Residual Risk**				**Response e.g. Accept, Reduce, Share**	**Treatments**
Event Description	**Consequence**	**Existing Controls**	**Consequence**	**Likelihood**	**Current Risk Level**		
Introduction of road user charges for Ebuses	Budget is overspent	Request additional budget	4	3	High (12)	Accept/Share	Request additional budget/increase fares
Inadequate staff resource	Poor service delivery and staff stress and high cost of consultants	External contractors	3	4	High (12)	Reduce	Review time and resource demand for PT programme and resource appropriately

8.18.13 PT Services - Improvement Plan

Ref	ONRC Pillar	Description	Who	Current Status	Timeframe	Cost
PTS1	Service Delivery	Establish community service to Nelson North	PT Advisor	Hold for 1st Year review	2024 TBC	$10k per year
PTS2	Service Delivery	On board visual and audio display of bus stop announcements	PT Advisor	Hold for 1st Year review	2025-25	Within current budgets

PTS4	Evidence	Undertake PT review	PT Advisor	No started	2024/25	Staff time
PTS5	Resources	Decarbonisation of the bus fleet	NCC/TDC	Electric buses with new contract from August 2023	Complete	
PTS6	Evidence	Undertake PT services customer satisfaction surveys	PT advisor	Not started	TBC	Staff time plus $10k support services
PTS7	Resources	Embed driver rest and meal breaks and living wage into new PT contract	NCC/TDC	Existing contract from December 2022 and New Contract from August 2023.	Complete	
PTS8	Service Delivery	Tender new PT Contract	NCC/TDC	New contract starts August 2023	Complete	
PTS9	Evidence	Move PT Services from a net to gross contract	NCC/TDC	New contract starts August 2023	Complete	

8.19 Public Transport Facilities

The following section shows how the preferred programme affects the public transport facilities.

8.19.1 PT Facilities - Physical parameters

Council has 67 bus shelters on the network for 181 bus stops.

Council bought the Bridge Street Bus Depot from SBL the incumbent service provider in 2022. This will be retained as the city centre bus depot until a new depot (at Millers Acre) can be established. Bridge Street depot will be adversely affected by the one way Bridge Street upgrade due for construction in 2026 so not favoured as a long term facility.

Millers Acre is assumed to become the new city centre bus interchange, although business case work is still underway. It has most of the facilities required, with some modification, eg toilets, waiting areas, bus turning and parking space. This will service local public services, intercity, tourist and private school services so will provide good connections for ongoing journeys.

8.19.2 PT Facilities - Asset condition

Bus shelters are in good to excellent condition. Bridge Street depot has limitations, which are being addressed through the new city centre bus interchange business case.

8.19.3 PT Facilities - Link to Strategic Case

Problem Statement	Environmental Impact/ Climate Change	Safety	Network Resilience/ Road Maintenance	Congestion/ Economic
Priority for this programme	1	3		2

Facilities are the first impression for public transport services so are integral to providing a service to attract the public from private vehicles into low emission transport that can provide congestion relief for freight and business activities that rely on vehicle use to address the AMP problem statements. Bus facilities need to be safe.

8.19.4 PT Facilities - Cost Service Risk

The city centre interchange is being assessed via a business case so not assessed here. Bus shelters and stops are new so not assessed here.

8.19.5 PT facilities - Gap Analysis

Visibility of people waiting at bus stops has been raised as an issue, especially in the winter when dark. This has resulted in buses driving past stops where people are waiting and requests for bus shelter lighting.

The NRPM prohibits offsite advertising. If this was changed advertising at bus shelters could be used to fund shelter upgrades, and if illuminated provide the lighting required for patrons to be seen at stops.

Nelson is a unitary authority hence manages Regional Public Transport Planning (RPTP) and the bus service delivery. Council is not adequately resourced to manage the programme, funding service review and improvements for Nelson and Tasman which adds pressure to staff resources. The gap is considered to be 0.5 FTE.

The 2021 RPTP proposes a superstop at the Hospital. Scope of this is complicated by the proposed hospital redevelopment and Waimea Road priority lanes. A superstop is expected to require substantial land purchase and retaining wall work.

8.19.6 PT Facilities - Operations and Maintenance

The number of shelters on the network doubled with new services introduced in 2023. Routine facility maintenance costs include bus shelter cleaning and repair of broken glass when required. Future costs, as facilities get older, will need to include condition surveys to inform a future renewal programme.

Facility costs include rental costs, building maintenance, compliance and cleaning. CCTV, customer services staff, and security provisions are also anticipated to provide the desired LOS for patrons.

A new service to Nelson Airport commenced in August 2023, to reduce the demand for private vehicle trips and long term parking supply at the airport and is expected to help address the carbon emission, and environmental problems of the AMP, albeit at a reduction of parking income for the airport which they wish to offset with licence costs to provide the bus services within the airport grounds. A licence fee is required to operate buses inside the Airport grounds.

8.19.7 PT Facilities – Renewals

A bus shelter renewal programme is expected in the future but is not required at this stage.

Customer facilities at the new City Centre interchange are expected to require renewals from approximately 5 years after opening.

8.19.8 PT Facilities – Renewal Assessment Criteria

TBC.

8.19.9 PT facilities - Summary of future Renewal Costs

Bus seat renewals are expected to be needed from 2027 and shelters from 2030.

8.19.10 PT Facilities - Acquisitions

Bridge Street depot has been acquired by Council and is being used as the city centre bus depot. It incurs new operating, maintenance and renewal costs while being used temporarily for PT services.

A new bus interchange at Millers Acre would be an acquisition because it is a new facility planned as soon as scope, programme and budget are confirmed. It includes bus drop off and pick up area and a customer lounge.

8.19.11 PT Services - Disposals

Nil.

8.19.12 PT Facilities - Preferred Programme

Preferred programme includes ongoing cleaning and maintenance of bus facilities to meet current LOS however the budget allocated in the LTP has not accommodated the increase in number of shelters so a reduction of cleaning frequency will be required to remain within budget.

A new 0.5 FTE Activity Management position to manage the PT programme, funding and service improvements, including facilities is not funded through the LTP.

8.19.13 PT Facilities - Procurement

Design and construction of the new Millers Acre facility, and a superstop at the hospital will be tendered due to the scale of the proposed works.

Cleaning of shelters, and Bridge Street bus depot are included in the Councils facilities cleaning contract. However Millers acre services may require a scope change, or new contracts for cleaning, maintenance and security provisions. These are to be determined when the new facility is confirmed.

8.19.14 PT Facilities - Risks

Risks specific to public transport facilities include:

Risks – PT Infrastructure							
Identification		**Analysis: Residual Risk**				**Response e.g. Accept, Reduce, Share**	**Treatments**
Event Description	**Consequence**	**Existing Controls**	**Consequence**	**Likelihood**	**Current Risk Level**		
City Centre interchange operating costs higher than expected	Budget is overspent	Nil	4	3	High (12)	Manage	Review once plans for Millers Acre are finalised and request additional budget if required
Inadequate staff resource	Poor service delivery and staff stress	External contractors and project delivery team for new infrastructure	3	4	High (12)	Reduce	Review time and resource demand for PT programme and resource appropriately

8.19.15 PT Facilities - Improvement Plan

Ref	ONRC Pillar	Description	Who	Current Status	Timeframe	Cost
PTF1	Evidence	Bus Shelter condition assessments	AM/ Operations	Not started	2027 AMP	$10k every 3 years
PTF2	Evidence	Confirm/estimate construction date and expected lifespan of all seats and shelters	AM	Not started	2027 AMP	Staff time
PTF3	Evidence	Register all shelters seats and stops in RAMM	PT Advisor	Spreadsheets	2027 AMP	Staff time
PTF4	Service Delivery	Estimate the facility cleaning, operating and maintenance costs for Millers Acre and include for approval with the capital investment business case.	AM	Not started	Millers Acre Business Case approval	Include in capex business case
PTF5	Evidence	Renewals planning for Millers Acre	AM	Not started	2027 AMP	Include in capex business case

8.20 PT information

The following section shows how the preferred programme affects the public transport information services.

8.20.1 PT Information - Physical parameters

PT information is a service includes websites, timetables, marketing, promotional material, demand management, and user satisfaction surveys.

8.20.2 PT Information - Asset condition

N/A

8.20.3 PT Information - Link to Strategic Case

Problem Statement	Environmental Impact/ Climate Change	Safety	Network Resilience/ Road Maintenance	Congestion/ Economic
Priority for this programme	1		3	2

Public transport improvement are a direct result of the Councils desire to address climate change, and provide commuters with options to reduce their contribution to congestion. These are 2 key problems that continue to shape this AMP. PT information is used to help customers get the best use of the services and provide the data to support the investment in PT Services.

8.20.4 PT Information - Cost Service Risk

Services have been upgraded with the new bus services from August 2023 and will be included in the 1st year PT review so have not been considered here.

8.20.5 PT Information - Gap Analysis

To be informed by the 1st year PT review.

8.20.6 PT Information - Operations and Maintenance

Operation and maintenance of established bus timetables, media, and websites.

8.20.7 PT Information – Renewals

N/A

8.20.8 PT Information – Renewal Assessment Criteria

N/A

8.20.9 PT Information - Summary of future Renewal Costs

N/A

8.20.10 PT Information - Acquisitions

N/A

8.20.11 PT Information - Disposals

N/A

8.20.12 PT Information - Preferred Programme

No change to the current programme is proposed.

8.20.13 PT Information - Procurement

PT Information is managed through internal resources and direct appointment of marketing specialists when required.

8.20.14 PT Information - Risks

Refer also to the Risk register in section 10.

8.20.15 PT Services - Improvement Plan

Ref	ONRC Pillar	Description	Who	Current Status	Timeframe	Cost
PTI1	Evidence	Undertake PT services customer satisfaction surveys	PT advisor	Not started	TBC	Est $10k every 3 years for an external resource

8.21 Real time information and electronic ticketing

The following section shows how the preferred programme affects the public transport electronic ticketing.

8.21.1 Real Time information and Electronic Ticketing - Physical parameters

Council provides the electronic ticketing support services for the reginal bus services and costs are apportioned back to Tasman District Council as required. Council owns the ticketing equipment on the buses.

8.21.2 Real Time information and Electronic Ticketing - Asset condition

Equipment that was new in August 2023 so is in good condition. Equipment transferred from the old bus service is in average condition, but expected to be serviceable until the national ticketing solution is rolled out.

8.21.3 Real Time information and Electronic Ticketing - Link to Strategic Case

Problem Statement	Environmental Impact/ Climate Change	Safety	Network Resilience/ Road Maintenance	Congestion/ Economic
Priority	1			2

Electronic ticketing has been revolution in the service provided to customers to pay for and access the buses and information available to plan service delivery and improvements. The developing use of real time information and electronic ticketing systems are expected to be critical for improved public access to public transport as a low carbon transport option that also has potential to reduce traffic congestion and improve environmental outcomes.

8.21.4 Real Time information and Electronic Ticketing - Cost Service Risk

Cost service and risk option assessment is under review nationally via NZTA national ticketing solution project.

8.21.5 Real Time information and Electronic Ticketing - Gap Analysis

NZTA are leading a national programme to integrate electronic ticketing nationwide. Nelson is part of this proposed scheme to maximise opportunities for local and visiting customers to get the benefits of the universal ticketing system.

Customer services are required to support the ticketing system. Additional customer services resources (1.5FTE) are required due to the additional demand this has generated.

8.21.6 Real Time information and Electronic Ticketing - Operations and Maintenance

Council does the financial management of fares, and data analysis for electronic ticketing and costs are apportioned to Tasman as appropriate.

Otago Regional Council managed the current ticketing scheme and council pays a portion of these and the supplier costs. The supplier costs of the national ticketing scheme are not yet know. The equipment has a reactive maintenance demand.

Real time information is used to provide real time arrival information as bus stops and combined with ticketing information provides the system for service performance monitoring and patronage statistics.

8.21.7 Real Time information and Electronic Ticketing – Renewals

Ticketing equipment is expected to need to be replaced when the national ticketing scheme is adopted. This could also result in a short period of free fares while equipment is swapped over to minimise disruption to bus services.

8.21.8 Real Time information and Electronic Ticketing – Renewal Assessment Criteria

Renewal of the electronic ticketing equipment will be led by the NZTA national ticketing system which is expected to precede any end of life equipment renewals.

8.21.9 Real Time information and Electronic Ticketing - Summary of future Renewal Costs

Future renewal costs and timing to transition to the national ticketing are not yet known or budgeted.

8.21.10 Real Time information and Electronic Ticketing - Acquisitions

New real time and ticketing equipment would be required on any new service introduced, including Nelson North if it became a commercial service.

8.21.11 Real Time information and Electronic Ticketing - Disposals

N/A.

8.21.12 Real Time information and Electronic Ticketing - Preferred Programme

The preferred programme includes ongoing operation and maintenance of the real time and electronic ticketing system and upgrade to the national system when available. Financial summary is included in section 10.

8.21.13 Real Time information and Electronic Ticketing - Procurement

NZTA will manage procurement of the National Ticketing System.

8.21.14 Real Time information and Electronic Ticketing - Risks

Refer also to the Risk register in section 10.

8.21.15 Real Time information and Electronic Ticketing - Improvement Plan

Ref	ONRC Piller	Description	Who	Current Status	Timeframe	Cost
PTT1	Resources	upgrade to National Ticketing Solution	NZTA/PT Advisor	Underway	TBC	TBC

8.22 Total Mobility

The following section shows how the preferred programme affects the provision for Total Mobility.

8.22.1 Total Mobility - Physical parameters

Nelson is a member of the total mobility scheme run through NZTA. Nelson and Tasman councils jointly run this scheme for the region. The total mobility scheme assists eligible people, with long term impairments access appropriate transport to meet their daily needs and enhance their community participation. This assistance is provided in the form of subsidised door to door transport services through approved contracted agencies.

There are currently 2,509 (2021/22) people enrolled in the scheme in Nelson/Tasman. This has grown 22% per year since 2017/18. Number of trips has been variable since the start of the covid epidemic. Trips are currently high because of the half price scheme in 202/23. If this continues it is expected to continue to generate use numbers. However lower and more accessible bus services from 2023/24 pay attract some users across to public transport for some trips. Current use is graphed in figure 8-23-1.

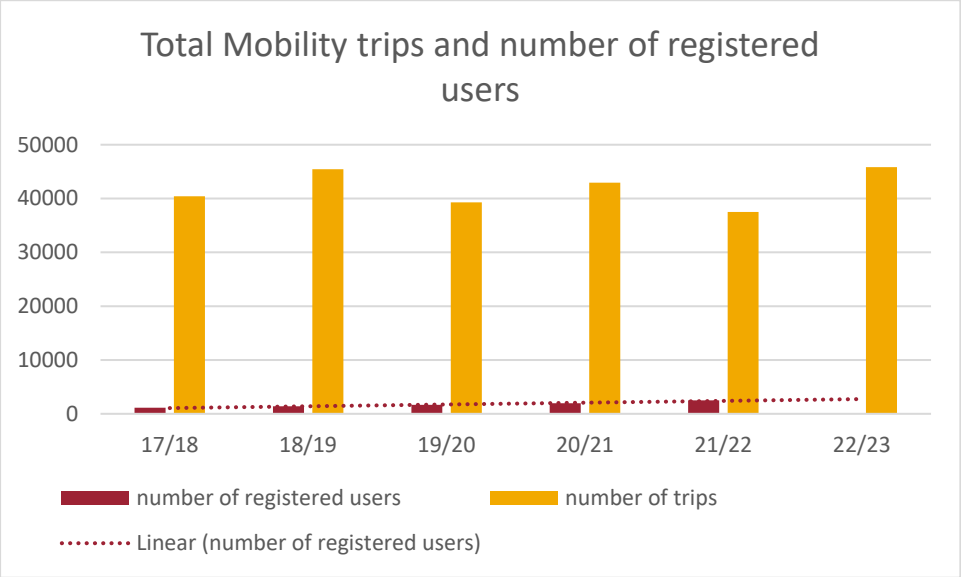


Figure 8-23-1: Total Mobility trips and number of registered users

8.22.2 Total Mobility - Asset condition

Total Mobility is a service so does not have assets, however, the operators can get a subsidy on wheelchair hoist replacements so it is useful to know the age and condition of these which are tabled below.

Number of Hoists in the Region	Average Age of Hoists
6	12 years

8.22.3 Total Mobility - Link to Strategic Case

Total mobility provides more inclusive access for those who need transport support. This can be a safety benefit when someone can no longer reliably drive a car.

8.22.4 Total Mobility Cost Service Risk

Cost service and risk are managed within the scheme locally and at national level.

8.22.5 Total Mobility - Gap Analysis

NZTA is currently undertaking a review of the total mobility scheme. The outcomes are not known at the time of writing this AMP.

The effect of the new bus services will be monitored. It is assumed there will be no discernible effect for the purposes of this AMP and budget planning.

The maximum fare subsidy for a total mobility trips was increased to 50% of $30 in 2021/22. This has resolved the subsidy gap where Nelson/Tasman were considerably lower than the national average. There is now a potential future gap since fares have been further subsidised by the half price scheme the demand to travel has increased. This is good news for users who have increased freedom from the lower prices but will be an increased cost if the half price scheme is withdrawn.

8.22.6 Total Mobility - Operations and Maintenance

Ridewise is used as the platform to manage total mobility trips and payments. The service fee for this platform is due to rise from $9,996 to $12,521 per annum.

Council could undertake surveys of customer satisfaction, however being a small network and few complaints, this has not been undertaken in the past.

8.22.7 Total Mobility - Renewals

The Ridewise platform is due for renewal in 2024/25 and is expected to cost Nelson/Tasman $10,800. This will be managed nationally.

8.22.8 Total Mobility - Renewal ranking criteria

N/A

8.22.9 Total Mobility - Summary of future renewal costs

The AMP assume a renewal of a wheelchair hoist each year. In practice this is variable but outside the Councils control so managed on request.

It is assumed there will be a future renewal of Ridewise in approximately 10 years' time.

8.22.10 Total Mobility - Acquisitions

N/A

8.22.11 Total Mobility - Disposals

N/A

8.22.12 Total Mobility - Preferred Programme

Financial summary is included in section 1.

8.22.13 Total Mobility - Procurement

Total Mobility is contracted to service providers through the total mobility scheme. Nelson City Council provides the background support for the services across Nelson and Tasman.

8.22.14 Total Mobility - Risks

Refer also to the Risk register in section 10.

8.22.15 Total Mobility - Improvement Plan

Ref Priority	Improvement Action	REG Pillar	When	Who	Current Status
TM1	Ridewise platform renewal	Resources	24/25	Nationally	Planned
TM2	Participate in the national Total Mobility review	Systems	TBC	Transport, Operations and Accounts	Awaiting national direction
TM3	Customer Satisfaction survey	Evidence	Approx 2027/28	Transport	Not started

8.23 Road Safety and Road Safety Promotion

The following section shows how the preferred programme affects the Road Safety and Road Safety Promotion (RSP) programmes.

8.23.1 RS/RSP - Physical parameters

NZTA, Council, Tasman District Council and Police jointly run road safety promotion campaigns in the local region. These can use national resources or be targeted to local issues.

Current spend is more than the national average, but less than out peer group as shown in figure 8-24-1.

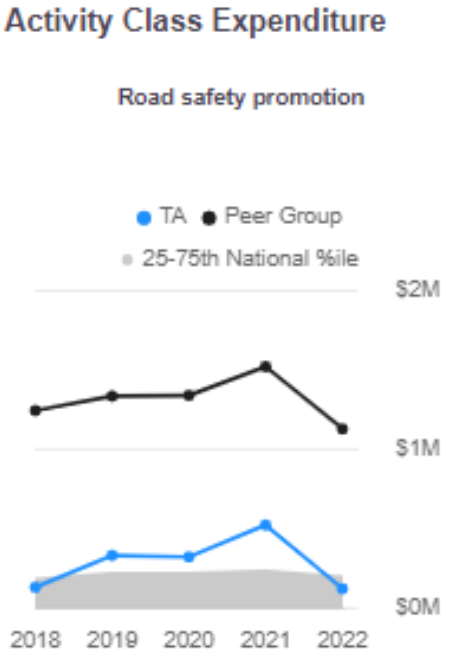


Figure 8-24-1: Road Safety Promotion Expenditure – Te Ringa Maimoa 2021/22

8.23.2 RS/RSP - Asset condition

N/A.

8.23.3 RS/RSP - Link to Strategic Case

Problem Statement	Environmental Impact/ Climate Change	Safety	Network Resilience/ Road Maintenance	Congestion/ Economic
Priority for this programme	4	1	2	3

Road Safety projects are identified to address the problems in the AMP that cannot be addressed through maintenance, operations or renewals. They are typically physical works projects.

RSP is especially effective when human factors are identified in crash trends. Crash trends that affect Nelson roads more than elsewhere in the country are intersections, older drivers, distraction and cyclists. These are identified through the Communities at Risk Register as tabled below in figure 8-24-2 and local crash statistics available through CAS.

Nelson					
	2018	2019	2020	2021	2022
All deaths & serious casualties					
Young drivers					
Alcohol & drugs					
Speed					
Urban intersections		At risk			
Rural intersections		At risk	At risk		
All Intersections	At risk	High risk	High risk	At risk	At risk
Rural roads					
Motorcyclists	At risk	At risk		At risk	
Cyclists	High risk	High risk	High risk		
Pedestrians					
Distraction		At risk	At risk	At risk	High risk
Fatigue					
Older road users			High risk		High risk
Restraints		High risk			

Figure 8-24-2: Communities at Risk Safety record compared to other councils (note this is a comparative tool, not absolute)

Cyclist risks for Nelson are lower in 2021 and 2022 because the number of crashes in other centres has risen, showing the increase in cycling elsewhere. The number of crash events involving cyclists remains higher in Nelson hence it remains on the RSP programme, as shown in figure 8-24-3 below.

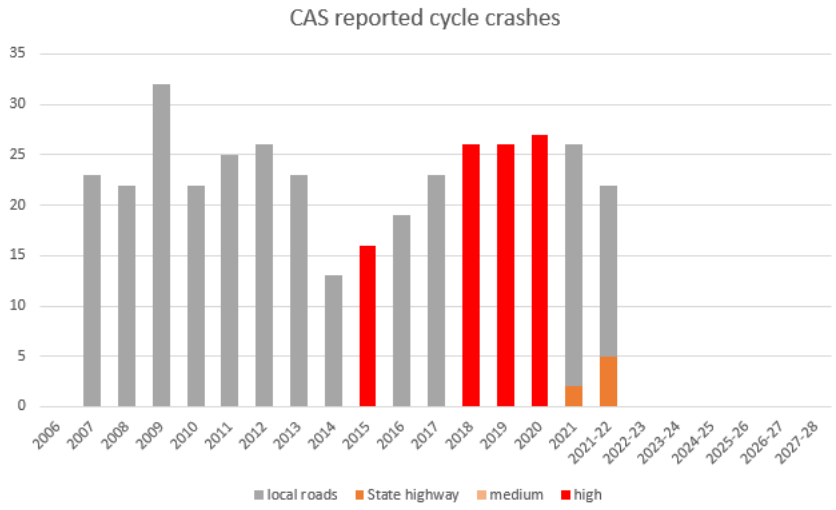


Figure 8-24-3: Cycle Crashes in Nelson

Other ongoing safety issues are also monitored with campaigns, speed, seatbelts, child restraints, young drivers, motorcycle safety and driver fatigue. Intersection

safety is being addressed through the minor works programme as well as RSP programmes.

Road safety promotion can contribute to addressing resilience and congestion (PS4) if it can help avoid a crash that blocks a road and causes a temporary network congestion issue.

Options for RSP to contribute to addressing the AMP problem statements are:

Option 1: minor budget increases to address current funding issues.

Option 2: 2021 LTP budgets and lower programme delivery to suit.

Option 3: Increase RSP programme to resource more focus on the safety issues.

8.23.4 RS/RSP - Cost Service Risk

Cost service and risk for Road Safety projects are addressed through site specific business cases and optioning.

Cost service and risk have been assessed for RSP to deliver the outcomes desired.

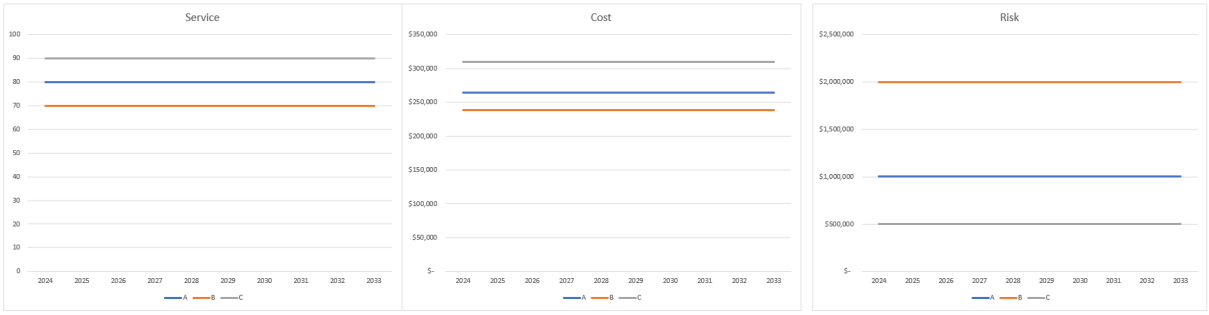


Figure 8-24-4: PT Services – Cost Service Risk

Option 2 has been funded through the LTP. NZTA are however centralising funding and delivery of road safety programmes which is expected to reduce the local programme requirements and funding.

8.23.5 RS/RSP - Gap Analysis

The demand for cycle skills training in schools has exceeded available training capacity in the past 5 years and continues to be a gap.

RSP budgets are regularly secured from other agencies. These are not predicted in the AMP because they are outside the Councils control. In the past budget has been provided from the state highway programme, ACC and grants. These budgets can create a staff resourcing gap to deliver programmes, which has been included in options 1 and 3.

Options are developing for virtual driver training before on road experience. This maybe a good tool for Council to support. Future budget requirements have not been scoped.

8.23.6 RS/RSP - Operations and Maintenance

Currently Council is a lead agency for regional road safety promotion campaigns with the support of TDC, Police and the Accessibility for All Forum. This includes a Road Safety Action Plan, regular coordination meetings and delivery of services by Council, police and TDC staff and contractors.

8.23.7 RS/RSP – Renewals

N/A

8.23.8 RS/RSP - Preferred Programme

The preferred programme is to be developed when the impact of centralised delivery through NZTA is understood.

8.23.9 RS/RSP - Procurement

Contractors to deliver the 2024-27 RSP will be awarded by direct appointment and tendered services as appropriate for the scale of the works.

8.23.10 RS/RSP - Risks

Refer also to the Risk register in section 10.

8.23.11 RS/RSP - Improvement Plan

Ref	ONRC Pillar	Description	Who	Current Status/Timing	Cost
RS1	Resources/ Decision making/ Communication	Determine impact of centralised RSP through NZTA	Transport Manager	Sept 2024	Staff time

8.24 Travel Demand Management

The following section shows how the preferred programme affects the travel demand management (TDM) programme, also known as network user information.

8.24.1 TDM - Physical parameters

Councils TDM programme is run in conjunction with the road safety programme. The programme aims to

- influence transport demand to better balance it with supply
- shape travel behaviour to ease pressure on the transport network and the environment
- deliver economic benefits to businesses and communities.

8.24.2 TDM - Asset condition

N/A

8.24.3 TDM - Link to Strategic Case

Problem Statement	Environmental Impact/ Climate Change	Safety	Network Resilience/ Road Maintenance	Congestion/ Economic
Priority for this programme	1	3	4	2

Council can control the carbon emissions, environmental impacts and impact on traffic congestion of services and assets provided by the Council but cannot directly control the public activity. TDM programmes are designed to create the link between Council and Public options and outcomes desired by the Strategic case of the AMP.

Options for TDM to address the AMP problem statement statements are:

Option 1: Minimise TDM programme, in favour of improving cycle, Public transport and operational traffic management programmes

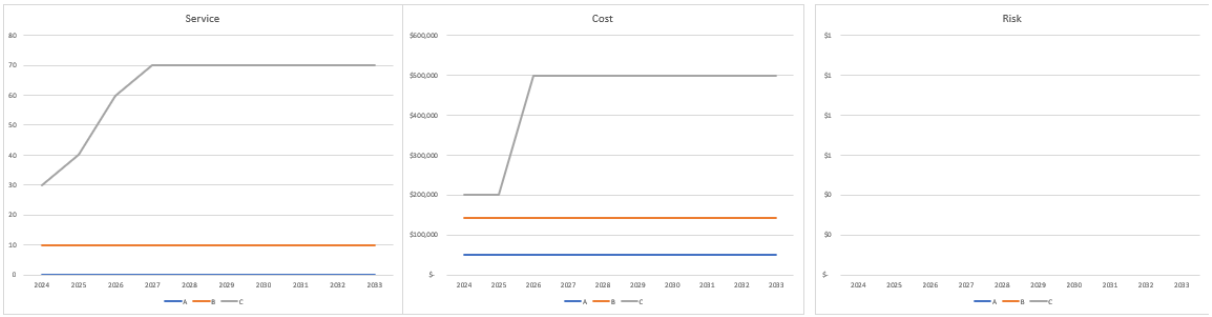
Option2: 2021 LTP budgets, and adjust TDM programme to suit

Option 3: new FTE and increased TMP programme

8.24.4 TDM - Cost Service Risk

Cost service and risk have been assessed for TDM to deliver the outcomes desired.

Figure 8-25-1: TDM – Cost Service Risk



Option 1 is preferred and funded through the LTP. There is little or no risk associated with the programme so removing it will not create more problems.

8.24.5 TDM - Gap Analysis

Campaigns to promote new and improved walking and cycle facilities could be improved to maximise the uptake of new facility use, including the new regional bus services to maximise value for money, resilience and customer experience benefits.

Management of car parking supply and charging could be used more as a tool delivery more travel time and resilience benefits.

A hands up app for students to record journey to school was proposed in 2021 but has not been developed enough to roll out to schools yet to measure performance.

8.24.6 TDM- Operations and Maintenance

Council has 1 staff resource who delivers the RSP and TDM programmes with the support of TDC, Police and external contractors. Option 1 would allow focus on RSP with more direct outcomes to the AMP safety benefits.

8.24.7 TDM – Renewals

N/A

8.24.8 TDM - Preferred Programme

The travel demand management programme is to be minimised with similar reduction in budget.

8.24.9 TDM - Procurement

N/A

8.24.10 TDM - Risks

Change in focus could require development of a new TDM programme.

8.24.11 TDM - Improvement Plan

N/A

8.25 Property

The following section shows how the preferred programme affects property. Property is an unsubsidised activity unless otherwise agreed with NZTA.

8.25.1 Property - Physical parameters

The council has 6.6million square meters of land for legal road, with a property value of $262M. The performance or utilisation of that land has not been assessed. Land is vested each year from subdivisions.

8.25.2 Property - Asset condition

Asset condition is judged as good. But land stability and utilisation affect some locations. All are covered in other areas of the AMP.

8.25.3 Property - Link to Strategic Case

Problem Statement	Environmental Impact/ Climate Change	Safety	Network Resilience	Congestion
Priority for this programme	4	2	1	3

8.25.4 Property - Cost Service Risk

Cost service and risk have not been assessed for property because these are specific to projects which have their own assessment process.

8.25.5 Property - Gap Analysis

Isolated locations where road exists on private property remains and gap to be addressed on a case by case basis. Options include remove the road from the property, easements or land purchase.

The draft Road Encroachment Policy includes vehicle crossings rules which will assist Council in managing vehicle crossing applications, and maintenance of driveways on road and unformed road. If adopted in the current format this will close a gap in requirements that has caused maintenance issues for some time.

8.25.6 Property - Operations and Maintenance

Operation of property includes managing road encroachments, and other activities on road like outdoor dining. These are managed by the Councils property team as unsubsidised activities. The policies for these are under review. Fees are proposed that will help fund the cost of administering encroachments. The proposed policy will relax the application process so could result in more licenced road encroachments to manage and more demand on the property team. There are approximately 4000 unlicensed structures that are discussed in section 8.5.

8.25.7 Property - Renewals

N/A

8.25.8 Property - Renewal ranking criteria

N/A

8.25.9 Property - Summary of future renewal costs

N/A

8.25.10 Property - Acquisitions

Acquisitions from developments and subdivisions continue at a rate of approximately 4,000m2 per year. There are however a number of large subdivisions under development (Bayview and Mahitahi) that might increase this in the future.

Acquisitions are under investigation for the following locations:

- Beachville to Fountain Place walkway. Walkway is not on the road reserve.
- Toi Toi St Vincent intersection. Road encroaches onto private property and improvement works are planned at the intersection
- Waimea Road and Rutherford Street for priority bus lanes
- Hill Street north for road connection
- 4 Examiner Street, footpath is on private property (formerly Council land)
- Washington Road to Washington Terrace walkway.

8.25.11 Property - Disposals

There are one or 2 requests from the public to purchase road reserve each year. These are typically small in nature and managed by the Councils Property team.

8.25.12 Property - Preferred Programme

The preferred programme is to continue to manage property issues on a case by case basis. This requires budget for some pending land purchases and associated legal and valuation costs.

8.25.13 Property - Procurement

Property management is undertaken internally with specialist external advise from the Councils legal consultant panel, valuers and surveyors.

8.25.14 Property – Risks

Risks - Property							
Identification		**Analysis: Residual Risk**				**Response e.g. Accept, Reduce, Share**	**Treatments**
Event Description	**Consequence**	**Existing Controls**	**Consequence**	**Likelihood**	**Current Risk Level**		
Road formed on private property	Transport facilities could be disrupted by landowner asserting control over private property	Negotiation and land purchase when project works required on affected road on private property	4	3	High (12)	Manage	Land purchase, or retreat when encroachment identified by the private property owner.
No budget	Options limited by current road reserve extents	Council report for funding	3	4	High (12)	Manage	Council report for funding

Refer also to the Risk register in section 10.

8.25.15 Property – Improvement Plan

Ref	ONRC Pillar	Description	Who	Current Status	When	Cost
Land 1	Decision Making	Undertake Structures on Road Reserve Policy review.	AM	New Road Encroachment Policy drafted and due to go to public consultation	2023-24	Est $50,000 legal and consultation costs
Land 2	Decision Making	Review the Staff policy on maintenance of driveways and driveway reinstatements.	AM	Vehicle crossings (driveways) are expected to have rules in the Road Encroachment Policy. A 1999 policy in maintenance of private driveways remains.	complete	Staff time

8.26 Unsubsidised

Unsubsidised budgets are used for assets and services across the city that are required for city amenity, local government requirements, and deliver Councils goals and objectives. They do not qualify for NLTF funding. They are less likely to directly address the AMP problem statements. Activities include corridor access requests, after hours duty officers, maintenance of heritage panels on roads, legal and valuation costs, bylaw and policy work, consents and pre-planning especially for growth projects.

Unsubsidised property, city centre, carparking and vegetation programmes are covered separately in this AMP.

8.26.1 Unsubsidised - Physical parameters

Unsubsidised assets include:

- Muller Fountain,
- artwork and information signs on roads, including heritage panels.
- Retaining walls, that provide more benefit to adjacent properties than the road are unsubsidised unless otherwise agreed with NZTA for funding

8.26.2 Unsubsidised - Asset condition

Asset condition is average except Rocks Road Bollards which are in average to poor condition.

- Private structures on legal road are a risk. Condition is expected to deteriorate on these structures as they age with no ownership or clear maintenance responsibilities.

8.26.3 Unsubsidised - Link to Strategic Case

Problem Statement	Environmental Impact/ Climate Change	Safety	Network Resilience/ Road Maintenance	Congestion/ Economic
Priority for this programme	3	2	1	4

Corridor management is a regulatory requirement under the Utilities Act that falls to the Road Controlling Authority. Good corridor management planning and ability to respond, including after hours contribute to improved congestion, emissions, safety and resilience outcomes for in planned and emergency events. Good planning and TMP minimise the impact of road closures, road works or events on traffic flows, unplanned road closures and manage safety risks.

Unsubsidised assets like Muller Fountain and artwork are required for community wellbeing and connection. Artwork and heritage panels make walkable networks more attractive to help address community connectedness.

Private walls on road reserve provide resilience to the adjoining properties. They are however aging (most are thought to date from the mid 1900's) and are

expected to become liabilities to the landowner thus a risk for Council where these are on road.

An unsubsidised drainage improvement budget has been trialled in 2021-24 to address drainage issues affecting private property. The 2022 flood event continued to reveal issues so an ongoing budget is recommended to address the gap in LOS affecting private property.

8.26.4 Unsubsidised - Cost Service Risk

Options for Corridor Management are:

Option 1: More staff resources.

Option 2: 2021 LTP budgets.

Option 3: Current staff resources plus more consultant time.

Cost service and risk for the options is shown in figure 8-27-1.

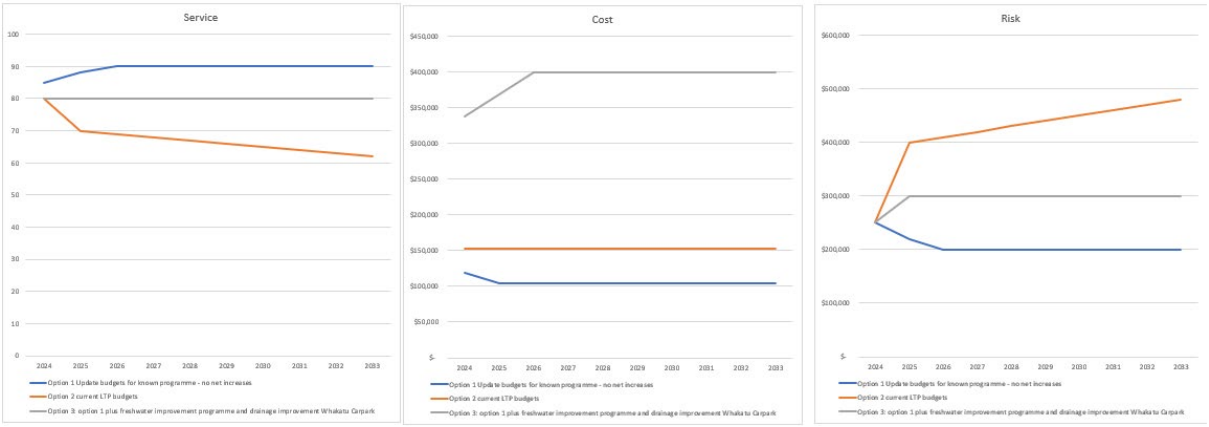


Figure 8-27-1: Corridor Access Request Management Cost Service Risk

Option 1 has been funded through the LTP. Additional staff for corridor access requests will reduce the demand for external consultants.

Options for unsubsidised capital project and renewal programmes are:

Option 1: adjust programme for known changes, and to favour subsidised works, works removed from the programme include Milton Street (complete), Marsden Valley Road upgrade (shifted to routine maintenance and renewal programmes) and Nile Street cycleway (shifted to subsidised).

8.26.5 Unsubsidised - Gap Analysis

The CAR role is currently under resourced. Overflow capacity, site auditing, and coverage of leave is managed by consultants.

CAR and temporary road closure requests in 2023 were double previous years. We are consequently not fulfilling all requirements of the Utilities Act due to under resourcing. Transitioning to the new NZGTTM standards will require change management, training, and processes evolution to adapt to the new requirements. This will have a higher staff resourcing demand initially.

Council after hours services for infrastructure are currently provided by the Utilities team. This is to be reviewed and may result in additional staffing demands and minor maintenance contract variations.

The Traffic and Parking Bylaw requires additional resourcing to enforce and respond to service changes as a result of resolutions and public requests and the setting up of maps and websites.

Heritage panels are not a preferred cultural connection or story telling format for Iwi. New panels are unlikely to be commissioned and a better way of connecting stories to place needs to be investigated with Iwi.

Private structures on road reserve continues to be a significant gap. The cost to identify and assess all structures and consult with the adjacent landowners and licence these has not been assessed or included in the programme. Review of the Road Encroachment Policy is required to consult and inform management of the road reserve.

New retaining walls built to support private property adjacent road through the flood recovery programme may not be eligible for NLTF. A new unsubsidised inspection and maintenance programme may be required, along with future renewals.

8.26.6 Unsubsidised – Operation and maintenance

Other cost neutral activities that are managed through the unsubsidised accounts include road safety promotion and traffic signals maintenance for Tasman District Council and NZTA state highways income and spend of that income through Councils contracts on their respective assets. These are not discussed in this AMP because they are not within the Councils control and are cost neutral to Council, but require staff time to administer.

8.26.7 Unsubsidised - Renewals

Renewals are required for:

- Structures where identified as unsubsidised in the structures programme.
- Rocks Road Bollards, an ongoing programme to preplace stanchions, chains and fitting.
- Heritage and wayfinding signs when identified.
- Iwi led interpretive panels/other story telling media.

8.26.8 Unsubsidised - Renewal ranking criteria

Unsubsidised renewals are generally included in the ranking process for subsidised programmes (eg structures and drainage).

Unsubsidised renewals are prioritised lower than subsidised programmes unless there is a safety risk, eg Rocks Road bollards.

8.26.9 Unsubsidised - Summary of future renewal costs

Rocks Road bollards and heritage panels will continue to have renewal programme to maintain the heritage facility in a safe condition due to the age and construction of the fence.

Demand for renewals where a private wall is identified to transfer to Council ownership have not been quantified and are assessed on a case by case basis.

8.26.10 Unsubsidised - Acquisitions

Heritage panels, on roads, will be migrated to transport valuations. Approximately 1 new panel/story media is built every 3 year period. These, and artworks on road are gifted to Transport for maintenance and renewals but require ongoing advise from the arts teams for appropriate care.

Hill Street north connection is currently being investigated as an unsubsidised activity. If the benefits of a future connection are considered beneficial to the wider network, congestion and/or resilience NZTA business case processes would be followed.

A raised crossing is requested on the Sommerset Driveway for the Saxton Creek Walkway. This requires land agreement and is not subsidised because the work is on private property.

Bus turn around area at Brook Street camp. This is on Council land, not road reserve so is not subsidisable.

8.26.11 Unsubsidised - Disposals

Disposal costs where a private wall becomes unsafe and Council has to demolish it have not yet been quantified. One wall is currently being monitored.

8.26.12 Unsubsidised - Preferred Programme

The preferred programme includes an additional FTE to manage the CAR and afterhours demands and Bylaw consultation.

8.26.13 Unsubsidised - Risks

Risks include traffic congestion and crashes due to unsafe worksites or driver behaviour if activities affecting the transport network are not managed well.

There are risks associated with the private walls on roads.

There are recruitment risks because of shortages of current skilled workforce. There are however bigger resourcing risks if current workloads are not addressed. Training of new staff to enter the workforce is required.

Refer also to the Risk register in section 10.

8.26.14 Unsubsidised - Procurement

Where there is a subsidised component procurement follows the NZTA Procurement Strategy.

8.26.15 Unsubsidised - Improvement Plan

Ref	ONRC Pillar	Description	Timing	Who	Current Status
Unsub1	Decision Making	Vehicle Control Bylaw review	Adoption late 2023	complete	
Unsub2	Resources	Maps and websites for Traffic and Parking Bylaw	2024	AM/operations/ GIS/Comms/ legal	No stopping has been mapped, balance is in schedules
Unsub2	Systems	Road Encroachment Policy review	Late 2023	AM/ Operations, legal, planning and policy	Underway
Unsub4	Resources	Update the Nelson Tasman Land Development Manual (in conjunction with TDC) to reflect the Accessible Streets rule changes	Not started	AM and planning And TDC	2024-27
Unsub5	Resources	Engage 1 additional FTE to manage CAR and Traffic and Parking Bylaw requests	24/25	Operations team leader and HR	complete
Unsub6	Resources	Update current maintenance contract requirements to cover afterhours callouts currently provided by utility contractors	24/25	Operations	Not stared
Unsub7	System	Establish an after hours roster. Minor restructure and training of operational staff to manage after hours callouts	24/25	Operations, Utilities and HR	Not started
Unsub8	Evidence	Identify the structures that are unlikely to attract NLTF funding for renewals including inspection and maintenance programme	24-27	AM	Current renewals identified
Unsub9	Evidence	Condition and renewal programme for heritage panels to be developed. Iwi advise required on alternatives	24-27	AM/Heritage advisor and Iwi	Not started

8.27 Street trees and gardens

Street trees and gardens form part of the unsubsidised and City Centre programmes.

8.27.1 Street Trees and Gardens - Physical parameters

The assets covered by this Asset Management Plan are shown section 2.1.**Error! Reference source not found.** Transport Assets and Services Register. This data is recorded Infor and GIS. Age of street trees has been estimated, where exact planting date is unknown.

8.27.2 Street Trees and Gardens - Asset condition

Maintaining an acceptable condition of street gardens has become unsustainable due to traffic management costs. Condition has therefore declined.

City Centre street trees have been improving condition due to a winter pruning strategy to thin and maintain the canopy. However complaints remain about shading, leaf fall and ongoing clashes between roots and underground services.

8.27.3 Street Trees and Gardens - Link to Strategic Case

Problem Statement	Environmental Impact/ Climate Change	Safety	Network Resilience	Congestion
Priority for this programme	1	2		

Trees and vegetation can reduce some of the emission and climate change effects. They shade the roads and absorb carbon so reducing the impacts of heat and emissions and provide some freshwater quality and biodiversity benefits.

Street trees and gardens can help implement the Draft Urban Greening Strategy.

Street trees and gardens can be used to create low speed environments on residential streets to address the safety problems identified by the AMP. This is less desirable on arterial routes where capacity for resilience, the proliferation of underground services and high traffic volumes (TMP costs) make tree and garden location more challenging and often undesirable.

Street trees and gardens create an attractive environment for walking and cycling by providing shade and can protect people from vehicle traffic. This helps make low emission modes of transport more attractive to people planning their journeys to address the emission reduction, and climate change problems for this AMP (PS1).

Urban intensification while improving climate adaption options also creates less greenspace on private property so more demand for it to be provided elsewhere. Nelson is geographically constrained so the road corridors are an increasingly attractive and accessible public space to create the outdoor living and connection environments people living in apartments required for the health benefits these create.

8.27.4 Street Tree and Garden - Cost Service Risk

Options assessed for street trees and gardens are:

Option 1: Prioritise high value street gardens and reduce risks. More maintenance, renewals and no new planting.

Option 2: Current LTP budgets and reduce LOS to suit.

Option 3: Prioritise high value street gardens and reduce risks. More maintenance, renewals and some new street tree plantings.

Cost service and risk of the options is shown below in figure 8-28-1.

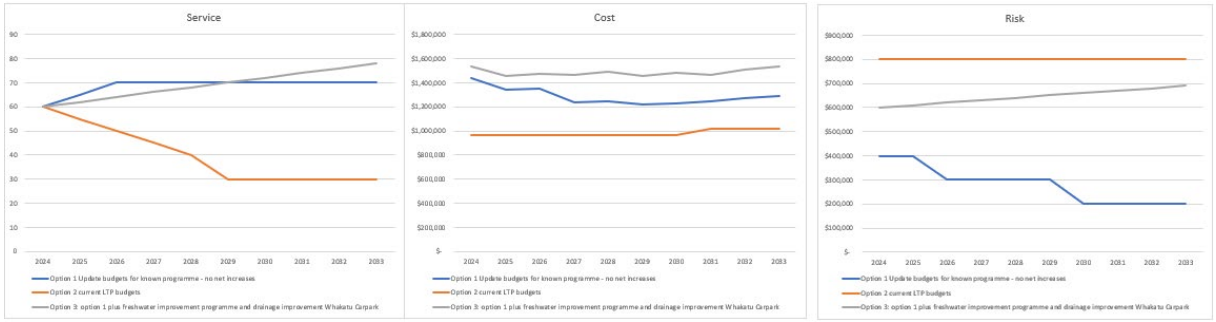


Figure 8-28-1: Street tree and garden cost scope Risk

Option 1 is preferred however option 2 has been funded through the LTP with minor inflationary increases.

8.27.5 Street Trees and Gardens - Gap Analysis

TMP requirements to manage the street gardens and street trees, in the city centre and elsewhere has caused a spike in maintenance costs to address health and safety requirements. The historic programme is unsustainable and alternatives, including retirement of uneconomic gardens are being undertaken. Lower speed limits will assist where these apply in the future but philosophy for design and site section for street gardens and street tree locations needs to be reviewed.

Council requires residents to maintain their road frontages and berms however there are locations around the network where Contractor Traffic Management costs are high due to the risks involved. These frontages have become a problem for noxious weeds when not maintained adequately. Council needs to consider whether it is appropriate for the adjoining resident to maintain these frontages, or these should be identified and included in the transport programme (options 1 and 3) for the benefit of all, but to reduce the risks for the affected landowners. A Road Reserve Management Policy is proposed to clarify expectations and responsibilities between Council and adjoining property owners.

Large trees on road reserve, that are not recognised as Council street trees can becomes a risk if not maintained, or they become damaged. Council is building a register of these trees to discuss with adjoining landowners with view to Council ownership of quality trees to protect these, or removal of potential liabilities.

Nelson Electricity has identified safety risks with the power wires through the Collingwood Street trees. They will no longer trim the trees clear of the wires, so Council covers all of these costs. Option1 and 3 include budget in year 1 to assist with undergrounding the wires to remove the risk and reduce maintenance costs.

Glyphosate has been identified as a harmful weed control chemical. This means Council has to reconsider how street gardens and berms are managed. Vigorous grasses eg Kikuyu, encroaches into the asphalt paths which cannot be managed without chemical control and would ultimately cover the whole surface. A management plan is included in options 1 and 3 to avoid extensive deterioration of the path network.

The Railway Reserve at Bishopdale is owned by NZTA but is managed by Council. Uncertainty of future road connections through this route have meant the area has not been developed to full potential. Decision in 2020 not to progress the Southern Link means this area can now be maintained and planted as a valuable walking and cycling connection and backdrop landscape to the city. More vegetation management is included in option 3.

Roads where the traffic carriageway could be reduced to maximise potential for large scale berm planting, to maximise climate mitigation potential has not been investigated.

8.27.6 Street Trees and Gardens - Operations and Maintenance

Operations and maintenance includes general garden maintenance (weeding, trimming, replanting etc) and monitoring. Street tree maintenance includes arborist work to trim and thin the canopy for size, tree health and around streetlights. Less use of Glyphosate has resulted in more hand weeding, longer time on sites and more traffic management costs.

2021 LTP Operating and maintenance budget are currently not adequate due to the traffic management and weed management costs. Additional budgets would be required to maintain current gardens and LOS. The highest risk areas are being programmed for hard surfacing.

Vegetation trimming to maintain sightlines, large vehicle (including bus) access along roads, visibility of signs and streetlight illumination are required and not manageable for the current portfolio within current budgets. Street trees also require management to avoid safety risks from falling material or damaged trees. Action is reactive and scale of work depends on the safety risks/trees involved.

Street trees and gardens can be rain gardens to filter the contaminants of road water runoff. The cost of maintaining a rain garden is same as a normal garden of the same size, but renewal is more frequent. The benefit to the stormwater system and freshwater environment need to be considered to justify the additional costs.

Street trees and gardens contribute to the road sweeping and sump cleaning issues, therefore, flood resilience problems if not managed, especially during leaf fall.

8.27.7 Street Trees and Gardens - Renewals

Renewal of street trees is required when a tree health is below a maintainable standard. Renewals are also used to sustain tree stock and avoid mass removal/planting plans. Renewal may not be like for like species or location. Additional maintenance for initial years after planting is required to maximise the success of the tree.

Rain gardens require renewal approximately every 5 years to retain filtration capability. Option 1 and 3 include a budget to commence the renewal cycle from year 4.

8.27.8 Street Trees and Gardens - Renewal ranking criteria

Renewal ranking is determined by tree health or damage, underground and overhead services affected, and occasionally transport upgrades with an aim to avoid a net loss in tree cover. Renewal of street trees is prioritised over street gardens. Renewals are prioritised over new plantings. Retirement of street gardens is prioritised by risks to maintain.

Street trees are favoured in the road space instead of street gardens because they have longer live (50 plus years) than street gardens which have high renewal frequency, (less than 10 years) and high maintenance costs.

8.27.9 Street Trees and Gardens - Acquisitions

Acquisition is primarily from subdivisions and some project works. Review of the LDM will need to include a changed philosophy for street gardens and trees vested with Council with view that wide berms and 1 tree in a good place better than 20 street gardens of small nature. Discussions are underway with current developers to get sustainable outcomes for ongoing subdivision works.

Council is assessing what trees of value are planted on road reserve that it should identify for future retention. This requires consultation with the adjoining residents and will result in acquisition of the trees into the Council street tree asset register but will reduce the risk of unforeseen damages from uncontrolled trees on road reserve.

If council invests in a more street tree planting to address climate change and improve environmental outcomes then these will be acquired assets requiring appropriate maintenance funding.

8.27.10 Street Trees and Gardens - Disposals

Street gardens that are very small, or in high risk locations are being identified for hard surfacing to reduce their maintenance risks and cost. There is a disposal cost associated with this work. This is included in options 1 and 3.

The Roadside Planting programme (https://our.nelson.govt.nz/stories/are-you-eligible-for-free-plants/) has been discontinued to reallocate the budget to maintenance of roadsides by Council contractors.

8.27.11 Street Trees and Gardens - Preferred Programme

The funded programme includes:

- rationalise the street garden portfolio and focus on high quality high amenity garden areas and hard surface the remainder, as budget allows.
- Continue to maintain and renew street trees according to good arboricultural practice.
- Continue to identify quality trees on the road reserve for inclusion in the managed tree asset portfolio.
- Development of a Road Reserve Vegetation Management Policy.
- Discontinue the allocation of plant to residents to plant on road frontages.

8.27.12 Street Tree and Garden – Risks

Refer Parks AMP.

8.27.13 Street Tree and Garden - Procurement

Street trees and gardens are maintained by the Councils Parks team through their Open Spaces contracts which is to be tendered in 2025 and may result in LOS review to manage new contract costs.

Hard surfacing of the retired garden areas is procured through the transport contracts depending on the site, complexity and complimentary work programmes.

8.27.14 Street Tree and Garden – Improvement Plan

Ref	ONRC Pillar	Description	Timing	Who	Current status	Cost
Tree 1	System	Underground power from Collingwood Street trees	2024-25	Electrical mtce contractor and power company	Not funded	Est $100,000 plus power company costs
Tree 6	Communication	Close roadside planting website	Asap	Parks/comms	Asap	Staff time
Tree 2	Evidence	Retire uneconomic street gardens	2022-24	Parks and transport	Ongoing	Ext $150k per year plus staff time
Tree 3	Evidence	Identify frontages that cannot be safety maintained by residents and include in the maintenance programmes	ongoing	Parks	Ongoing	Est $50,000 plus staff time
Tree 4	Evidence	Identify high value private planted trees on roads for future protection	ongoing	Parks	Ongoing	Staff time, plus ongoing maintenance costs, per tree
Tree 5	Evidence	Identify locations where street scape and	TBC	Parks and Transport	Not yet started	Project by project

Ref	ONRC Pillar	Description	Timing	Who	Current status	Cost
		planning can improve road safety and traffic calming outcomes				
Tree 6	Decision making	Review landscape section of the LDM to consider future maintenance costs when selecting areas for trees and gardens	LDM review	Parks and Transport	Not started	Staff time and $10k for consultation costs
Tree 7	Decision making	Develop a planting and maintenance plan for the Railway Reserve Bishopdale	TBC	Parks	Not yet started	Est $400k plus $50k per year for ongoing maintenance. Plus staff time.
Tree 8	System	Include sightline trimming in the road maintenance contract so signs and high risk intersection have additional inspections from a different perspective	21-24	Transport	Complete. Road maintenance contract	Included in signs maintenance cyclic costs

8.28 CBD

The following section shows how the preferred programme affects the city centre assets and services.

8.28.1 CBD - Physical parameters

The programme includes carpark sweeping and footpath cleaning and high amenity services not included in the subsidised programme for the City Centre. The programme also include the street trees and gardens, (refer Vegetation and street trees section of this AMP) seating, CCTV, Wifi services and streetscape furniture in the City Centre and Stoke centre.

8.28.2 CBD - Asset condition

City Centre seats are in average condition. Cleaning and time have affected the timber work. These are now being gradually replaced with seats from the palette in the city centre spatial plan. Road name signs will also need to be reviewed.

Rubber mulch around street trees subject to pedestrian traffic has been considered a success to address stone chip issues on the footpaths. Trees in Hardy Street and carparks are yet to be addressed.

The condition of the City Centre footpath brickwork continues to decline because the bricks cannot be sources and reuse has limits. The new palette and upgrade programme need to be confirmed before renewals can be planned.

Cleaning and condition of Upper Trafalgar Street has been underfunded since the closure was formalised. A higher LOS is expected from retailers and their customers.

8.28.3 CBD - Link to Strategic Case

High quality facilities in the City Centre and Stoke Centre are required to support economic prosperity, safety and social connection.

The Council is progressing a plan change that will allow more residential living in the City Centre and a spatial plan to guide future development. This will be addressing the congestion, climate change and emissions problems but requires a step change in CBD maintenance to meet increased demands.

Further development of neighbourhood centres, eg Victory, Tahunanui, is required before transport funding can be allocated to support these centres. Strong neighbourhood centres have the advantage of services within walking and cycling distances to reduce congestion but can have adverse community effects of segregation and lost cohesion.

Options considered to address the concerns of the retailers and their customers are:

Option 1: Reduction in CBD renewal budgets in years 1-3 while Bridge Street upgrade works are on site, and step changes from year 4. Increase maintenance budgets from y1 for Upper Trafalgar Street, Fiddle Lane, and Bridge Street from y3.

Option 2 retain 2021 LTP budgets and adjust LOS to suit.

Option 3 Immediate increase in upgrading the city centre amenity facilities to match the new palette and spatial plan with further step changes in the future. Increase maintenance budgets from y1 for Upper Trafalgar Street, Fiddle Lane, and Bridge Street from y3.

8.28.4 CBD - Surfacing Cost Service Risk

Test Levels of Service. Cost service and risk of the options to address the problem statement is summarised below in figure 8-29-1.

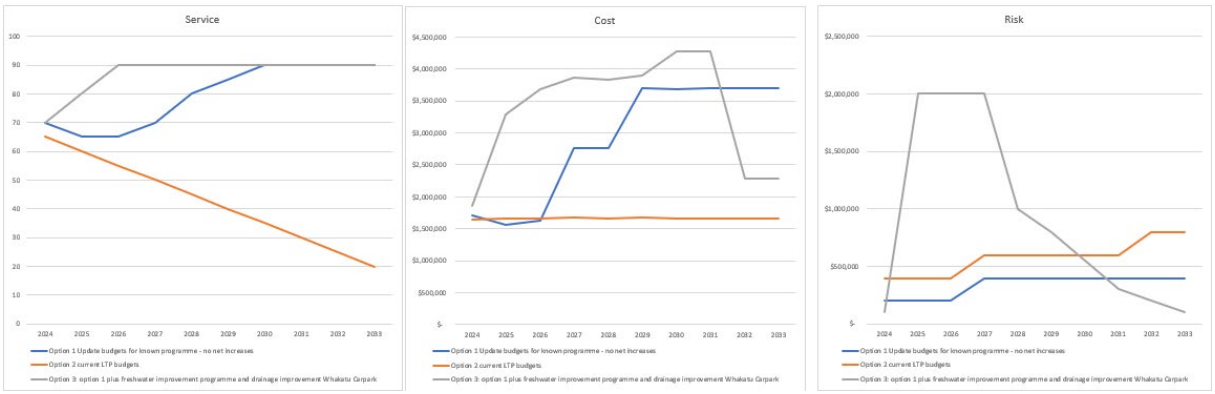


Figure 8-29-1: CBD Cost Service Risk

Option 2 has been funded through the 2024 long term plan with minimal increases in CBD budget.

8.28.5 CBD - Gap Analysis

The impact of Bridge Street redevelopment, or plan change are not yet fully understood because the design and materials palette are still under development.

Footpath crossfalls are generally greater than 2% in the city centre. Like for like renewal will not address footpath crossfall issues without major works which are not planned at this stage but may be identified as the programme planning is developed.

The City Centre is affected by predicted sea level rise. The design response is yet to be developed with the community

CCTV has been provided to date in areas agreed with Police to need more monitoring to support the Alcohol Ban Bylaw and alcohol related crime issues. Supply of CCTV outside these areas (eg bike shelters) is being requested by the community.

8.28.6 CBD - Operations and Maintenance

Operations and maintenance include:

- CCTV in the City Centre, Stoke centre, skatepark, and Victory centre.
- Wifi in the City Centre.
- Uniquely Nelson.

- 700 Hanging baskets, per summer season.
- Routine litter bin clearance and maintenance.
- Operational overheads, of rates, water supply, valuations and insurances.
- Cleaning, street sweeping.
- street furniture maintenance.

CCTV and Wifi are not owned by Council and are provided as a service. More CCTV sites would require additional Opex investment.

8.28.7 CBD - Renewals

City centre brick paving is approaching end of life. Maintaining this is becoming more expensive because there are no more bricks available. The bricks require regular maintenance to reduce tripping hazards and this can result in breakages hence renewals are needing to be planned.

8.28.8 CBD - Renewal and improvement ranking criteria

Major renewals are being deferred until Bridge Street upgrade is complete and further CBD upgrades identified.

Stoke programme will be managed to suit New World and Whareama redevelopments.

8.28.9 CBD - Summary of future renewal costs

Redevelopment of the City Centre like Upper Trafalgar Street and Bridge Street result in LOS changes that need to be accommodated in future CBD budgets. Typically, areas that become more pedestrian friendly incur higher maintenance and cleaning costs.

8.28.10 CBD - Acquisitions

The City Centre Development team lead major upgrades (eg Bridge Street). These become acquisitions to the transport portfolio when complete. The city Centre team are currently considering the plans beyond Bridge Street upgrade.

Youth Council is undertaking a Green Lane – Climate Change awareness project in Fiddle Lane and Kirby Lane in 2023/24. Fiddle Lane works will vest as a CBD asset for future operation and maintenance. Kirby Lane is expected to remain in private ownership.

8.28.11 CBD - Disposals

N/A

8.28.12 CBD - Preferred Programme

The preferred programme is option 1: Reduction in CBD renewal budgets in years 1-3 while Bridge Street upgrade works are on site, and step changes from year 4. Increase maintenance budgets from y1 for Upper Trafalgar Street, Fiddle Lane, and Bridge Street from y3.

8.28.13 CBD - Procurement

Cleaning, maintenance and street furniture renewals re through the appropriate maintenance contract.

8.28.14 CBD - Risks

Risks specific to the CBD activity are:

Risks - CBD							
Identification		**Analysis: Residual Risk**				**Response e.g. Accept, Reduce, Share**	**Treatments**
Event Description	**Consequence**	**Existing Controls**	**Consequence**	**Likelihood**	**Current Risk Level**		
New palette materials require higher maintenance than forecast	Budget shortfall requiring reduction in LOS	Reduce LOS	**4**	**4**	High (16)	**Accept**	Request higher budgets in 2027 LTP. Determine appropriate LOS
Retail shift to online, The Junction or Richmond	Low CBD vibrancy and demand for services, and rental/rates income	refer City development AMP	**4**	**4**	High (16)	**Reduce**	Coordinate with City Development team
Change of use for private land holdings	Unplanned effect on transport services	Resource Consents	3	3	Medium (9)	Manage	Transport involvement in preapplication and consent checking processes
Changes to bus depot and services	Changed demands for connecting transport services	RPTP and bus depot business case	3	4	High (12)	Manage	Consultation, coordination with City Development team and public transport

8.28.15 CBD - Improvement Plan

Reference	ONRC Pillar	Description	Timing	Delivery	Cost
CBD1	Evidence	Estimate costs to maintain and renew new pallete materials	With Bridge Street development	Transport and Bridge Street teams	Staff time
CBD2	Communication	Determine new LOS for Bridge Street and redeveloped amenity areas for cleaning etc	With Bridge Street development	Transport and CBD teams	Staff time

8.29 Carparking

The following section shows how the preferred programme affects the councils parking assets and services.

Parking regulation is a separate unsubsidised transport activity to manage the stationary vehicle aspects of the Traffic and Parking Bylaw. This includes monitoring the payment parking zones and issuing infringements and collecting fines.

8.29.1 Carparks - Physical parameters

Public parking areas are managed at Buxton Square, Montgomery Square, Millers Acre, Strawbridge Square, and behind the Stoke Fire Station. Carpark assets include lighting and signs.

Carpark	Area	Number of Carparks	Average Age
Buxton	10,964m2	313	40 years
Millers Acre	3,542m2	61, 1 EV charging station, High use by buses	16 years
Montgomery	13,166m2	274, Used by Saturday Market	35 years
Stoke Fire Station	2,783m2		12 years
Strawbridge	6,810m2		26 years
Whakatu	2,611m2 (excluding concrete area)	166	23 years
41 Halifax Street	775m2	24	

8.29.2 Carparks - Asset Condition

Carpark pavement condition is good considering the documented age of some carpark surfaces. Age is to be reviewed and confirmed. Condition of carpark entrances off Collinwood Street and Rutherford Street are poor.

Signs and lighting condition are good/average but condition data is out of date so requires updating to be confirmed. Whakatu carpark is low lying and floods with king tides. This is expected to become worse with predicted sea level rise.

Parking supply continues to meet demand. However many people prefer free parking so park on the fringes, or free parking opportunities. This limits the income potential of the paid parking areas. Better reporting of the parking demand is required to implement and monitor the Parking Strategy.

Traffic and Parking Bylaw, and resolutions under that bylaw, determines the scope and extent of parking regulation required. Only parking aspects are covered by this AMP. All other aspects are investigated through the subsidised and unsubsidised transport programmes, established by Council resolution and are enforced by New Zealand Police.

The new bylaw includes state highway 6 between Peace Grove, north of Trafalgar Street and Annesbrook Roundabout.

8.29.3 Carparks - Link to Strategic Case

Parking supply contributes to the AMP problems. These are extensive areas of impermeable surfacing, generally black which contribute to global warming, and poor freshwater outcomes as vehicle pollutants and high temperature first flush water go directly into the waterways.

Parking benefits the broader outcomes sought by Council of economic prosperity, access and inclusiveness. Parking is highly valued by the City Centre and Stoke Centre retailers. The parking areas are also used for a variety of activities including markets and assembly for parades.

Parking regulation enforces fair access to parking facilities. A good regulation framework aids road safety outcomes and can also assist with congestion as it can be a deterrent for private vehicle use when other alternatives are available.

8.29.4 Carparks - Cost Service Risk

Not assessed.

8.29.5 Carparks - Gap Analysis

A parking building was considered in the Parking Strategy in 2021 and discounted in favour of travel demand and parking supply management. Higher parking fees are not considered in this AMP.

Carpark valuations are low compared to the cost estimates to resurface the parking squares. Review of the valuation data is required to correct depreciation calculations.

Flooding of the Whakatu carpark. Backflow prevention on the stormwater network maybe adequate to reduce the flooding occurrence Options require development alongside, or after the area wide stormwater upgrade programmes.

There is a demand for parking for large vehicles (Campervans for visitors to the City) that is not well catered for.

Resourcing enforcement of the Traffic and Parking Bylaw is a service gap during peak demand times.

8.29.6 Carpark - Operations and Maintenance

Operation and maintenance includes:

- Maintenance of the carpark surfaces
- Maintenance of signs and markings for the parking regulation
- Maintenance and operation of parking payment machines, website and App
- Carpark lighting, power supply, compliance inspections and maintenance
- Management of parking restrictions, fees or time limits through the Traffic and Parking Bylaw

- Street sweeping, street tree and drainage maintenance for carparks is included with the general CBD programme.

8.29.7 Carpark - Renewals

Renewals for carparks include:

- Carpark surfacing
- Carpark pavements
- Renewal of signs for parking regulation
- Renewal of lighting
- Parking regulation equipment

Phones (4off) and personal printers (5off) carried by Parking wardens require renewal. Phones have a 3year lifespan, and printers 5years.

8.29.8 Carpark - Renewal ranking criteria

Carparks renewals are managed and prioritised in similar ways to general road assets of the similar class.

8.29.9 Carpark - Summary of future renewal costs

Resurfacing of the carparks has been deferred since the 2021 AMP programme. Stoke carpark renewals would be coordinated with the Stoke New World redevelopment approximately y4-7. Further work is required to refine the future surfacing and carpark lighting renewal programmes. Renewal of the parking meters is required in 2030.

Budgets set in 2021 and required for the preferred programme are shown against the valuation forecasts in figure 8-29-4. Carparks are suspected to be undervalued, compared to cost to renew. There is low confidence in the future programme until this is reviewed.

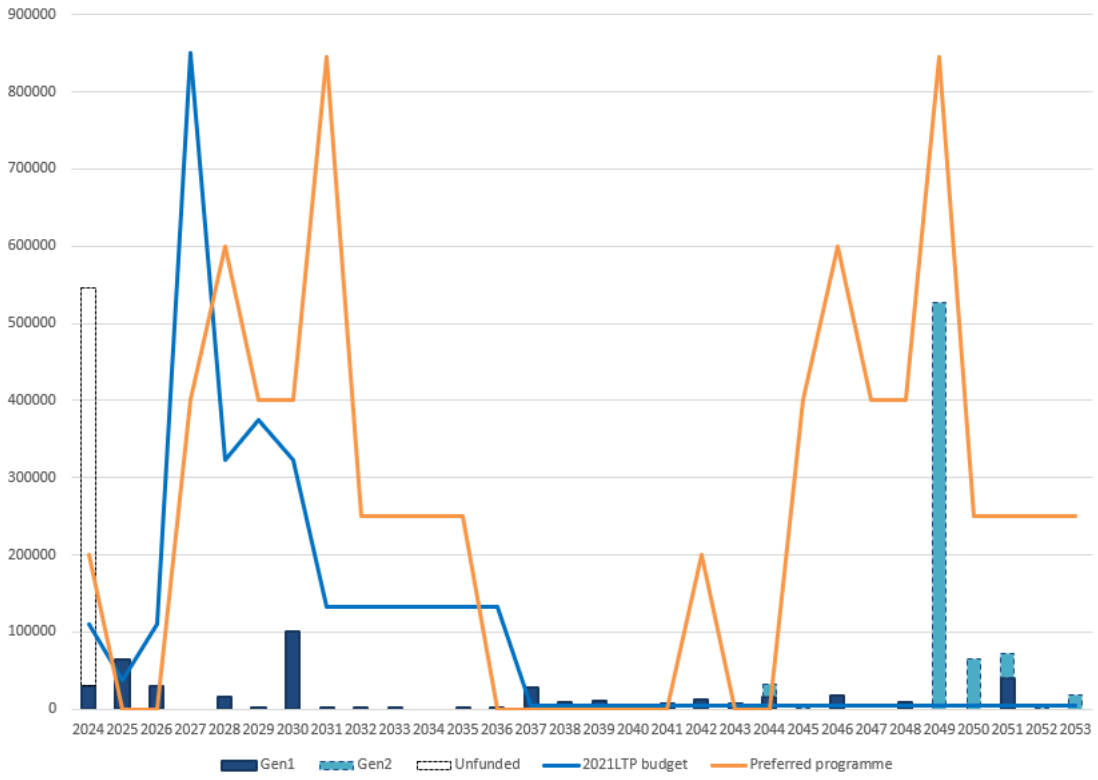


Figure 8-29-4: Carpark surfacing and lighting renewals

8.29.10 Carpark - Acquisitions

A new carpark is planned for 41 Halifax Street. This is 775m2 (24 carpark spaces) and offsets some parking to be lost when Millers Acre is converted to a bus interchange. This and other new carparks planned for Rutherford Park and Haven Road will require future increases in operating and maintenance budgets.

The state highway between Peace Grove north of Trafalgar Street and Annesbrook Drive roundabout will be enforced by Council by delegation from NZTA through the Traffic and Parking Bylaw. The cost to enforce regulation is expected to exceed any income from fees. The new bylaw also allows permits regulation of other areas of Council land for parking time or fee limits. The cost to manage these areas would become included in this activity when resolutions were made.

Development of a new mapping system to present and monitor restrictions is planned for 2024. It will require ongoing administration but will improve clarity and access to location and definition of restrictions applied by resolutions.

8.29.11 Carpark - Disposals

Millers Acre is to become a bus interchange. This will be a loss of 2700m2 (61 carpark spaces) of carpark asset.

8.29.12 Carpark - Procurement

Carpark maintenance and renewal activities and parking surveys are undertaken by the respective maintenance contractor. Operation of the parking meter system is undertaken by the service provider. This will be retendered for a renewal of the system in 2030.

The parking strategy, management of parking bylaw requests are undertaken by staff with assistance from specialist consultants when required.

The parking enforcement will become an internal Council function from July2024.

8.29.13 Carpark - Risks

Risks - Parking							
Identification		**Analysis: Residual Risk**				**Response e.g. Accept, Reduce, Share**	**Treatments**
Event Description	**Consequence**	**Existing Controls**	**Consequence**	**Likelihood**	**Current Risk Level**		
Uncertain future demand for central long stay parking from increased central city living	Parking demand exceeds supply and results in conflict with inner city retail parking	Monitoring	3	5	High (15)	Reduce	Parking Policy review
Inadequate on-road residential parking	Unsafe parking or installation of no-parking lines leading to public dissatisfaction	Travel Demand Management and local engagement when modifying on-road parking	2	4	Medium (8)	Manage	Consider aged population, technology and mode share considerations in all asset management decisions. Monitoring and consultation with stakeholders and customers
Inadequate road width to accommodate all desired transport mode facilities (footpaths/ cycleways/traffic lanes and parking)	One mode or user will need to change	Consultation and use of multi-criteria analysis for business cases	3	5	High (15)	Reduce	Consider aged population, technology and mode share considerations in all asset management decisions. Monitoring and consultation with stakeholders and customers

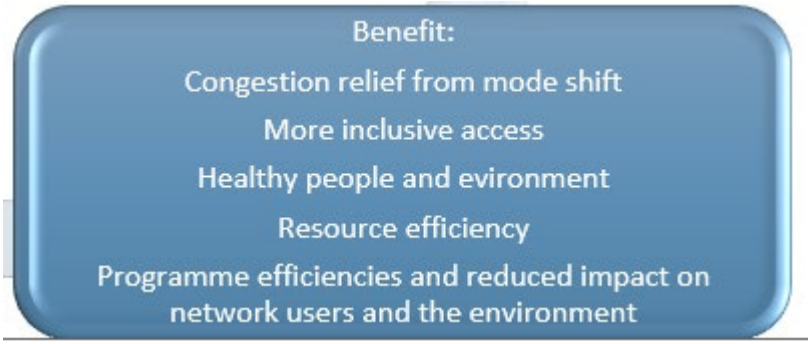
8.29.14 Carparks - Improvement Plan

Ref	ONRC Pillar	Description	Time	Who	Current status	Cost
Park 1	System	Undertake a review of the Vehicle Control and Parking Bylaw	2023	Asset management	Underway	Est $50,000
Park2	Evidence	Determine operating and maintenance requirements for new carparks at Paru Paru Road and Haven Road	2024-27	Asset management, operations and Council	Not started	Staff time plus future est $10k per year
Park 3	Evidence	Confirm age, condition and valuation data of assets	2027	AM and Operations and accounts	Not started	TBC
Park 4	Evidence	Improve parking demand reporting	2024	Asset Management	Underway	Staff time
Park 5	Resource	Employ 0.5FTE to manage parking strategy and parking demand	2024/25	Operations and HR	Not started	Est $50,000 per annum
Park 6	Service Delivery	Investigate electric charging for Electric Vehicles	2021-27	Asset Management and Planning	ongoing	TBC plus Staff time
Park 7	Service delivery	Sump filters on carpark sumps for freshwater quality improvement	TBC	AM and operations and Environmental	Trial completed	Est $50,000 plus $5,000 annual maintenance costs
Park 8	Service Delivery	Drainage improvement in Whakatū Square to prevent/minimise tidal inundation.	2027	Asset management and Operations	Awaiting utility upgrade plans for Rutherford Street and Bridge Street areas	TBC
Park 9	Service Delivery	Develop the parking policy.	2022	Asset management	complete	
Park 10	Resource	Map the traffic and parking restrictions and make available to the public in a web map	2023/24	Asset management/ Operations and GIS	Underway	Staff time or $70,000 for an external resource
Park 11	System	Review the Traffic and Parking Bylaw within 5year mandatory timeframe	2027	Transport and legal	Not started	$50,000 plus staff time

9. SUSTAINABILITY

The Local Government Act 2002 requires local authorities to take a sustainable development approach while conducting their business, taking into account the current and future needs of communities for good-quality local infrastructure, and the efficient and effective delivery of services.

Sustainability is achieved from the environmental impact / climate change benefits:



Transport assets and service delivery are also key to helping the public address their collective emission reduction requirements to provide the congestion and economic productivity benefits.

This section reviews both the positive and negative effects of the transport activity and ensure that the negative effects have adequate mitigation measures in place.

9.1.1 Negative Effects

Effect	Description	Mitigation Measures
Noise Generation	Vehicle use within the network produces noise. Social - The level of noise generated generally depends on the speed of vehicles, and the type of road surface and/or vehicle tyre types.	Speed management with adequate traffic calming to promote alternative forms of traffic to motor vehicles is programmed into this AMP. But will take time to deliver throughout the city and may never be complete so also relies on public compliance and enforcement by Police. Stoke Programme Business case is proposed to plan and cater for the right traffic on the right roads through Stoke. Planning for the right traffic on the right roads allows appropriate road surface treatment (eg asphalt) where the demand justifies the cost. The new Traffic and Parking Bylaw has provision to ban engine breaking in noise sensitive areas where

Effect	Description	Mitigation Measures
		heavy vehicles operate, especially at night/early morning. It is not yet clear whether the change from combustion engines to electric will change the noise profile and affect the demand for road surface treatments in the future.
Light	Light can have an adverse effect on neighbouring properties due to light spill. Environmental – Upward light spill can adversely affect user groups by 'polluting' the night skies. Lighting uses energy, which can appear wasteful if there are no users to benefit from the lighting.	The Council uses LED lighting. LED lighting provides improved light cut-off and direction control which minimises light spill and upward waste light and aims to achieve light levels at property boundaries in accordance with the district plan rules. The Council follow the NZTA M30 specification when selecting light suppliers. M30 specification considers dark sky principles. Future provisions to consider dimming or other controllable lighting to minimise energy consumption. Council selects energy providers with renewable energy sources when selecting power providers.
Vehicle Emissions	Vehicles using the road network produce emissions. Discharges from motor vehicles have the potential to diminish water quality in adjacent streams from surface water run-off from roads. Sumps in the roadspace also collect other waste materials, plastics and litter that then directly enter waterways. Air quality can be affected by exhaust emissions and dust generation from vehicles travelling on unsealed roads.	Compliance with vehicle emission standards is targeted at a national level with requirements for all vehicles to meet during testing for warrant/certificate of fitness and incentives to choose zero carbon propulsion vehicles. Vehicle emissions are increased under times of acceleration and braking. The Council can reduce the effect of this by reducing road speeds and the using traffic engineering design techniques which encourage smooth traffic flow on the main routes. The Council has shown leadership by purchase no or low emission vehicles and has included these requirements in supplier contracts. Sump filters have been investigated, and programmed subject to funding, to improve the quality of water entering the stream and rivers. These will however have maintenance and renewal implications. A long term option to increase the depth of the trap at the bottom of the sumps is also being phased in with new installations and will be required when the LDM is next updated. The transport team continues to work with wider Council teams, subject to resource availability and funding, to delivery messaging about what goes into sumps, stormwater planning, and options for network wide stormwater quality improvement.
Traffic Congestion	Increasing traffic volumes may result in congestion of urban arterial links. Traffic congestion causes delays to the road users and has the potential to affect the cost of freight/business activity. Heavy traffic can have the effect of prohibiting or discouraging people from crossing roads, limiting access to services and facilities. This is especially true for vulnerable forms of transport like walking or cycling.	E Tu Whakatu sets out the Councils plan to invest in walking and cycling infrastructure to encourage a greater proportion of people to walk or cycle in place of using motor vehicles. This is included in the programmes subject to funding. The Council has committed to improvements in public transport services to encourage the use of public transport over motor vehicle use. This has been jointly delivered with TDC to get regional services. Further improvements are subject to funding. Capacity projects are included in the AMP subject to funding. These are at early investigation stages and aim to increase capacity where small events affect the resilience of the whole network. Joint planning is required with TDC and NZTA.

Effect	Description	Mitigation Measures
Road Crashes	Road users risk potential crashes and associated injury or death.	The Council is investigating safer speeds to reduce the risk of an accident and to mitigate the impact should an accident happen. The Road Safety Programme targets vulnerable user groups based on the Community At Risk Register. The capital works programme includes changes to the road network to reduce the risk of accidents, subject to funding.
Community Cost	The costs of providing transportation services.	The Council is constantly trying to improve its right time right place decision making, forward works planning and alignment of works on roads to minimise disruption to users and maximise value for money outcomes. Sometimes this means all works done concurrently, sometimes they need to be staged and delivered consecutively. Improved use of economic assessment tools, (NPV and Benefit/cost) and the intervention hierarchy when selecting options to address problems. The Council uses a combination of in house services and competitive tendering processes to achieve best value for money for the works it undertakes. It also uses priority decision making tools to prioritise funding allocations.
Community Engagement	Degree of social cohesion, and resilience to change. System changes can be positive or negative for affected communities, and the perception that consultation must result in the individuals preferred outcome will continue to challenge social cohesion for transport projects.	Council is committed to better consultation processes. Resourcing, programmes and processes to consult better when delivering services and asset renewals and changes are included in the AMP subject to funding. Access improvements eg cycleways, have more scope for engagement prior to committing to a project or programme and a proposed methodology is included in this AMP subject to funding. Safety improvements, and intersection upgrades have less potential for community to influence decisions because of the complexity and risks involved.
Resilience	The impact of unplanned and planned events affecting people's ability to travel where they want whenever they want and by whatever mode they want. This can include weather events, road crashes, road works, utility upgrades, or other unforeseen occurrences	A programme to investigate/deliver resilience improvements has been included in the AMP programmes, subject to funding. These are aimed at identifying and delivering projects with positive NPV for resilience against natural events. Further programme development is expected as climate change mitigation, adaption and retreat plans are consulted with the communities. Council will continue to resource response to clean up slips and flood damage and reinstate road infrastructure and access.
Damage to Historic Sites	The provision of roads and transportation services has the potential to affect historic and wahi tapu sites.	The Council undertakes consultation with the Heritage NZ and local iwi prior to undertaking work to identify sites of significance to avoid these locations at an early point in the design phase of the project. The Council also maintains a record of known heritage sites. If a heritage site may be damaged or destroyed, due to the Council's work, a Heritage NZ Authority is required.

9.1.2 Positive Effects

Effect	Description
Economic Development	Provision of an efficient road network allows for the movement of freight and business traffic between key hubs and markets, therefore allowing economic growth and prosperity. Development of the City Centre and Stoke Centre to improve the economic viability and attractiveness of these centres as community hubs, subject to funding. Plans for other regional centres, Victory, Tahunanui, are yet to be developed to a stage where they can attract funding through the LTP process.
Safety and Personal Security	The Council aims to improve the safety of the transportation network for all modes of travel, for example this includes the implementation of the capital works programme subject to funding. The Council continues to work with stakeholders to address safety issues at personal levels through the road safety programme. These include young and aged drivers, distraction, and alcohol impairment issues.
Access and Mobility	The Council aims to provide a transport system that is integrated with land use planning, optimising access and mobility for all. Providing access also allows emergency services to access the majority of the community with ease. Accessible facilities and services are included in the councils programmes, subject to funding.
Public Health	The Council's management of the transport network encourages active modes of travel eg, walkways and cycleways which can enhance people's health and well-being, street gardens and trees, road sweeping and sump cleaning to remove pollutants before they enter waterways.
Environmental Sustainability	Maintenance contracts have the flexibility to introduce environmental initiatives, or trials to jointly improve the outcomes for the transport delivery programme. Problems are considered against the intervention hierarchy to test options with minimal infrastructure investment in the solution selection process. Designs consider carbon footprints throughout the process.
Economic Efficiency	The Council's management of the transportation activity uses best practice and competitive tendering to provide value for money for the ratepayers and provides jobs for contractors. The Council manages the transportation assets to optimise the whole of life costs to provide economic efficiency. This has included an increased focus on economic assessments, forward works planning for timing and resource planning.

9.1.3 Asset Sustainability

Sustainability ratios will become available in the future when asset data and forecasting reliability is improved as highlighted in the programme improvement plans.

9.1.4 Resource Management Act

The statutory framework defining what activities require resource consent is the Resource Management Act (RMA) 1991.

The RMA is administered locally by the Council, a Unitary Authority, through the Nelson Resource Management Plan (NRMP) which sets out Policies, Objectives and

Rules controlling activities to ensure they meet the Purpose and Principles of the RMA. Councils NRMP update (the Nelson Plan) is currently on hold awaiting the decisions to update the Resource management Act and Local Government Acts. This affects the proposed LDM update, road hierarchy and ONF updates because these are potentially linked to the Nelson Plan.

9.1.5 Resource Consents

Resource consents are required for some transport related activities. Consents currently held by Council are listed below in tables 9-2 and 9-3. Council wide freshwater and stormwater discharge consents are held by the utilities team. It is assumed these will remain as Council consents post Water Services Reform. Transport and Parks will have to manage future consent renewals. Short-term consents that are required from time-to-time for construction activities have not been included.

Location	Consent No.	Consent Type	Effective Date	Expiry Date
Urban area	RM205196	Land use - Noise - nightworks	29/1/2021	29/1/2036
Seafield Terrace/Athol Street The Glen	RM185430	rock revetment on DOC land – coastal marine	21/12/2018	Ongoing DOC licence fees
3 Brothers Corner Stock Effluent Facility	TBC – held by NZTA and landowner – refer boundary agreement	TDC - Land use	TBC	TBC

Table 9-2: Current Resource Consents specific to Transport Activities

Location	Consent No.	Consent Type	Effective Date	Expiry Date
City wide	RM175033	Water Permit – Divert - Work in streams – freshwater rules	12/5/2017	When Nelson Plan becomes operative
City wide	RM175025v1	Land use – disturbance of river or lake bed	3/8/2020	When Nelson Plan becomes operative
Connected to RM175025v1 and RM175033	RM205095	discharge consent hydroseeding	3/8/2020	
Council maintained roads and parks	RM205040	Chemical use – weed spraying	18/7/2021	8/7/2031
Managed by utilities	RM075499	Stormwater discharge consent to freshwater	19/02/2009	19/02/2044
Managed by utilities	RM075498	Stormwater discharge consent to coastal marine area	Nil	

Table 9-3: Current Resource Consents Council wide

Council has to consider how it managed future slip material off roads. This has been covered in the emergency response programme but could require future resource consents.

Additional resource consents may be required to allow for construction works involved with new capital or renewal projects where the scope of the project exceeds the permitted activities set out in the TRMP. A case-by-case assessment is undertaken at the beginning of each project to determine the resource consent requirements and an application is made if necessary.

9.1.6 Resource Consent Reporting and Monitoring

The Council aims to achieve compliance with all consents and/or operating conditions. The database is actively updated to ensure all consent conditions are complied with and that all relevant report requirements are adhered to.

9.1.7 Property Designations

Adoption of this AMP may require the Council to seek amendments or new designations for future transport corridors. This will be started appropriate to project programmes.

10. RISK MANAGEMENT PLANNING

A risk is any event that has the potential to impact on the achievement of the Council's objectives. The potential impact of a risk is measured by a combination of the likelihood it could occur, and the magnitude of its consequences on objectives. Risk is documented and managed by hierarchy using the fundamentals of International Standard ISO 31000:2018 Risk management – Principles and guidelines. This is shown in figure 10-1 below. Corporate and activity risks are managed centrally through Councils Promapp system. Corporate risk (also called organisational strategic risks) are reported to the Audit Risk and Finance governance meetings.

Figure 10-1: Risk Hierarchy Levels

An assessment of risks associated with service delivery will identify risks that will result in loss or reduction in service, personal injury, environmental impacts, a 'financial shock', reputational impacts, or other consequences. The Council's Risk Management Framework process is to capture and maintain information on identified risks using a risk register. The register uses the following key stages to manage risk: 1. Identify 2. Analysis 3. Evaluate 4. Treat 5. Review. The residual risk and treatment costs of implementing the selected treatment plan is shown in Appendix G.

Asset specific risks are listed in each programme in section 8 and are currently being reviewed into a more accessible format for use operationally.

Asset specific risks are managed through inspections/monitoring, contract and project controls.

10.1 Critical Assets

Knowing what's most important is fundamental to managing risk well. By knowing this, the Council can invest where it is needed most, and it can tailor this investment at the right level. This will avoid over investing in assets that have little consequence of failure, and will ensure assets that have a high consequence of failure are well managed and maintained. For transport these are access routes to infrastructure critical assets, single points of access to isolated communities and arterial corridors.

Critical Asset	Reason
Main Road Stoke, Saxton Road to Salisbury Road Waimea Road, Market Road to Beatson Road	No viable alternative route if the state highway is also compromised. Each road carries 20,000 VPD
Haven Road, Halifax Street, Rutherford Street, Waimea Road, Main Road Stoke	Heavy vehicle detour route if state highway is closed for emergencies
Nile Street, Maitai Road, Maitai Valley Road, Brook Street	Lifeline routes for water supply
Lifeline routes	Access for service providers and emergency services during and post events
Single access routes	Many roads are a single access to communities, eg Cable Bay, Marsden Valley.
Trafalgar Street Bridge, Collingwood Street Bridge	Criticality will be increased during 24-27 when Haven Halifax Street intersection is closed for major stormwater upgrade works. Both Bridges are weight restricted
Traffic signals	Intersection safety and efficiency
All other roads, structures and bridges	Access for residents and service providers

Table 10-2: Critical Assets

10.2 Infrastructure Resilience Approach

The resilience of our critical infrastructure is vital to the ongoing provision of an appropriate level of services to customers. This is currently managed through lifeline routes, critical asset and road hierarchy levels of service. To adapt to changing conditions we need to understand the community and the network capacity to 'withstand a given level of stress or demand', respond to possible disruptions and/or ensure continuity of service. This will be consulted with the community in 2023/24 to help Council form a Dynamic Adaptive Policy Pathway (DAPP) approach. The transport DAPP plan will consider the community views on adaption, mitigation or retreat and site specific risks to create a SMART framework to assess future demands and options.

Councils' response to the August 2022 flood events proved adequate response and recovery planning and crisis leadership. However, the August 2022 flood events depleted Councils' disaster recovery fund and recovery projects have been programmed over 5years. Council does not carry insurances for transport assets and relies on NZTA whose funding capacity has also been affected by Cyclone Gabrielle. Critical assessment of potential resilience and recovery projects is required against the intervention hierarchy, DAPP and economic criteria to ensure value for money outcomes.

11. FINANCIAL SUMMARY

This section contains the financial requirements resulting from the information presented in the previous sections of this Asset Management Plan. Costs for the first 3 years have a higher degree of certainty. Costs beyond this are less certain as it is difficult to predict local and global influences over the later part of the 10 year period.

Council undertakes annual reviews of budgets and 3 yearly reviews of long term budgets. Opex budgets are forecast for 10 years, and capital budgets for a 30 year period to align with the Infrastructure Strategy.

11.1 Accounting and financial data sources

This Asset Management Plan utilises accounting and financial data. The source of the data is transport valuations and the 2021-31 LTP and current cyclic contract commitments.

11.2 Asset management data sources

This Asset Management Plan also utilises asset management data. The sources of the data are:

- RAMM
- OBIS for bridges
- Retaining wall inspection reports
- Infor and GIS for urban drainage, street tree, garden and landscape furniture

11.3 Financial Statements and Projections

11.3.1 Funding and Affordability

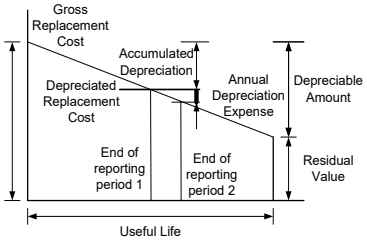
Nelson experienced a storm event in 2022 that created approximately $40M of damage to Council assets. This has created fiscal pressure so the funding envelope to be considered when preparing the 24-34 AMP is contained within the 2021LTP budget forecasts for years 4-10. There is also pressure on the network to perform in a manageable and sustainable way, while delivering the LOS outcomes, and problem benefits desired. To ensure adequate appreciation of the benefits, risks and LOS trade-offs several options have been prepared for consideration. One option is the current LTP budgets.

11.3.2 Asset valuations

The best available estimate of the value of assets included in this Asset Management Plan are shown below. Revaluations are updated annually. Infrastructure assets are values bi-annually internally at depreciation replacement cost by Council Engineers based on an internal valuation plus additions at cost less depreciation. For intervening years infrastructural assets have been revaluated in house by means of applying an inflation index. 2021-22 was a full valuation year and WSP New Zealand Ltd reviewed the valuation as at 30 June 2022. Work in progress is recognised at cost less impairment and is not depreciated.

Council has recently invested in the NAMS suit of tools and will be reviewing asset valuation methodology in 24-27 with the intention of migration to valuations via the internal module in RAMM. This should make asset valuations more accessible for asset management purposes and reduce the margin of error created by the current manual processes.

Current (Gross) Replacement Cost	$1,070,539,015
Depreciable Amount	$ 870,890,278
Depreciated Replacement Cost[5]	$ 807,810,606
Depreciation	$ 11,312,640



11.3.3 Valuation Forecasts

Asset values are forecast to increase as additional assets are added through projects and vested assets.

Additional assets will generally add to the operations and maintenance needs in the longer term. Additional assets will also require additional costs due to future renewals. Any additional assets will also add to future depreciation forecasts.

The total cost of asset creation is used to inform the new valuation, so include the design and professional service costs, and physical construction cost.

11.3.4 Contingency

Contingency is managed within the renewal programmes but deferring the lowest priority site if overspends are forecast.

Contingency is not proposed in the Opex budgets. Additional work is only undertaken for safety and emergency response works. If required Local share is overspent, and where possible balanced within the total subsidised and unsubsidised programme. NZTA share is reallocated from renewals (200 series) to maintenance / operations (100 series) within the subsidised programme when required.

Further contingency for the subsidised programme is achieved by allocation of staff time between subsidised to unsubsidised activity centres. External costs are prioritised for subsidy.

11.3.5 Inflation

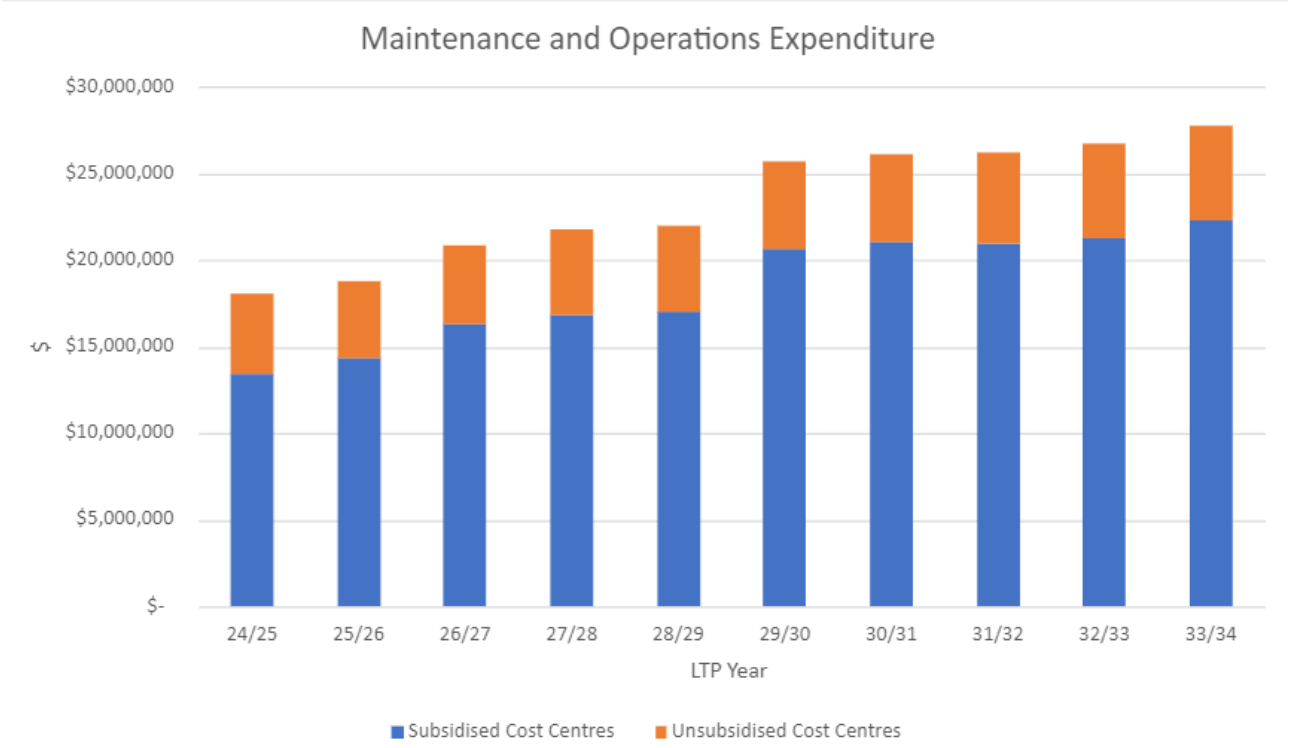
Inflation is not applied to costs forecast in the AMP. Costs since 2021 have been under high inflationary pressure, up to 7%, that was not anticipated in the 2021AMP because long term contracts were established and stable. These costs include high global inflation, wage increases, traffic management compliance costs

[5] Also reported as Written Down Value, Carrying or Net Book Value.

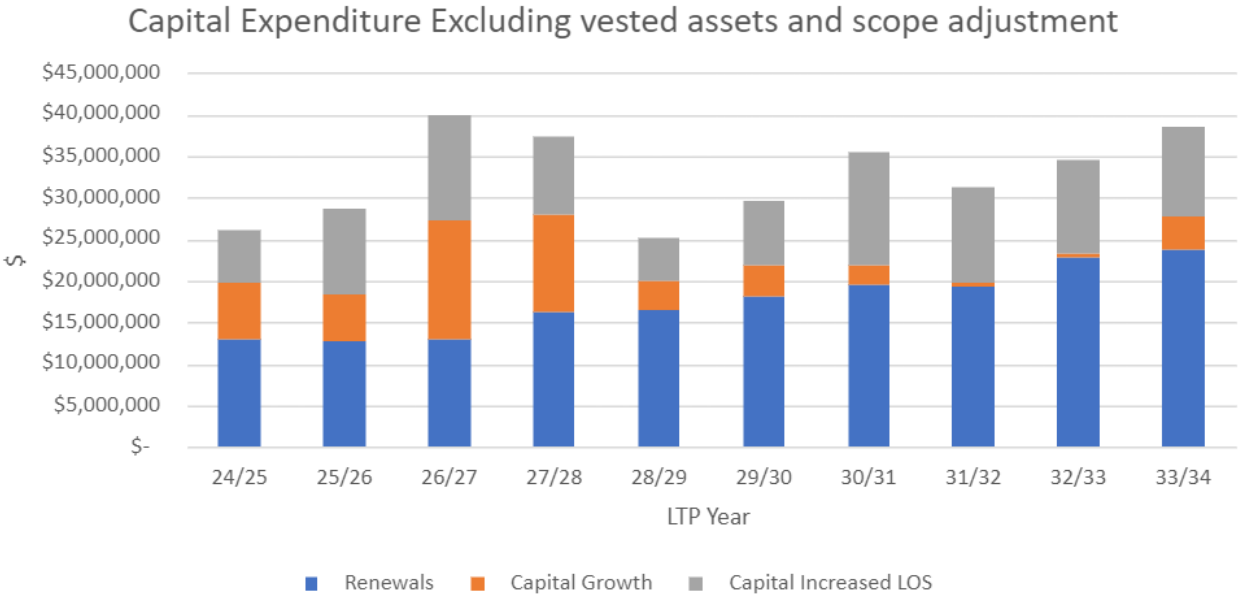
and waste disposal fees. Council costs are now affected by these pressures since all contracts have been retendered in 2022-2023.

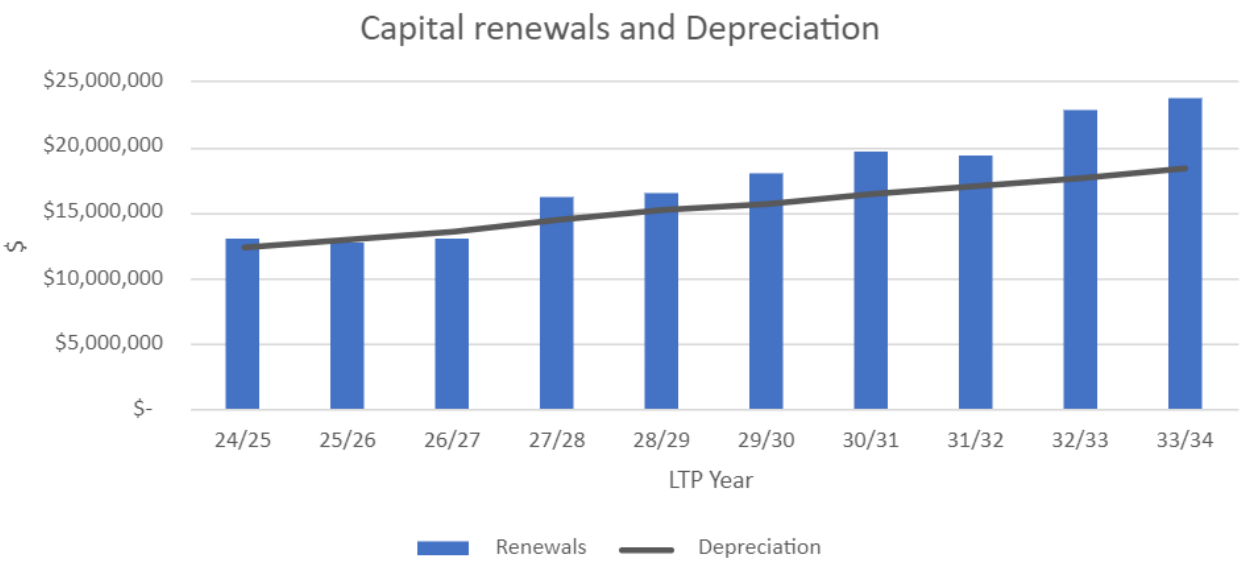
11.3.6 Forecast Costs (outlays) for the long-term financial plan

Operations and maintenance (excluding staff costs, finance costs and depreciation)



Renewals and capital expenditure





Detailed budgets are given in Appendix F.

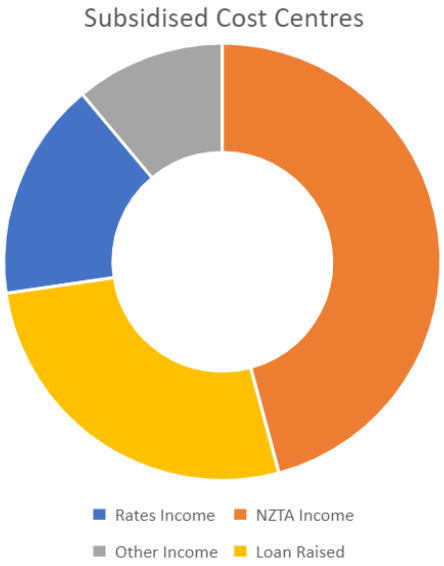
11.4 Funding Strategy

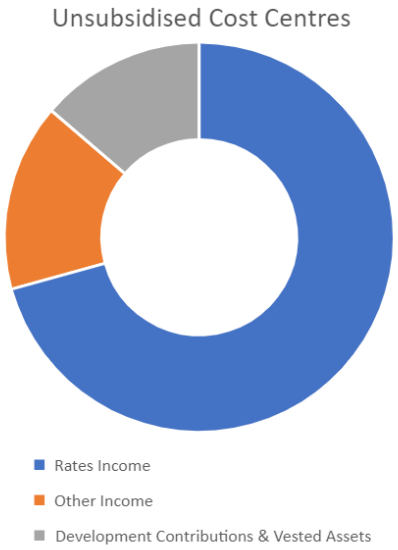
A Revenue and Financing Policy is required under the Local Government Act (2002) to provide predictability and certainty about the Councils sources and levels of funding for operating and capital expenditure and is included in the Councils Long Term Plan. This determines how funding will be provided, whereas the Asset Management Plan communicates how and when this will be spent, along with the service and risk consequences of various service alternatives.

Council gets funding from the NLTF. The funding strategy for the NLTF is determined by the Government Policy Statement and all activities receiving NLTF contribution must comply with the GPS and rules administered by NZTA and available though the Planning and Investment Knowledge Base. Council does self assessment of alignment as part of the AMP process. NZTA auditing confirms compliance at the end of the funding period. Significant non compliance can result in refunds back to the NLTF.

11.5 Sources of Funding

Split of funding sources is shown in the graphs below.





Specific sources of funding for each activity area is tabled below.

Account Number	Account Name	Operations and Maintenance	Renewals	Capital – Level of Service	Capital - Growth
5001	Subsidised Roading	Rates and NZTA Subsidy at FAR (currently 51%)	Depreciation and NZTA Subsidy at FAR (currently 51%)	Borrowing and NZTA subsidy at FAR (currently 51%)	Borrowing, Development Contributions and NZTA subsidy at FAR (currently 51%)
5002	Unsubsidised Roading	Rates, CAR fees, road encroachment licences fees and rentals	Depreciation	Borrowing	Borrowing and Development Contributions
5505	Parking Regulation	Rates and Parking Regulation Income	Depreciation	Borrowing	Borrowing
5510	Parking and CBD Enhancement	Rates and Parking Meter Income, outdoor dining fees	Depreciation	Borrowing	Borrowing
5560	Public Transport	Fares, Rates, TDC cost share, NZTA Subsidy at FAR and Crown appropriation for Supergold	Depreciation and NZTA Subsidy at FAR	Borrowing and NZTA subsidy at FAR	Borrowing and NZTA subsidy at FAR
5570	Total Mobility	Rates, TDC share and NZTA Subsidy currently 60%	Hoist renewals are cost share between operator and NZTA,	Borrowing and NZTA subsidy currently 60%	Borrowing and NZTA subsidy currently 60%

Account Number	Account Name	Operations and Maintenance	Renewals	Capital – Level of Service	Capital - Growth
			currently 60% FAR		

11.5.1 NZTA Funding

Nelson transport network is part of the national and regional transport network, The national benefit is recognised though subsidised Council receives from the National Land Transport Fund administered by NZTA. The current normal funding assistance rate from the NLTF is 51% with occasional exceptions on some specific projects or programmes.

In addition to subsidised transport costs Council receives income from NZTA state highway funds for shared paths on state highway road reserve that are managed by Council. These costs are generally split 50/50 and Council further receives FAR on its share. Council is investigating cost contribution for the state highway fund for when the local network is used as a detour route for state highway closures.

Emergency works are funded in accordance with the NZTA Policy. Typical years results in expenditure less than $100k per event and is funded at 51% FAR. The 2022 storm event resulted in emergency works funding through WC141 at FAR of 71%. Some recovery work are expected to continue into 2024-25 through this programme.

Occasionally projects or operations arise where a different FAR rate applies. Regional Ticketing solution receives 65% FAR which is assumed to reduce to 51% from 25-26. Some total mobility programmes receive FAR up to 100% and it is assumed these FAR will continue.

Public Transport services (bus services and electronic ticketing support via Otago Regional Council) are jointly delivery by Nelson City Council and Tasman District Council. Revenue is collected from the bus services by the fares charged to the customers. Cost sharing and revenue distribution is setout in the triparty contract with TDC and the bus services operator. Cost sharing, fare revenue and supergold revenue are deducted prior to NLTF cost sharing FAR being applied.

Tasman District Council contributes to total mobility services for the Nelson Tasman region. Fares are also charged to customers. This income is deducted from the costs prior to NLTF cost sharing FAR being applied.

11.5.2 Other funding Sources

Council works with internal teams for benefits to deliver to the community. Council will be applying to the Carbon Emissions Reduction Fund (CERF) for climate change mitigation, adaption or retreat funding for qualifying projects. Where these are managed by NZTA they are managed as subsidised projects.

Council aims to have 100% funding for activities that benefit others but it is most efficient for Council to manage supply of services. These include:

Activity	How costs incurred	Who pays
NZTA traffic signals	Electrical Maintenance Contract	NZTA – state highways
Tasman District Council traffic signals	Electrical Maintenance Contract	Tasman District Council
Private Streetlights	Unmetered power supply	Private streetlight owners
CAR/TMP	Staff / contractor time	Applicant

When a project is not subsidised council can choose to seek alternative funding, delivery as an unsubsidised project or cancel or defer the project to a later date. Scheduling is a strong influence when making these decisions. Questions include why now, what other programmes are affected (eg utility works), who benefits, what are the consequences of not doing the work.

11.5.3 Development Contributions Policy

Council has a Development Contributions Policy that is updated every three years. The policy calculates a growth portion for every piece of capital work that is funded in the LTP and collects development contributions from new development to fund this portion. The forecast values can be found in the Development Contributions Policy at https://www.nelson.govt.nz/building-and-property/property-land-use/development-and-financial-contributions/. These projects also attract depreciation and rates funding where they affect existing assets. Growth projects may also attract NLTF funding when they have a strong alignment with the GPS. LOS projects are included in the subsidised programmes when they align with the GPS and are accepted by NZTA for funding.

11.6 Key Assumptions Made in Financial Forecasts

In compiling this Asset Management Plan, it was necessary to make some assumptions. This is in addition to assumptions made for the Long Term Plan which are included in the references. This section details the key assumptions made in the development of this AM plan and should provide readers with an understanding of the level of confidence in the data behind the financial forecasts.

Key assumptions made in this Asset Management Plan are:

No.	Assumption	Degree of Risk or Uncertainty	Likely Impact if the Assumption is (or is Not) Realised or is Not Acceptable
1	Growth is based on figures provided by statistics New Zealand and Nelson City Council growth projections.	Low	Population growth has a minimal direct impact on the transport system. Network growth and demand changes are more significant.
2	The design life of assets used for valuations is a fair and reasonable assessment for this AMP but requires review to keep it current for changing environmental, material and	High	Changes in estimated asset lives could lead to significant changes depreciation and budgets. Unrealistic lives could however result in poorly informed future

No.	Assumption	Degree of Risk or Uncertainty	Likely Impact if the Assumption is (or is Not) Realised or is Not Acceptable
	use demands to help inform future planning scenario.		planning and a highly variable and reactive programme.
3	The replacement values are a realistic cost and have taken into consideration engineering fees, resource consents etc.	High	Unrealistic replacement values could result in significant over or under budgeting of renewals and projects. Valuation also affects the depreciation budgeting.
4	Projects, renewals and services with a low national priority, do not qualify for NLTF but can be delivered through alternative funding or rates funding only.	Med	Council can choose to progress work outside the NLTF but it has a higher rates impact, or costs to secure alternative funding.
5	Maintenance and operations allocations are largely based on maintaining current levels of service.	Med	High inflation, supply costs and network growth impact delivery costs. Most operation and maintenance budgets are set by contract commitments so limiting budgets requires contract variations to reduce service delivery. Budgets have a direct impact on LOS experienced by the customers and rate of deterioration of assets.
6	The National and Regional funding identified in the Regional Land Transport Plan will be supported in the National Land Transport Programme.	Med	Programme can be delivered (or if funding is not realised then programme is reviewed, or Council's share of project costs increases).
7	The NZTA financial assistance rates remain at 51% FAR.	Low	Increased rate payer contribution to maintain LoS if funding rate reduces, or reduced contribution and reduced LOS.
8	Tasman District Council will continue to contribute fair and equitable share to public transport and Total Mobility services for the Tasman region.	Low	Increased ratepayer contribution to maintain LoS if funding rate reduces, reduced services to Tasman region.
9	Public transport patronage will be at a level that continues to support the public transport level of service.	Med	Council has invested in new services that assume patronage demand. If the patronage is not realised or higher than forecast service changes could be required and Increased (or decreased) ratepayer contribution to maintain LoS. NZTA and Tasman funding may be withdrawn for poorly performing services.

No.	Assumption	Degree of Risk or Uncertainty	Likely Impact if the Assumption is (or is Not) Realised or is Not Acceptable
10	The Councils inflation rate accommodates adequate measure for fuel price fluctuations over the first 3 year term of the LTP and major changes can be adjusted with annual plan and LTP reviews.	Low	Cyclic contract escalations are calculated from the NZTA indices which have a higher weighting on fuel prices because of the nature of the works. Higher or lower inflation can misalign contract commitments with budgets. Indices for electric vehicles will change this impact.
11	Staff resources will be available to commission the scheduled projects, activities and actions. This AMP includes a high staffing demand requiring additional resources. It is assumed that better pre-engagement and assessment of project before commitment to a delivery programme will save time and money in the long term by filtering and committing only to supported and fundable investment.	High	If the additional staff are not realised to undertake project assessment and consultation programme delivery would not be realised and NZTA funding could be at risk.
12	Power supply prices will not increase/decrease significantly over the next 10 years.	Low	Supply costs for lighting and signals would increase/decrease. Unknown impact on supply and demand changes for electric vehicles and electric vehicle charging facilities.
13	Traffic and cycle counting surveys can adequately monitor vehicle and cycle demand on the network. Census results can adequately inform mode share and travel demand changes.	Med	Any significant decrease (or increase) in household travel patterns) may result in more or less congestion, demand for separated cycle facilities, parking changes, increased safety risks, or upgrading of intersections and links to occur at an earlier (or later) stage than presently proposed.
14	Parking meter revenue is realised as predicted.	Low	Increase (or decrease) in rates to balance car parking and CBD Enhancement account.
15	Tasman District Council and private industry will continue to promote free parking within Richmond.	Low	More or less free parking in the city centre. More or less parking charges.
16	It is assumed that natural disasters will occur with increasing frequency. This has been the experience of recent years and is consistent with predicted climate change impacts. The Nelson Tasman	Med	Financial impacts Funds may need to be reallocated to fund recovery and reinstatement. Planning for resilience projects and good scoping to ensure delivery mitigates risks and future impact costs are required to reduce this

No.	Assumption	Degree of Risk or Uncertainty	Likely Impact if the Assumption is (or is Not) Realised or is Not Acceptable
	Civil Defence Emergency Plan states that the most significant natural hazards for Nelson are: earthquakes (greatest impact) and flooding (most likely) slips (previous experience). The probability of a magnitude 7 earthquake in Nelson is 87% in the next 50 years, and 98% in the next 100 years. The probability of a magnitude 8 earthquake is 43% in the next 50 years, and 67% in the next 100 years.		risk to Med/low. No planning results in high risk of future response and recovery demands. It is unlikely these risks can be fully mitigated.
17	Resource consents: It is assumed that resource consents held by Council will not be significantly altered and any due for renewal during the life of the plan can be renewed accordingly. It is assumed discharge, and freshwater consents held by Council would remain with Council post Water Services Reforms. Future cost to renew these consents would transfer to Transport and Parks. Freshwater management is expected to incur significantly more compliance and management costs.	Medium	Staff resources have been requested in this AMP to manage drainage, and consents. Future costs have been planned as far as known, but could exceed budgets or predicted time scales. Conditions of resource consents altered and significant new compliance and activity mitigation costs.
18	Government Policy Changes: It is assumed that any future Government legislation changes will take into account the need for a stable working and statutory framework. The Government has made known its intention to reform the Resource Management Act 1991, to receive a report back from the Rules Reduction Taskforce, and to continue to seek ways of addressing housing affordability and social housing need. It has also introduced the Building (Earthquake-Prone Buildings) Amendment Bill which includes a requirement on Councils to complete seismic assessments	High	Financial impact resulting from a need to respond to significant legislation changes would impact on rates or fees and charges, staff resourcing, consents, cyclic contracts and programme delivery. The best possible prediction of impacts has been planned into the preferred AMP programme but may require adaption as more information and effects are known.

No.	Assumption	Degree of Risk or Uncertainty	Likely Impact if the Assumption is (or is Not) Realised or is Not Acceptable
	and to earthquake strengthen specified buildings. Water Services Reforms will take effect in 2026. Local Government reforms may take place, but this is not known at this time. It is assumed that Government will work with small councils to ensure that any legislative changes are managed appropriately.		
19	That Supergold patronage to public transport will remain within the funded thresholds even with the growth in demand from the aging population.	Low	Increased ratepayer contribution to the Super Gold scheme as the rate of over 65 bus patronage will exceed the CPI adjustment made to the current bulk fund allocation.
20	Community Connect patronage assumptions are reasonable, and NZTA funding would be available if exceeded. There is no data to accurately predict demand for this scheme due to new criteria and new public transport routes and contracts.	Med	Demand forecasts can be updated after 1 year of the new public transport services. NZTA funding will only be claimed for actual patronage, Additional funding would be requested if assumptions are exceeded.
21	Carbon costs have been accurately baselined in this AMP and will be a sound basis to monitor future change for both the transport activity and the public cost of using the transport system.	High	Increase or decline in carbon emissions are not accurately measured or reported. Councils emission targets are not met.
22	Coal tar can be managed on site wherever possible and costs to dispose of it to landfill can be accommodated within the programme as needed. Assume coal tar disposal costs when incurred can be subsidised, if incurred as part of the subsidised programme	Medium	Costs are not included in economic assessment for projects and rehabilitations, but need to be included in contingency costs and investigated as far as possible to inform management and disposal planning. Reduced or deferred programme to accommodate costs when they are incurred.
22	Transport services demands are increasing and could eventually outweigh physical (capex) provisions in the long term. Services that have typically been owned and operated by council will become services contracts as the	High	Increasing Opex demands.

No.	Assumption	Degree of Risk or Uncertainty	Likely Impact if the Assumption is (or is Not) Realised or is Not Acceptable
	technological LOS increases for customers.		
23	Council commitment to consultation requires more engagement with Iwi, stakeholders and community before a project or change is committed to the transport system. It is assumed that good use of evidence and optioning will result in strong support and easy delivery, but poor options will require adoption of status quo, rework or new options. Intersections are a technical assessment, with a safety focus, so have less opportunity for community influence of options so less pre-engagement would be undertaken in favour of informing through project delivery programmes	High	Engagement can result in delays to projects but is expected to be outweighed by community support and lower delivery costs for successful projects. Additional staff resources are required to option, assess and consult projects well. Poor programming can result in consultation fatigue, community backlash and cost over runs with no project delivery. Additional resources and programme require strong management and oversight to minimise delivery and resourcing risks.
24	NZTA will subsidise land purchase costs for NFAS Waimea Road priority bus lanes	Med	Unsubsidised land costs would be a high demand on the ratepayer and could result in the Waimea Road priority lanes not progressing.
25	Staff do not have capacity and skills to setup valuations in Ramm so consultant costs are required	Low	Consultant costs to support transfer of valuations to RAMM. Ongoing manual management of RAMM and valuation data is required if not transferred.
26	ADMS will not require council to engage professional services skills to implement changes.	Med	No additional resources or consultant costs have been budgeted so would require change in programme or additional budget if required.
27	S17a reviews are required for all programmes/contracts more than $1M. Independent external professional services are required to facilitate quality S17a reviews of electrical and road maintenance contracts due to complexity and value and to ensure non-biased assessment.	Low	Consultant are required and reviews are expected to build on reviews done in 2021/22.

No.	Assumption	Degree of Risk or Uncertainty	Likely Impact if the Assumption is (or is Not) Realised or is Not Acceptable
28	GHD Max products would continue to be engaged for the duration of the current road and electrical maintenance contracts to assist with data quality improvement, and provide contract monitoring tools	Med	Alternative monitoring framework is required if GHD Max is discontinued. An independent system is still required so Council is monitoring Major contracts independently of the Contractors performance system. Improved resourcing to manage RAMM and minimise data quality errors has been factored into cyclic contracts, projects, and staff resourcing requested in this AMP.
29	TDC and NCC will not merge in the next 3 years	Low	Most systems and planning are aligned but direct impacts to staff, suppliers and communities would require significant comms planning.
30	Ministry of Education School bus services will continue in current format. If they cut services PT will need to scale up operations on affected bus routes. Most impact will be for services in the Tasman Region.	Med	New and adjusted service timetables and routes. More overflow buses at peak school times. Higher demand than estimated for community connect fares. Reduction in school bus services could provide opportunities for active travel and traffic calming around schools.
31	NZTA Consistent condition assessment cost increases can be accommodated. Programme costs are high than previously budgeted.	Low	Increase budget request for CDCC programme.
32	Dump site fee increases of $10/tonne will be passed directly to the Council via contract costs. These have been budgeted by a 5% increase to some rates for LTP year 1 budgets. It is assumed this and future inflation indexation will be adequate to accommodate cost increases.	Med	Reduction in operation, maintenance and renewal programmes to accommodate cost increases within budget. Cost increases and reduction of capital programme to progress some sites at the expense of others to manage budgets.
33	An estimated 10% cost increase of moving to NZGTTM (contractors do the risk management) has not been included in budgets because Council is currently remaining with NZCoPTTM.	Med	Reduction in operation, maintenance and renewal programmes to accommodate cost increases within budget. Cost increases and reduction of capital programme to progress some sites at the expense of others to manage budgets.

No.	Assumption	Degree of Risk or Uncertainty	Likely Impact if the Assumption is (or is Not) Realised or is Not Acceptable
34	The City Centre bus terminus will move from Bridge Street to Millers Acre in 2026 because of proposed works on Bridge Street. It is assumed NZTA will co-fund the establishment, operation and maintenance of the new facility.	High	Shifting of the bus terminus incurs many operational changes and new costs associated with owning and running a customer service system. -NZTA funding may be for 51% or less of the costs. Less subsidy will result in higher rates impact. Alternative funding could be sought, eg private investment, but has not yet nee investigated. Alternative and co-use of facilities by Council or private operations to reduce costs has not yet been investigated.
35	Roadside vegetation can be managed within forecast budgets regardless of methodology changes required for safe delivery of services.	Med	Higher or lower costs for service delivery. Consultation with the community about their responsibilities to maintain road frontages and overhanging vegetation. A future Roadside Vegetation Management Policy is required to clarify the Councils service commitments to the community, and where adjoining landowner responsibilities lie.
36	Land purchase costs for the Waimea Road priority lanes are included in the business case programme budgets	High	Project could be unviable if land purchase is additional to programme budget estimates. To be quantified through the detailed business case process in 24-27.
37	Valuations are a close representation of the renewal cost of assets and have been used to set the long term programme.	Med	Slower or faster renewal of some assets within budget, funding shortfall (defer renewal) or savings for large items.
38	PT electric buses will not be subject to Road user charges	High	Funding shortfall

11.7 Forecast Reliability and Confidence

The forecast costs, proposed budgets, and valuation projections in this AM Plan are based on the best available data. For effective asset and financial management, it is critical that the information is current and accurate. Data confidence is classified on a A - E level scale[6] as tabled below.

[6] IPWEA, 2015, IIMM, Table 2.4.6, p 2|71.

Confidence Grade	Description
A. Highly reliable	Data based on sound records, procedures, investigations and analysis, documented properly and agreed as the best method of assessment. Dataset is complete and estimated to be accurate ± 2%
B. Reliable	Data based on sound records, procedures, investigations and analysis, documented properly but has minor shortcomings, for example some of the data is old, some documentation is missing and/or reliance is placed on unconfirmed reports or some extrapolation. Dataset is complete and estimated to be accurate ± 10%
C. Uncertain	Data based on sound records, procedures, investigations and analysis which is incomplete or unsupported, or extrapolated from a limited sample for which grade A or B data are available. Dataset is substantially complete but up to 50% is extrapolated data and accuracy estimated ± 25%
D. Very Uncertain	Data is based on unconfirmed verbal reports and/or cursory inspections and analysis. Dataset may not be fully complete, and most data is estimated or extrapolated. Accuracy ± 40%
E. Unknown	None or very little data held.

The estimated confidence level for and reliability of data used in this AM Plan is shown below.

Data	Confidence Assessment	Comment
Demand drivers/ problem evidence	B-C	Ongoing evidence evolution in a high state of change from climate and public transport demands
Growth projections	B	Reliable data sources
Acquisition forecast	B-C	Network growth from subdivisions may slow due to economy pressures. Acquisitions from capital works programme is subject to budget availability, consultation and delivery resourcing.
Operation forecast	B-C	Estimates for consultancy services will vary depending on scope of work, and internal ability to resource. Condition assessments are generally known.
Maintenance forecast	B	Based on contract commitment where known, and an allowance for disposal costs of waste materials.
Renewal forecast - Asset values	C	Based on known rates where possible, but low contingency allowance for unknowns and risk. Investigation and NPV not done for all renewals at time of AMP and may vary final programme
- Asset useful lives	C	Highlighted through AMP programmes where these are questioned.
- Condition modelling	C-D	First version of pavement deterioration modelling and subject to site validation and review. Modelling was done using data before ebuses and 2022 flood event so less confident in reloability
Disposal forecast	B	Low rate of disposal of assets.

Table 11-2: Confidence in AMP forecast Budgets

11.7.1 GPS Alignment — Self Assessment

The projects listed below are included in the 2024–27 NZTA funding application.

Project	GPS Strategic Priority	Focus	GPS Alignment	Scheduling	Efficiency	Nelson Priority	Assessed NLTF Priority
Maintenance, Operations and Renewal programme	High		High	High	High	High	High
LCLR programme	Med	Med	Med	Med	Med	Med	Med

12. ASSET MANAGEMENT PROCESES AND PRACTICES

12.1 Asset Management Process

Good quality data and asset management processes are the heart of effective planning. This section outlines our approach to asset management, our processes, and provides an overview of the data management systems and strategies that underpin our transportation activities.

12.2 Appropriate Practice Levels

The Office of the Auditor General (OAG) has chosen to use the International Infrastructure Management Manual (IIMM) as the benchmark against which New Zealand councils measure their activity management practices. There are five maturity levels in the IIMM; Aware, Basic, Core, Intermediate and Advanced. The IIMM sets out what the requirements are for each level against each area of the activity management system. The Council has determined that the appropriate level of practice is Core plus through the Asset/Activity Management Policy 2010. NZTA and Te Ringa Maimoa systems are however aiming for higher standards.

12.3 NZTA/NCC Procurement Strategy

Council has current Procurement Strategy endorsed by NZTA: Part A Infrastructure, and Part B Public Transport Strategy which is jointly prepared with TDC. These are due for renewal by 25 February 2025.

The next review of the Infrastructure Procurement Strategy will show how the programme resulting from the AMP will be delivered.

Changes through the 2021 Strategy include:

- Separation of maintenance and renewal items except resurfacing to allow renewals be tendered as packages to wider markets.
- Protection of the Road Maintenance contract from project delivery works that can upset resourcing plans while the maintenance improvement programmes are embedded.
- Identification of all procurement activities undertaken to manage the transport network.
- Consideration of the stages of project delivery, including investigation and design where these can exceed $100k.

The next Procurement Strategy is expected to consider:

- The slower subdivision and construction market to maximise work packages to the civil construction industry
- wider consultation with stakeholders and contractors in the development stages. Council is already working with the maintenance contractors to ensure delivery of the increased maintenance and renewal programmes to meet the network demands.

- packaging of works to create programmes to minimise the effort required to create proposals from the tenderers and give longer surety of work, but a continual opportunity to secure future work.
- Packaging of rehabilitation sites for procurement to maximise the benefit of a second asphalt supplier in Nelson.
- Combinations of footpath, drainage and improvement works in packages of work where appropriate and packaging of programmes into smaller manageable contracts that are attractive to tier 2 and 3 contractors.
- Increasing the forward view so Suppliers and Council can communicate about the forward works opportunities and potential issues.
- Continue to build partnering relationships with suppliers. These are integral to the current maintenance contracts.
- Opportunities for greater Iwi involvement
- Assessment of the supplier risks especially for delivery of new pavement rehabilitation programmes and consideration of delivery through the maintenance contract.
- Inclusion of unsubsidised transport works, to follow the same process as subsidised works.

The 2024 Public Transport Procurement Strategy review is not expected to be significant because the 9 year bus contract was let in 2023.

12.4 Service Delivery Reviews

Council to reviews the cost effectiveness of its current arrangements for providing local infrastructure, services, and regulatory functions at regular intervals in accordance with Section 17A of the Local Government Act. Future reviews must be undertaken when the value of work is more than $1M per year and service levels are significantly changed, before current contracts expire, and not more than six years after the last review. Project works are exempt.

Table 12-1 below summarises the reviews that have been completed to date and when the next review is required for this activity.

Scope of S17a	Summary of Review	Review Date	Review next due
Road Maintenance	Previous contract was all inclusive of all maintenance, renewals and additional works. Review has separated renewals, except resurfacing into separate contracts	2022	2026, prior to the 5year review of the maintenance contract and to inform possible contract extension
Road renewals	Separated from the road maintenance contract but capital works programmes do not require S17a reviews	2022 with Road Maintenance	N/A

Scope of S17a	Summary of Review	Review Date	Review next due
Street Sweeping	Separated from the road maintenance contract.	2022 with Road Maintenance	2024 prior to 2 year review of the contract
Line marking	Separated from the road maintenance contract.	2022 with Road Maintenance	2025 prior to 2 year review of the contract
Electrical Maintenance	Retain streetlights and traffic signals in one contract and make clearer provision that TDC and NZTA signals are also included. Establishment of a joint governance body.	2022	2026 prior to next contract period
Traffic Counting	Refinements made to current contract scope and methodology.	2022	2026 prior to next contract period
Roadside Vegetation	Long term contract was reviewed for alignment with current and best procurement practices and update factors due to duration of contract. New contract being tendered in 2023	2022	2026 prior to the 5year review of the maintenance contract and to inform possible contract extension
Public Transport	Reviewed through the RPTP. A triparty contract was established and a joint governance structure with TDC reporting to a joint RTC	2021	Next RPTP review

Table 12-1: Section 17A Service Delivery Reviews

12.5 Governance

Nelson City Council comprises a Mayor and 13 Councillors, which provide governance for the transportation activity within Nelson City.

As a unitary authority, Nelson City is also represented on the Joint Regional Transport Committee with Tasman District Council. Nelson and Tasman Councils have aligned their Regional Land Transport Plans to produce a combined Top of the South Regional Land Transport Plan and Regional Public Transport Plan. Public Transport performance is all monitored through the RTC.

The Road Maintenance contract has a governance structure because it is the biggest delivery programme. The governance team consists of 2 Council staff, 2 contractor representatives, the contractor and councils contract managers. The governance board is responsible for delivering the LOS and contract performance management.

The electrical maintenance contract has quarterly meetings between the 3 principals, WTOC and the contractor to align work programmes and raise issues and future planning. This group oversees the arterial traffic because traffic signals and cameras are all installed at the highest volume locations.

12.6 Maintenance Management Plans

Performance through Road Maintenance contracts are measured by operational performance measures. The contracts are in their infancy so scoping and trend analysis is not yet possible. The first months of the new contracts were impacted by the 2022 flood event.

Maintenance management plans guide the intervention hierarchy for the road maintenance contract. These are under development with the road maintenance contractor. A pavement strategy is priority. Changes to the MMP to meet increased demand, or funding constraints would be agreed through the governance board and treated as a contract variation.

Electrical maintenance is also governed by the electrical supply regulations with primary focus on safety.

12.7 Decision Making

Councillors set out direction and budgets in three year block in the Long Term Planning process. The public are consulted on this plan through the Special Consultancy Procedure before the Council makes a decision to adopt. The Long Term Plan, can be varied through the annual plan process that the Council also have to adopt. If the annual plan is a significant variance to the Long Term Plan, the Council will consult with the public through the Special Consultancy Procedure.

The Council staff are authorised to undertake activities within the approved Long Term Plan budgets or as varied by the Annual Plan. The Council staff have authority to approve spending and maximise the efficiency of spending within the budget within activity up to an amount as described in the Delegations Register.

12.8 Smart Buyer Self-Assessment

Te Ringa Maimoa through the Procurement sub-committee determined that expertise and understanding of delivery models, industry practices and understanding the whole cost of maintenance creates 'Smart Buyers'. Smart Buyers have a better chance to making sound and informed decisions during maintenance contracts renewal and often have better outcomes. Smart Buyer Assessment are used by Road Controlling Authorities to determine where they can make improvements. This assessment has been undertaken by the Council and results are shown in Appendix K.

A score of 59 in this assessment show that the Council are developing as Smart Buyers. This assessment shows there are some areas that the Council can make improvements- which are included in the Network and Asset management improvement plan for actioning.

12.9 Asset Management Systems, Tools and Data

RAMM is the Councils main asset information system. Other systems are used in support of this including GHD:MAX which runs the maintenance contract performance monitoring, Junoviewer, Geosolve RRP, ArcGIS and NAMS. Particular emphasis is being placed on as built data going into RAMM then reflected into GIS systems for wider and public use for transport assets to embed the data

improvement practices. Using the data better is identifying more issues for data improvement. The current state of asset data is reflected in the Transport Assets and Services Register.

Self assessment shows Council is functioning in the Core range for asset management maturity. NZTA and Te Ringa Maimoa are however demanding a higher management maturity. This is a focus of the 2024-27 period. Most improvement can be gained from service delivery models, management systems, audit and improvement processes and risk and resilience planning.

12.10 Data Quality

Te Ringa Maimoa have led the transport industry in a data improvement programme and report data quality for agreed standards through their Insites tool. Councils data quality has improved through this programme. However, a continual improvement programme is required to embed the process changes required and use the data in effective and efficient manner. Data quality score is expected to drop with the higher performance criteria expected after AMDS migration.

Source: Te Ringa Maimoa Transport Insights

Te Ringa Maimoa Data Quality Score (out of 100)

2022/23

Nelson City Council
Data Quality Export

Te Ringa Maimoa
Transport Excellence Partnership

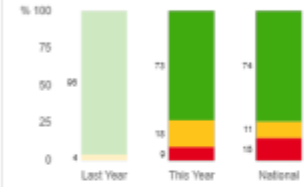
● Major Issues ● Minor Issues ● Expected Standard

Score

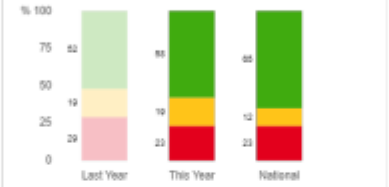
Overall Results

Results by Importance

High



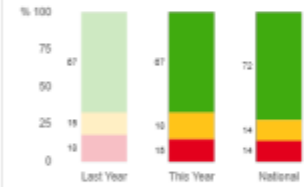
Moderate



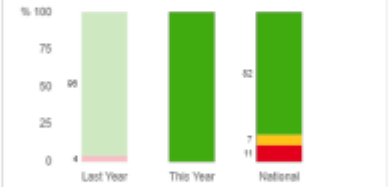
Low

Results by Quality Dimension

Accuracy



Completeness



Timeliness

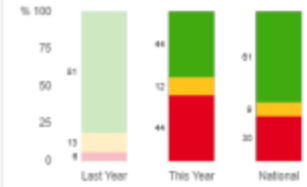
Results by Data Category

Network

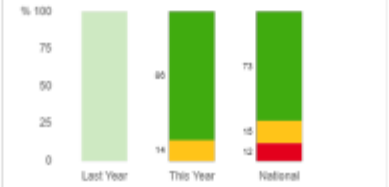
Asset Inventory

Maintenance Activity

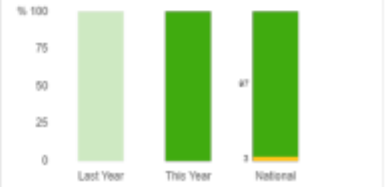
Condition



Demand/Use



Crash



12.11 Audit

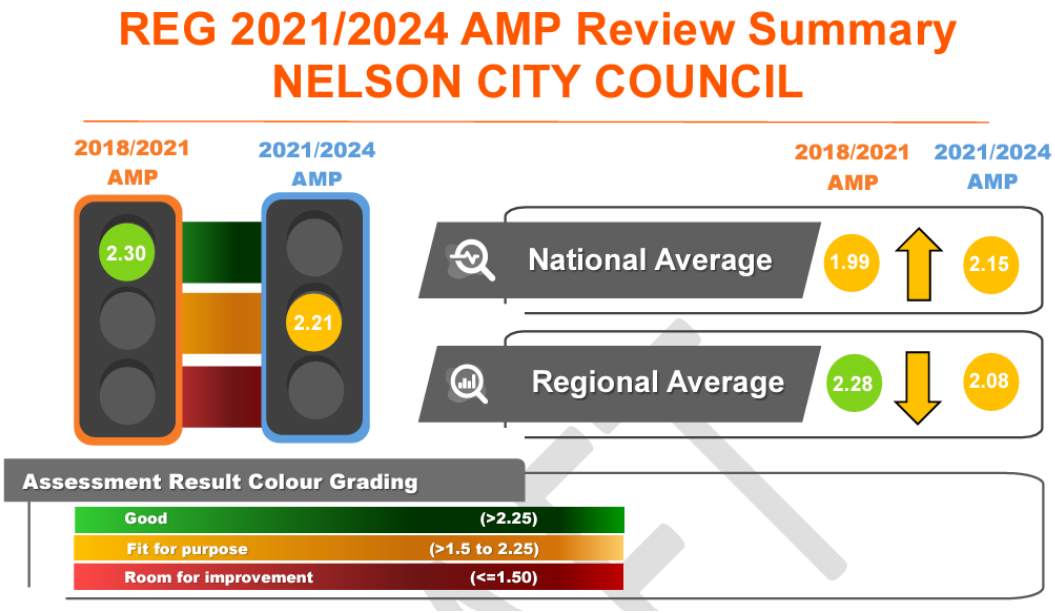
12.11.1 NZTA Audit

NZTA monitor Council's transport activity to ensure they are getting value from their co- investment. The NZTA Technical and Financial, and Procedural audit findings inform our improvement planning.

Council continues to focus on evidence, process and business case improvements identified in previous NZTA audits. A1815108, A1915785

12.11.2 Te Ringa Maimao Review

Te Ringa Maimao (formerly Road Efficiency Group) review all transport AMP and provide a feedback report. The summary of this report on the 2018 and 2021 Amp is shown in figure 12-2 below.



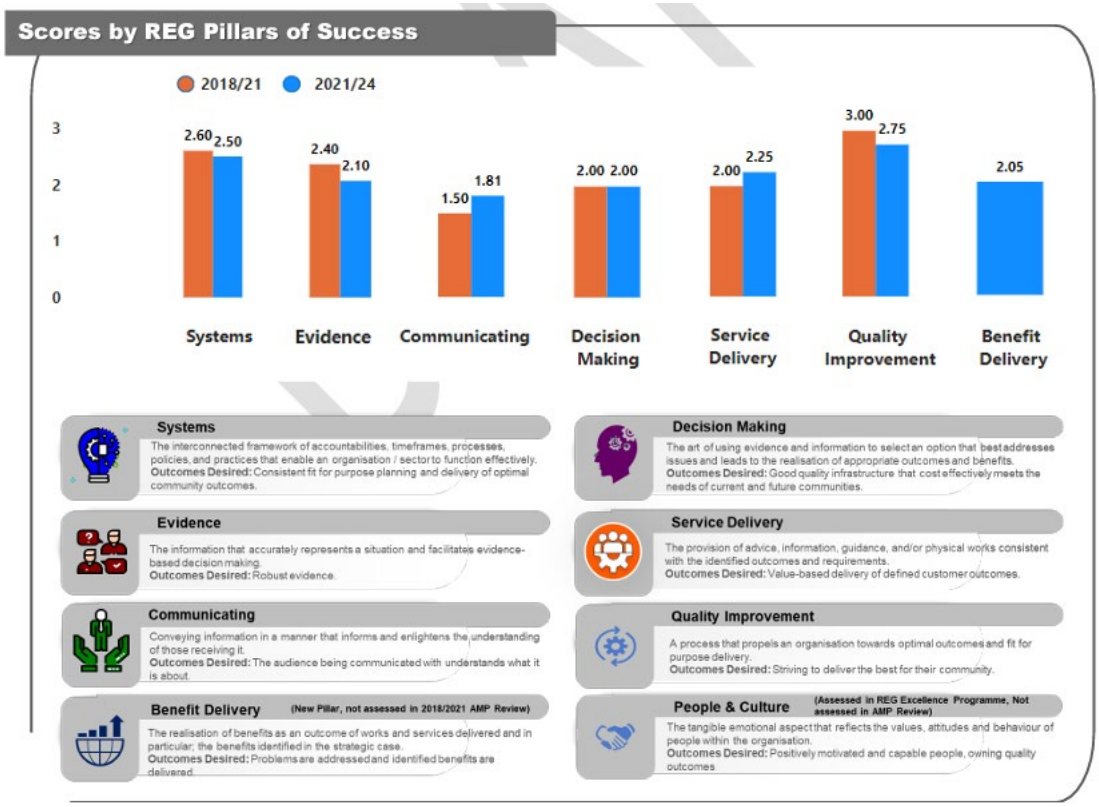


Figure 12-2 : Te Ringa Maimoa AMP scoring

The primary observation between the 2018 and 2021 Amp is the loss of the IIMM structure and asset assessment functions. These have been a primary improvement action for the 2024 AMP.

Strengths to be continued are:

- Common network issues with Tasman.
- ILM and problem statement development, including causes and consequences of not addressing problems.
- Informative discussion on climate change, environmental impacts, and active modes.
- AMP improvement register.

AMP improvements suggested include:

- Continue data quality programme and use of the data.
- Better use the REG Insites data reporting.
- Include a clear overview of the transport programme and investment approval processes and timeline in the improvement programme section.
- Clearer demonstration of how value for money is achieved through demonstrating the prioritisation processes and trade-off conversations between various investment options.

Residual improvements that have been addressed through the 2024 AMP update have been included in the improvement programme.

12.11.3 Self Assessment

AMP maturity assessment is included in APPENDIX L.

12.12 Boundary Agreement – NZTA State Highways

Council and NZTA have a Boundary Agreement for maintenance and renewal of assets, and provision of services along or near the state highway. This agreement was last reviewed in 2018 and is due for refresh. Changes to be promoted by Council include:

- Street sweeping is cost shared with NZTA state highways.
- State highway footpaths are maintained and renewed by NZTA State Highways.
- Scope and location of vegetation control maintained by Council on state highways in urban area.
- Processes around the Traffic and Parking Bylaw.

Council has an agreement with NZTA for the operation and maintenance of a shared path, and vegetation on the Railway Reserve at Bishopdale.

The boundary agreements are designed to maximise the benefits to the local community alongside the state highway functions that are provided by NZTA. These agreements result in costs for Council in the appropriate programme.

13. AMP IMPROVEMENT AND MONITORING

Ongoing improvement is required for asset management, planning and delivery of the transport activity. Improvement has been achieved with data quality and resourcing but more is required to deliver the benefits required by the broader community outcomes, Te Ao Maori alignment, and address the AMP problem statements. Detailed improvement plans have been incorporated into each delivery programme. The top 6 improvement actions are listed below in Table 13-1.

Council has been working with iwi, seeking their input into this Activity Management Plan. A few changes have been included in this Plan following their feedback, however, other matters require further consideration, which will be undertaken prior to finalising the Plan after the adoption of the Long Term Plan 2024-2034.

13.1 Monitoring and Review Procedures

This Asset Management Plan will be reviewed during the Long Term Plan (LTP) process and revised to show any material changes in service levels, risks, forecast costs and proposed budgets as a result of budget decisions.

The AM Plan is reviewed and updated every 3 years to ensure it represents the current service level, asset values, forecast operations, maintenance, renewals, upgrade/new and asset disposal costs and proposed budgets. Agreed option forecast costs and proposed budget are incorporated into the Long-Term Financial Plan once completed. Refer to Appendix J for AMP improvement cycle and Calander.

The AM Plan has a maximum life of 4 years and is due for complete revision and updating within 1 year of the Local Government election.

Contracted works will be monitored via monthly, quarterly and annual programming and reporting. These are set by the contract agreements. These will be overarched by developing asset management monitoring to have visibility of the whole programme, budgets and deliverables. As listed in the programme improvement plans there is considerable improvement required and this will commence late 2024 before the 3 year AMP period begins.

13.2 AMP Improvement

Council participates in the sector improvement activities focused on better asset management practices. This includes active participation in the Te Ringa Maimoa programmes and the transport excellence partnership.

Council has plans to undertake the REG Excellence Programme review in 2024/25.

Specific programme improvements are undertaken as time, budget and resources allow. The top 10 priorities across the programme are tabled below:

Ref	ONRC Pillar	Improvement Action	Who	Current status	When	Cost
1	Resources	Adequately resource the transport porgramme to improve delivery of desired outcomes	Council	Requested in AMP/LTP	ongoing	Est $500k per year, which should be offset by savings in expenses in the long term
2	Systems	Update risk registers to new NCC format	AM	Old format	2024	Staff time
3	Communication	Improve cultural awareness	AM	Initial meetings held with iwi to build long term relationship. Actions from those initial meetings required	23/24 ongoing	Est $20k per year plus staff time for the communications component only
4	Communication	Improve engagement and engagement processes	AM/ operations and projects	Good progress with current processes, but insufficient resources to deliver the full programme of transport initiatives to meet the national emission targets	24/25 ongoing	TBC on resourcing
5	Systems	AMP structure and delivery	AM	This AMP period. REG Asset Management Competency Framework to be applied	24-34	Est $100k training and identification of process plus staff time
6	Evidence	Ongoing data improvement programme: focus on expected useful lives, construction dates, timely and accurate asbuilt records,valuations	AM/ Accounts	Good progress with data improvement for condition assessments. Requires a shift in focus to data that informs valuations and depreciations and FWP	23 -27	Staff time. Est $25k to shift valuations to RAMM approx. year 4
7	Systems	Continue to improve forward works planning and delivery	AM/ Operations	10 year programmes achieved for this AMP. Further work to embed processes, validate, refine, extend and align with other works on roads	ongoing	Staff time plus est $100k per year for modelling, expert advice and additional condition assessments

Table 13-1: Top Improvement Actions

13.3 Performance Measures

The effectiveness of this Asset Management Plan can be measured in the following ways:

- Delivery of the forward work programmes. These are scheduled in RAMM and reported as a forecast programme and delivered programme
- Acceptance and management of agreed option risks. Risk registers upto date and monitored. Escalating risks are reported and actioned.
- Communication of agreed option LOS impacts
- New dLOS measures are under development to monitor service delivery
- Programme expenditure within budget for the first 3 year period.

14. REFERENCES

- IPWEA, 2006, 'International Infrastructure Management Manual', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/IIMM
- IPWEA, 2008, 'NAMS.PLUS Asset Management', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/namsplus.
- IPWEA, 2015, 2nd edn., 'Australian Infrastructure Financial Management Manual', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/AIFMM.
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- IPWEA, 2012 LTFP Practice Note 6 PN Long-Term Financial Plan, Institute of Public Works Engineering Australasia, Sydney
- ISO, 2018, ISO 31000:2018, Risk management – Guidelines
- Te Ringa Maimoa – https://portal.transportinsights.nz/home
- Nelson City Council Revenue and Financing Policy www.nelson.govt.nz/assets/Our-council/Downloads/Plans-strategies-policies/strategies-plans-policies/long-term-plan-2018-28/Revenue-and-Financing-Policy.pdf
- Nelson City Council Assumptions Approved by Council - Draft significant forecasting assumptions 2024-2034 - 6July2023.pdf
- Nelson City Council Policy on Development Contributions www.nelson.govt.nz/assets/Building-Planning/Downloads/property-and-land-use/development-contributions/Development-Contributions-Policy-2021-Final.pdf
- NZTA Planning and Investment Knowledge Base www.nzta.govt.nz/planning-and-investment/planning-and-investment-knowledge-base
- New Zealand Police Crime Prevention Cameras in Public Places
- https://www.itplus.co.nz/crime-prevention-cameras-cctv-in-public-places-policy-by-nz-police/
- Communities at Risk Register
- https://www.nzta.govt.nz/resources/communities-at-risk-register/#:~:text=The%20communities%20at%20risk%20register,on%20the%20areas%20of%20concern.
- https://www.nzta.govt.nz/walking-cycling-and-public-transport/reshaping-streets/

15. APPENDICES

Appendix A: Glossary

AMP – Activity Management Plan
CAR – Corridor Access Request
CBR – California bearing ratio
CPTED – crime prevention through environmental design
DAPP – Dynamic Adaptive Policy Pathways
DSI – Death and Serious Injury
DBC - Detailed Business Case
EBT – Electronic Bus Ticketing
FAR – Financial Assistance Rate
FWD – Falling weight deflectometer
GPS - Draft Government Policy Statement 2024 on Land Transport
IAF – Investment Assessment Framework
LTMA – Land Transport Management Act 2003
LCLR – Low Cost/Low Risk
LTP - Long Term Plan
MIS – Maintenance intervention strategy
MoT – Ministry of Transport
NAMS – A financial modelling package prepared by IPEWA based on IIMM criteria
NCC – Nelson City Council
NDS UDC – National Policy Statement on Urban Development Capacity
NFAS - Nelson Future Access Study (also FAS)
NLTP – National Land Transport Programme
NOF – Network Operating Framework
NPS – National Policy Statement
NSLI – Nelson Southern Link Investigation
NTLDM – Nelson Tasman Land Development Manual
NTLF - National Land Transport Fund
NZTA - New Zealand Transport Agency
PBC - Programmed Business Case
PGF – Provincial Growth Fund
Ramm - Road assessment and maintenance management (Councils transport asset information database)
RCA – Road Controlling Authority
RLTP - Regional Land Transport Plan
RPTP - Regional Public Transport Plan
RTC - Regional Transport Committee
SH – State Highway
SHIP – State Highway Investment Proposal
SH6 RR -SH6 Rocks Road Walking and Cycling Project
SHA - Special Housing Area
SW - Stormwater
TAIP – Transport Agency Investment Proposal
TBC – To Be Confirmed
TDC – Tasman District Council
TDM – Travel Demand Management
TIO - Transport Investment Online portal
TMP – Traffic management plan
UCF – Urban Cycleway Fund
VKT – vehicle kilometres travelled
WC - (usually followed by a 3 digit number) work category
WK – NZTA

APPENDIX B: POLICY, BYLAWS, STUDIES AND LEGISLATION

Relevant transport legislation

The overall framework for planning, funding and managing the land transport system includes the following Acts, Regulations and Rules. Bills and Rules under development have been included as they are likely to become legislation in the short term. All Acts, regulations and rules are to be read as including any amendment that may occur from time to time.

Acts of Parliament

The Acts below are listed by their original title for simplicity. However, all amendment acts shall be considered in conjunction with the original Act, as these have not been detailed in this document. For the latest Act information refer to http://www.legislation.govt.nz/

- Local Government Acts 1974 and 2002
- Government Roading Powers Act 1989
- Land Transport Act 1998
- Land Transport Management Act 2003
- Land Transport Management Amendment Acts 2003 and 2013
- Land Transport (Enforcement Powers) Amendment Act 2009
- Land Transport (Road Safety and Other Matters) Amendments Act 2011
- Land Transfer Act 2017
- Public Transport Management Act 2008
- Resource Management Act 1991
- Resource Management Amendment Act 2003 / 2013
- Resource Management (Simplifying and Streamlining) Amendment Act 2009,
- Building Act 2004
- Building Amendment Act 2012 / 2013
- Public Works Act 1981 Transportation Appendix A.docx Page A-2
- Telecommunications Act 2001
- Electricity Act 1992
- Biosecurity Act 1993
- Pae Ora (Healthy Futures) Act 2022Health Act 1956
- Summary Offences Act 1981
- Civil Defence Emergency Management Act 2002
- Health and Safety at Work Act 2015
- Utilities Access Act 2010
- Land Drainage Act 1908
- Climate Change Response (Zero Carbon) Amendment Act 2019

Bills

- Local Government Act 2002 Amendment Bill (No.3).
- Urban Development Bill 2019

National Policies, Regulations and Strategies

- Government Policy Statement on Transport 2024
- Road to Zero: New Zealands Road Safety Strategy 2020-2030
- The New Zealand Coastal Policy Statement 2010 (http://www.doc.govt.nz)
- National Policy Statement for Freshwater Management 2020
- The National Energy Efficiency and Conservation Strategy http://www.eeca.govt.nz
- The Heavy Motor Vehicle Regulations 1974 http://www.legislation.govt.nz/
- The Building Regulations http://www.legislation.govt.nz/
- NZ Transport Agency Specifications, Rules, Policies, Manuals and Guidelines http://www.NZTA.govt.nz
- NZTA Long Term Strategic View 2024 - Arataki
- Te Ringa Maimoa One Network Road Classification
- Te Ringa Maimoa One Network Framework
- Te Ringa Maimoa Insites
- Austroads Guidelines and Manuals http://www.austroads.com.au/
- National Policy Statement on Urban Development Capacity (NPS-UDC)
- NAMS Manuals and Guidelines
- IIMM
- Office of the Auditor General publications
- Requirements of the Auditor General (refer Appendix J for improvement measures specific to the Transport Activity).
- All Land Transport Rules, including:
  - Operator Licensing 2017, Passenger Service Vehicles 1999, Road User Rule 2004, Setting of Speed Limits 2022, Traffic Control Devices 2004, Vehicle Dimensions and Mass 2016, Vehicle Lighting 2004, Driver Licensing 1999;
  - COPTTM (Code of practice for temporary traffic management) – currently being replaced;
  - NZGTTM.

Bylaws and Vehicle Control Regulations

- Land Transport (Infringement and Reminder Notices) Regulations 1998 and 2012
- Land Transport (Offences and Penalties) Regulations 1999
- Land Transport (Ordering a Vehicle off the Road) Notice 1999
- Land Transport (Requirements for Storage and Towage of Impounded Vehicles) Regulations 1999

- Land Transport (Storage and Towage fees for Impounded Vehicles) Regulations 1999
- Transport Services Licensing Regulations 1989

Traffic Regulations 1976

Standards New Zealand

For all of the following refer to http://www.standards.co.nz

- AS/NZS ISO 31000: 2018 Risk Management Principals and Guidelines
- NZS 4404:2010 Land Development and Subdivision Infrastructure
- AS/NZS ISO 9001: 2016 Quality Management Systems
- AS/NZS 45001:2018 Occupational Health and Safety Management Systems
- SNZ HB 2002:2003 Code of Practice for Working in the Road
- AS/NZS 1158 Lighting for Roads and Public Places Set
- AS/NZS 4676:2000 Structural Design Requirements for Utility Services Poles

Local and Regional Plans, Policies, Standards and Bylaws

- The Regional Land Transport Plan (RLTP)
- Nelson Resource Management Plan (NRMP)
- Nelson Tasman Land Development Manual (NTLDM) 2020
- Parking and Vehicle Control Bylaw 207 (2011) and 2012 Amendment (under review 2023)
- Outdoor Dining Policy (under review 2023)
- Freedom Camping Bylaw (under review 2024)
- Urban Environment Bylaw 2021
- City Amenity Bylaw (under review 2024)
- Speed Limits Bylaw 210 (2011) and associated Amendments (will be replaced with Speed Management Plan 2023)
- Development Contributions: refer LTP

Road Reserve Management Policies and Procedures

The following list of policies and procedures is yet to be checked for currency and relevant to the current operating of the network and reviews or redaction processed. Where status is known or assumed this is noted in ().

- Maintenance of Private Access on Road Reserve 1999 (current)
- Speed Hump Policy 2001 (under review with the speed management plan)
- Nelson City Council and NZTA Procurement Strategy (under review in 2024)
- Nelson City Council Procurement Policy 2021-26
- Minor Safety Priority Process for Projects 2000 (to be revoked in favour of the 3 yearly AMP review process)
- Motel signs and service signs 1999 (to be revoked in favour of the NRMP)

- Footpath construction priority list 1999 (to be revoked in favour of the 3 yearly AMP review process)
- Occupation of footpaths, carparks and parking squares policy 2000 (to be revoked in favour of the Road Encroachment Policy – when adopted)
- Streetlighting policy 2000 (to be revoked in favour of the NTLDM)
- Signs policy 2004 (to be revoked in favour of the NRMP)
- Staff policy for new drop crossings (refer vehicle crossing application process, Traffic and Parking Bylaw – pending adoption, and Road Encroachment Policy – pending adoption)
- Staff design crossfall adjustments for new kerb and channel and widening 2002 (refer vehicle crossing application process, Traffic and Parking Bylaw – pending adoption, and Road Encroachment Policy – pending adoption)
- Staff maintenance policy for driveway and driveway reinstatements refer vehicle crossing application process, Traffic and Parking Bylaw – pending adoption, and Road Encroachment Policy – pending adoption
- Rapid no. system information 2002
- Vegetation control legal road frontage 2002 (refer Local Government Act and the Vegetation Management Policy currently under development)
- Urban Greening Strategy 2022 - Draft
- Planting of road frontage 2003
- Policy structures on legal road 2003 (under review refer Road Occupation Policy review)
- Parking Strategy 2022
- Underground policy 2004
- Acquisition of land for roads
- Powerline undergrounding
- Staff carparks costing formula 2004
- Road Occupation Policy (under review as the Road Encroachment and Sale Policy 2023)

Nelson's Strategies

- **Nelson Regional Policy Statement 1997**

  This document is at the top of the hierarchy of resource management considerations. It is prepared under the Resource Management Act and has statutory force.

  Its purpose is to identify regional issues in terms of natural and physical resources and to outline objectives, policies and methods to achieve integrated management of the natural and physical resources of the whole region, including cross-boundary issues with other regions.

  Other plans prepared under the Resource Management Act must now "give effect" to the provisions of the relevant regional policy statement for a region or district (changes to the Resource Management Act in 2005 have increased the importance of the Regional Policy Statement).

Nelson's Regional Policy Statement was made operative in 1997 and is currently under review through the Nelson Plan project.

- **Nelson Resource Management Plan**

The operative Nelson Regional Policy Statement and Nelson Resource Management Plan were developed in the 1990s, and the Nelson Air Quality Plan became operative in 2008. While these plans have been subject to some changes, they have not undergone a full review. The council resolved to embark on a full review. Once prepared, the new plan will be called the Whakamahere Whakatū Nelson Plan.

- **Social Wellbeing Policy 2011**

The Council's vision for this policy is that Nelson has a happy, healthy community where people have access to necessary services and facilities and feel connected to each other and to the city.

Council will ensure that social wellbeing issues are considered when planning and delivering new services, facilities and activities.

Areas where Council has a key responsibility or role include the physical environment, leisure and recreation, social connectedness, cultural identity, civil and political rights and safety (particularly relating to safety in public spaces). With limited resources available Council needs to focus on areas where it can have a significant impact and rely on partners to take the lead in other areas.

Council has chosen to focus on particular issues surrounding older people, youth and affordable housing in this policy. These three areas relate to key trends affecting Nelson and have been raised as particular concerns by the community.

Over and above initiatives that directly aim to improve social wellbeing, most Council activities (such as economic development, transport, water supply, waste collection, environmental planning, parks and community facilities) impact on the wellbeing of the community.

Council's social wellbeing role includes:

- Leading by example - looking at Council activities through a social wellbeing "lens" to improve social wellbeing outcomes for the community.
- Partnering, collaborating and facilitating - with central government, community organisations and other stakeholders to target initiatives effectively.
- Delivery - of services and activities (including through grants to community groups) within wellbeing areas where Council has responsibility.
- Advocacy - at regional and national levels.
- Planning - ensuring that the development of facilities and services contributes to enhancing wellbeing in the future.

- **Nelson Tasman Lifelines Report**

During 2016, the Council in partnership with Nelson City Council, the Regional Civil Defence Emergency Management Group and other utility providers, prepared the Nelson Tasman Lifelines Report. This report summarises all lifelines within Nelson and Tasman.

Management, and upgrading processes around critical assets and lifeline routes is ongoing. The lifelines report is expected to be reviewed in 2024/25.

- **Infrastructure Strategy**

  In 2014 the Local Government Act 2002 was amended to include section 101B — a requirement for local authorities to prepare an infrastructure strategy as part of the Long Term Plan. The strategy is expected to look at least 30 years into the future and detail the issues that the local authority can reasonably foresee. The Office of the Auditor General has provided guidance documents for authorities to use when developing the strategy.

  Review of the Infrastructure Strategy has been carried out concurrently to this AMP.

Nelson City Council Long Term Plan

The last Long Term Plan (LTP) was adopted in July 2021. It is a requirement of the Local Government Act 2002 to have such a plan to manage Council's activities and budgeting. The LTP forms the basis for the Council's annual planning process. The plan must have a focus on social, cultural, economic and environmental outcomes. The next LTP 2024–2034 will be adopted by Council in June 2024.

Regional Land Transport Plan 2021-2027

The Regional Land Transport Plan (RLTP) is a six-year document with a 10 year horizon. It provides strategic context and direction for each regional programme. The RLTP is being reviewed concurrently with this AMP.

Regional Public Transport Plan 2021-2027

The purpose of the Regional Public Transport Plan (RPTP) is to provide:

- The public transport services that are integral to the public transport network.
- The policies and procedures that apply to those services.
- The information and infrastructure that supports those services.

The RPTP is being reviewed concurrently with this AMP.

Procurement

The NCC/NZTA Procurement Strategy for activities funded through the national Transport Programme expires in 2024. This AMP will inform an update of the Procurement Strategy in 2024/25.

Council's Procurement Strategy is the overarching document for unsubsidised purchases.

Te Ara o Whakatu

Te Aro o Whakatu 2021 is the Councils updated strategic planning framework for the city. It updates the Heart of Nelson Strategy 2009.

Stoke Foothills Study

The Stoke Foothills Study is a Programme Business Case for options to manage the effects of residential growth and development and transport effects in the affected areas. The

Programme Business Case investigates the case for change and identifies a preferred programme of investment to address the problems identified. Growth patterns in the valleys have changed so this study needs to be reviewed to inform the transport response to the increased demands.

NZTA Future Access Study

The Arterial Traffic Study was a key initiative in order to achieve the Community Outcomes in the 2009–2019 Nelson Community Plan. It assessed the effects of arterial traffic flows in order to determine the best transport configuration between Annesbrook and the QEII/Haven Rd roundabouts in order to improve the city as a whole in the long term. This work has been updated through the Southern Link Investigation Study and the current Future Access Study (FAS) recommendations adopted by Council and NZTA in 2021.

Road Safety Action Plan

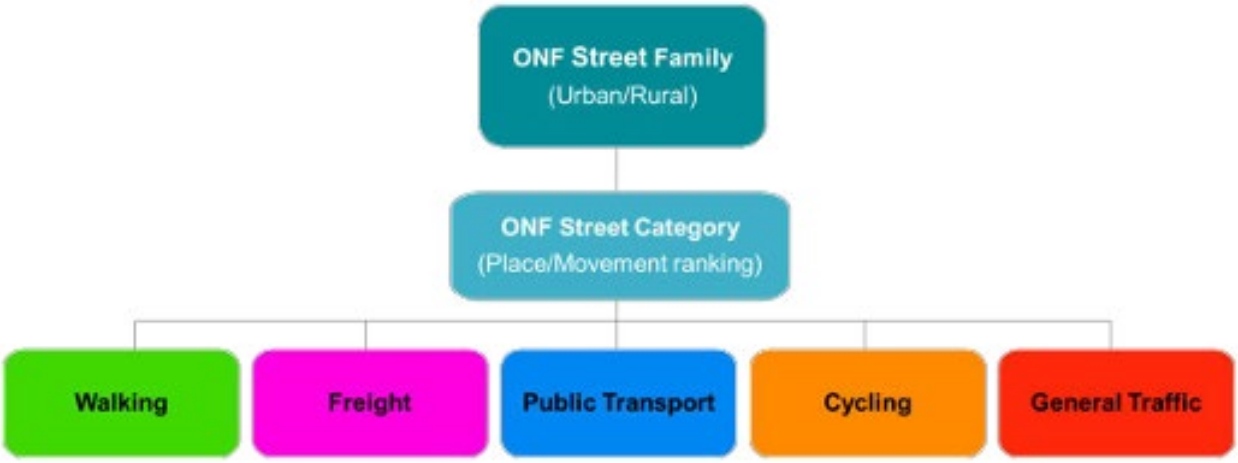
A Road Safety Action Plan has been prepared to address safety issues presenting on the network, and greater Top of the South area, in conjunction with Tasman District Council and Marlborough District Council and Police.

The action plan targets current areas of safety concern locally, regionally and nationally and is a live document being constantly updated to meet arising issues.

Appendix C: One Network Framework

Figure AC-1: ONF Street Families

Further hierarchy detail is incorporated using the ONF modal layers. These are shown in figure AC-2 below.



Appendix AC-2: ONF Modal Categories

	ONF Category	Total Length (km)	Total Length (%)	Sealed (km)	Unsealed (km)	Lane (km)	Vehicle Journeys (m vkt)
URBAN	Urban Connectors	38.6	13.8%	38.6	0	75.2	118
	Activity Streets	21.9	7.8%	21.9	0	42.1	43.2
	Main Streets	1.4	0.5%	1.4	0	2.8	2.6
	Local Streets	163.5	58.3%	163.2	0.2	308.1	38.5
	Civic Spaces	0.1	0%	0.1	0	0.2	0.1
	Total Urban Network	**225.5**	**80.5%**	**225.2**	**0.2**	**428.5**	**202.3**
RURAL	Stopping Places	0.1	0%	0.1	0	0.2	0
	Rural Connectors	8.7	3.1%	8.7	0	14.7	1.8
	Peri-urban Roads	7.2	2.6%	7.2	0	12.2	0.7
	Rural Roads	33.1	11.8%	17.8	15.3	63.5	2.1
	Total Rural Network	**49.1**	**17.5%**	**33.8**	**15.3**	**90.6**	**4.5**
	Unclassified	5.6	2%	5.6	0	9.1	8.4
	Total Network	**280.2**	**100%**	**264.6**	**15.6**	**528.2**	**215.2**

Figure AC-3: Hierarchy by ONF - Te Ringa Maimoa 2022/23

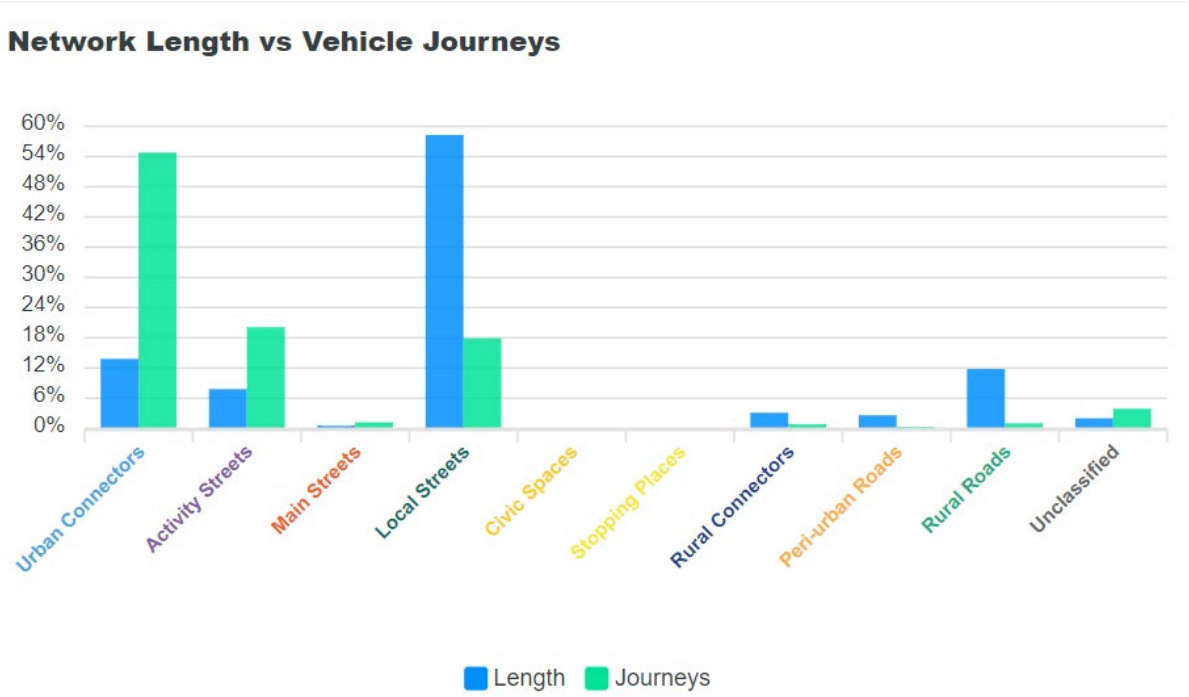


Figure AC-4: Hierarchy use by ONF – Te Ringa Maimoa 2022/23

Appendix D: Indicative programmes (note: subject to change through ongoing review and prioritisation process)

Pavement rehab programme

Year	secName	info_LA_carr_ONRC	info_LA_onf_streetCategory	locFrom	locTo	info_length	info_area	treat_2024	Cost Est
2024/25	QUARANTINE ROAD	Arterial	Activity Streets	36	240	204	2611.2	Rehab_AC	1,096,704
2024/25	QUARANTINE ROAD	Arterial	Activity Streets	240	513	273	1992.9	Rehab_AC	837,018
2024/25	RICHARDSON STREET	Secondary Collector	Local Streets	380	448	68	408	Rehab_AC	171,360
2024/25	SUFFOLK ROAD	Primary Collector	Urban Connectors	20	222	202	1696.8	Rehab_AC	712,656
2024/25	TRAFALGAR SQUARE	Arterial	Activity Streets	176	332	156	1872	Rehab_AC	786,240
2024/25	MONCRIEFF AVENUE	Low Volume	Local Streets	5	269	264	1716	Rehab Granular	257,400
2025/26	GLOUCESTER STREET	Arterial	Activity Streets	19	176	157	879.2	Rehab_AC	369,264
2025/26	MOTUEKA STREET	Arterial	Urban Connectors	4	247	243	2187	Rehab_AC	918,540
2025/26	MOTUEKA STREET	Arterial	Urban Connectors	247	464	217	2343.6	Rehab_AC	984,312
2025/26	NAYLAND ROAD	Primary Collector	Urban Connectors	340	511	171	1863.9	Rehab_AC	782,838
2025/26	NAYLAND ROAD	Primary Collector	Urban Connectors	2925	3350	425	4887.5	Rehab_AC	2,052,750
2025/26	PASCOE STREET	Primary Collector	Activity Streets	15	151	136	1400.8	Rehab_AC	588,336
2025/26	VAN DIEMEN STREET	Primary Collector	Urban Connectors	17	180	163	1320.3	Rehab_AC	554,526
2025/26	VICKERMAN STREET	Regional	Activity Streets	190	580	390	3588	Rehab_AC	1,506,960

Chipseal draft forward works programme

Priority	Year	secName	ONRC	ONF	locFrom	locTo	info_length	info_area	treat_2024	Cost Est
h	2024/25	ARAPIKI ROAD	Secondary Collector	Local Streets	10	190	180	1314	ChipSeal	17739
h	2024/25	BISHOPDALE AVENUE	Access	Local Streets	344	500	156	1591.2	ChipSeal	21481.2
h	2024/25	GLEN ROAD	Secondary Collector	Rural Connectors	315	1035	720	4608	ChipSeal	62208
h	2024/25	GLEN ROAD	Secondary Collector	Rural Connectors	1035	1340	305	1952	ChipSeal	26352
h	2024/25	GLEN ROAD	Secondary Collector	Rural Connectors	1340	1890	550	3520	ChipSeal	47520
h	2024/25	MURPHY STREET	Secondary Collector	Local Streets	0	901	901	6036.7	ChipSeal	81495.45
h	2024/25	MARSDEN VALLEY ROAD	Secondary Collector	Local Streets	714	1524	810	5670	ChipSeal	76545
h	2024/25	MARSDEN VALLEY ROAD	Secondary Collector	Local Streets	1524	1854	330	2310	ChipSeal	31185
h	2024/25	MARSDEN VALLEY ROAD	Secondary Collector	Local Streets	1854	2115	261	1827	ChipSeal	24664.5
h	2024/25	MARSDEN VALLEY ROAD	Secondary Collector	Peri-urban Roads	2115	2521	406	2842	ChipSeal	38367
h	2024/25	MOANA AVENUE	Primary Collector	Local Streets	33	229	196	1332.8	ChipSeal	17992.8
h	2024/25	MOANA AVENUE	Primary Collector	Urban Connectors	322	886	564	4117.2	ChipSeal	55582.2
h	2024/25	MONCRIEFF AVENUE	Low Volume	Local Streets	5	269	264	1716	ChipSeal	23166
h	2024/25	MONCRIEFF AVENUE	Low Volume	Local Streets	269	346	77	500.5	ChipSeal	6756.75
h	2024/25	PARKERS ROAD	Primary Collector	Activity Streets	445	674	229	3091.5	ChipSeal	41735.25
h	2024/25	TASMAN STREET NORTH	Secondary Collector	Local Streets	125	312	187	1664.3	ChipSeal	22468.05
h	2024/25	MAITAI VALLEY ROAD	Primary Collector	Rural Roads	1279	1985	706	4447.8	ChipSeal	60045.3
h	2024/25	MAITAI VALLEY ROAD	Primary Collector	Rural Roads	1996	2236	240	1512	ChipSeal	20412
h	2024/25	MAITAI VALLEY ROAD	Primary Collector	Rural Roads	2236	2596	360	2268	ChipSeal	30618
h	2024/25	VISTA DRIVE	Low Volume	Local Streets	161	202	41	332.1	ChipSeal	4483.35
h	2024/25	HILL STREET NORTH	Low Volume	Local Streets	0	513	308	5600	SecondCoat	75600
h	2024/25	POTTERIES WAY	Low Volume	Local Streets	8	262	254	1447.8	SecondCoat	19545.3
h	2024/25	KOURA ROAD	Low Volume	Local Streets	0	188	188	1184.4	SecondCoat	15989.4

h	2024/25	BILLS DRIVE	Low Volume	Local Streets	4	184	180	810	SecondCoat	10935
m	2024/25	BOLT ROAD	Primary Collector	Activity Streets	43	369	326	4335.8	ChipSeal	58533.3
m	2024/25	BROOK STREET	Primary Collector	Urban Connectors	323	543	220	1452	ChipSeal	19602
m	2024/25	BROOK STREET	Primary Collector	Urban Connectors	543	743	200	1320	ChipSeal	17820
m	2024/25	BROOK STREET	Primary Collector	Urban Connectors	743	1182	439	2897.4	ChipSeal	39114.9
m	2024/25	RATA STREEET	Low Volume	Local Streets	0	106	106	111.5	ChipSeal	1505.25
m	2024/25	BROOKLANDS ROAD	Access	Local Streets	4	307	303	2242.2	ChipSeal	30269.7
m	2024/25	BROOKLANDS ROAD	Access	Local Streets	307	576	269	1990.6	ChipSeal	26873.1
m	2024/25	EXAMINER STREET	Access	Local Streets	155	370	215	1677	ChipSeal	22639.5
m	2024/25	LARGES LANE	Access	Local Streets	4	184	180	1476	ChipSeal	19926
m	2024/25	NEWMAN DRIVE	Access	Local Streets	19	306	287	2783.9	ChipSeal	37582.65
m	2024/25	SONGER STREET	Primary Collector	Urban Connectors	331	859	528	5860.8	ChipSeal	79120.8
m	2024/25	WESTBROOK TERRACE	Primary Collector	Urban Connectors	5	325	320	1824	ChipSeal	24624
m	2024/25	WESTBROOK TERRACE	Primary Collector	Urban Connectors	325	1065	740	4218	ChipSeal	56943
m	2024/25	CHESHIRE PLACE	Low Volume	Local Streets	15	108	93	790.5	SecondCoat	10671.75
m	2024/25	BERKSHIRE PLACE	Low Volume	Local Streets	16	53	37	236.8	SecondCoat	3196.8
m	2024/25	NORFOLK PLACE	Low Volume	Local Streets	16	53	37	229.4	SecondCoat	3096.9
m	2024/25	ESSEX TERRACE	Access	Local Streets	11	155	144	1080	SecondCoat	14580
	2025/26	AIRLIE STREET	Low Volume	Peri-urban Roads	215	322	107	524.3	ChipSeal	7,078
	2025/26	AKERSTEN STREET	Primary Collector	Activity Streets	500	903	403	3949.4	ChipSeal	53,317
	2025/26	ALFRED STREET	Access	Local Streets	21	222	201	1366.8	ChipSeal	18,452
	2025/26	ALTON STREET (NORTH)	Access	Local Streets	8	202	194	2948.8	ChipSeal	39,809

	2025/26	ARIESDALE TERRACE	Low Volume	Local Streets	11	260	249	1518.9	ChipSeal	20,505
	2025/26	ARROW STREET	Access	Local Streets	346	570	224	1366.4	ChipSeal	18,446
	2025/26	ATAWHAI CRESCENT	Secondary Collector	Local Streets	10	308	298	2592.6	ChipSeal	35,000
	2025/26	ATAWHAI CRESCENT	Secondary Collector	Local Streets	313	612	299	2990	ChipSeal	40,365
	2025/26	ATAWHAI DRIVE	Secondary Collector	Local Streets	1590	1877	287	2726.5	ChipSeal	36,808
	2025/26	BEATSON ROAD	Access	Local Streets	510	536	26	195	ChipSeal	2,633
	2025/26	BEATSON ROAD	Access	Local Streets	536	697	161	1207.5	ChipSeal	16,301
	2025/26	BEATSON ROAD	Secondary Collector	Local Streets	697	734	37	307.1	ChipSeal	4,146
	2025/26	BEATSON ROAD	Secondary Collector	Local Streets	734	773	39	323.7	ChipSeal	4,370
	2025/26	BISLEY AVENUE	Primary Collector	Local Streets	755	783	28	196	ChipSeal	2,646
	2025/26	BLACKWOOD STREET	Access	Local Streets	10	175	165	1501.5	ChipSeal	20,270
	2025/26	BRIDGE STREET	Primary Collector	Urban Connectors	943	1140	197	2738.3	ChipSeal	36,967
	2025/26	BRONTE STREET (EAST)	Low Volume	Local Streets	0	86	86	946	ChipSeal	12,771
	2025/26	BROOK STREET	Primary Collector	Urban Connectors	1182	1324	142	937.2	ChipSeal	12,652
	2025/26	BROOK STREET	Primary Collector	Urban Connectors	1334	1964	630	5481	ChipSeal	73,994
	2025/26	CABLE BAY ROAD	Secondary Collector	Peri-urban Roads	3846	4180	334	2137.6	ChipSeal	28,858
	2025/26	CABLE BAY ROAD	Secondary Collector	Peri-urban Roads	4180	4820	640	4096	ChipSeal	55,296

	2025/26	CABLE BAY ROAD	Secondary Collector	Peri-urban Roads	4820	5540	720	4608	ChipSeal	62,208
	2025/26	CABLE BAY ROAD	Secondary Collector	Peri-urban Roads	5540	6380	840	4704	ChipSeal	63,504
	2025/26	CENTENNIAL ROAD	Access	Local Streets	6	151	145	1015	ChipSeal	13,703
	2025/26	CHAMBERLAIN STREET	Access	Local Streets	18	260	242	1887.6	ChipSeal	25,483
	2025/26	CHERRY AVENUE	Access	Local Streets	4	232	228	1801.2	ChipSeal	24,316
	2025/26	CLEVELAND TERRACE	Access	Local Streets	0	308	308	1201.2	ChipSeal	16,216
	2025/26	EMANO STREET	Access	Local Streets	829	1048	219	1314	ChipSeal	17,739
	2025/26	ENNER GLYNN ROAD	Low Volume	Peri-urban Roads	751	1073	322	2608.2	ChipSeal	35,211
	2025/26	FRANKLYN STREET	Access	Activity Streets	506	718	212	1802	ChipSeal	24,327
	2025/26	GLOUCESTER STREET	Primary Collector	Local Streets	214	300	86	430	ChipSeal	5,805
	2025/26	HALIFAX STREET EAST	Access	Local Streets	0	211	211	1392.6	ChipSeal	18,800
	2025/26	HALIFAX STREET EAST	Access	Local Streets	235	466	231	1524.6	ChipSeal	20,582
	2025/26	KING STREET	Low Volume	Local Streets	8	135	127	660.4	ChipSeal	8,915
	2025/26	KONINI STREET	Access	Local Streets	20	500	480	2688	ChipSeal	36,288
	2025/26	MAITLAND AVENUE	Secondary Collector	Local Streets	10	435	425	3995	ChipSeal	53,933
	2025/26	MARYBANK ROAD	Secondary Collector	Local Streets	10	223	213	1576.2	ChipSeal	21,279
	2025/26	MARYBANK ROAD	Secondary Collector	Local Streets	223	436	213	1682.7	ChipSeal	22,716

	2025/26	MARKET ROAD	Primary Collector	Local Streets	181	422	241	2651	ChipSeal	35,789
	2025/26	MARSDEN VALLEY ROAD	Primary Collector	Local Streets	14	450	436	2834	ChipSeal	38,259
	2025/26	MCMAHON STREET	Secondary Collector	Local Streets	4	139	135	999	ChipSeal	13,487
	2025/26	MONTCALM STREET	Access	Local Streets	5	371	366	1866.6	ChipSeal	25,199
	2025/26	MONTREAL ROAD	Access	Local Streets	431	630	199	1174.1	ChipSeal	15,850
	2025/26	NEWALL AVENUE	Secondary Collector	Local Streets	157	281	124	1041.6	ChipSeal	14,062
	2025/26	NEWMAN DRIVE	Low Volume	Local Streets	306	496	190	1558	ChipSeal	21,033
	2025/26	NGATIAWA STREET	Access	Activity Streets	11	153	142	1036.6	ChipSeal	13,994
	2025/26	NILE STREET EAST	Primary Collector	Urban Connectors	911	1217	306	2815.2	ChipSeal	38,005
	2025/26	NILE STREET EAST	Primary Collector	Urban Connectors	1217	1282	65	598	ChipSeal	8,073
	2025/26	PIKO STREET	Low Volume	Local Streets	4	90	86	524.6	ChipSeal	7,082
	2025/26	PRINCES DRIVE	Secondary Collector	Local Streets	2896	3277	381	2590.8	ChipSeal	34,976
	2025/26	PRINCES DRIVE (LOOP RD 1)	Low Volume	Local Streets	7	213	206	2060	ChipSeal	27,810
	2025/26	QUEBEC ROAD	Secondary Collector	Local Streets	1039	1120	81	534.6	ChipSeal	7,217
	2025/26	QUEENS ROAD	Access	Local Streets	74	460	386	1273.8	ChipSeal	17,196
	2025/26	QUEENS ROAD	Low Volume	Local Streets	647	906	259	1113.7	ChipSeal	15,035
	2025/26	RIMU STREET	Access	Local Streets	4	106	102	816	ChipSeal	11,016

	2025/26	RUI STREET	Access	Local Streets	5	180	175	1505	ChipSeal	20,318
	2025/26	ST VINCENT STREET	Arterial	Activity Streets	362	380	18	286.2	ChipSeal	3,864
	2025/26	SHAKESPEARE WALK	Access	Local Streets	12	249	237	1943.4	ChipSeal	26,236
	2025/26	SHELBOURNE STREET (LOOP ROAD)	Low Volume	Local Streets	4	150	146	657	ChipSeal	8,870
	2025/26	SOVEREIGN STREET	Access	Local Streets	8	198	190	2888	ChipSeal	38,988
	2025/26	SUFFOLK ROAD	Primary Collector	Urban Connectors	962	1223	261	2349	ChipSeal	31,712
	2025/26	TAUNTON PLACE	Access	Local Streets	0	174	174	1426.8	ChipSeal	19,262
	2025/26	THE CLIFFS	Access	Local Streets	15	303	288	1929.6	ChipSeal	26,050
	2025/26	THE RIDGEWAY (NORTH)	Primary Collector	Urban Connectors	7	444	437	4195.2	ChipSeal	56,635
	2025/26	THOMPSON TERRACE	Access	Local Streets	21	270	249	1543.8	ChipSeal	20,841
	2025/26	TIPAHI STREET	Secondary Collector	Activity Streets	537	838	301	2709	ChipSeal	36,572
	2025/26	TOI TOI STREET	Low Volume	Local Streets	0	93	93	576.6	ChipSeal	7,784
	2025/26	TUI GLEN ROAD	Access	Local Streets	5	254	249	1319.7	ChipSeal	17,816
	2025/26	TUI GLEN ROAD	Access	Local Streets	254	532	278	1473.4	ChipSeal	19,891
	2025/26	ULSTER STREET	Access	Local Streets	6	85	79	513.5	ChipSeal	6,932
	2025/26	VOSPER STREET	Access	Local Streets	5	116	111	743.7	ChipSeal	10,040
	2025/26	WOLFE STREET	Access	Local Streets	7	434	427	3287.9	ChipSeal	44,387

	2025/26	CLAIRMONT HEIGHTS	Access	Local Streets	4	164	160	912	ChipSeal	12,312
	2025/26	WALTERS BLUFF	Access	Local Streets	6	349	343	3292.8	ChipSeal	44,453
	2025/26	QUARANTINE ROAD (EAST)	Access	Local Streets	0	187	187	2805	ChipSeal	37,868
	2025/26	BEACH ROAD	Secondary Collector	Activity Streets	108	431	323	3488.4	ChipSeal	47,093
	2025/26	BEACHVILLE CRESCENT SPLIT	Access	Local Streets	486	555	69	303.6	ChipSeal	4,099
	2025/26	OLD FARM ROAD	Access	Local Streets	6	251	245	1396.5	SecondCoat	18,853
	2025/26	HILL TOPS WAY	Low Volume	Local Streets	6	243	237	1730.1	SecondCoat	23,356
	2026/27	ABRAHAM HEIGHTS	Access	Local Streets	23	390	367	2238.7	ChipSeal	30222.45
	2026/27	ATAWHAI DRIVE	Secondary Collector	Local Streets	1877	2347	470	2820	ChipSeal	38070
	2026/27	AUSTEN WARD HEIGHTS	Access	Local Streets	0	293	293	2168.2	ChipSeal	29270.7
	2026/27	BAY VIEW ROAD	Access	Local Streets	541	728	187	1383.8	ChipSeal	18681.3
	2026/27	BEACHVILLE CRESCENT	Access	Local Streets	226	486	260	1144	ChipSeal	15444
	2026/27	BEATTY STREET (NORTH)	Secondary Collector	Local Streets	14	160	146	1898	ChipSeal	25623
	2026/27	BISLEY AVENUE	Primary Collector	Local Streets	21	89	68	476	ChipSeal	6426
	2026/27	BISLEY AVENUE	Primary Collector	Local Streets	89	436	347	2776	ChipSeal	37476
	2026/27	BLICK TERRACE	Access	Local Streets	90	185	95	902.5	ChipSeal	12183.75
	2026/27	BOLT ROAD	Primary Collector	Activity Streets	546	759	213	2832.9	ChipSeal	38244.15
	2026/27	BROOK TERRACE	Low Volume	Urban Connectors	4	64	60	600	ChipSeal	8100
	2026/27	CABLE BAY ROAD	Secondary Collector	Peri-urban Roads	7407	8091	684	3830.4	ChipSeal	51710.4
	2026/27	CHAMPION TERRACE	Low Volume	Local Streets	6	241	235	1433.5	ChipSeal	19352.25
	2026/27	CHINGS ROAD	Access	Local Streets	6	153	147	896.7	ChipSeal	12105.45

	2026/27	COLLINGWOOD STREET	Primary Collector	Urban Connectors	299	322	23	296.7	ChipSeal	4005.45
	2026/27	COLLINGWOOD STREET	Low Volume	Local Streets	1728	1842	114	923.4	ChipSeal	12465.9
	2026/27	DOMETT STREET	Access	Local Streets	8	214	206	1174.2	ChipSeal	15851.7
	2026/27	EMANO STREET	Access	Local Streets	503	829	326	1956	ChipSeal	26406
	2026/27	GLEN ROAD	Secondary Collector	Rural Connectors	30	315	285	1824	ChipSeal	24624
	2026/27	GREEN STREET	Access	Local Streets	514	721	207	2235.6	ChipSeal	30180.6
	2026/27	HAMPDEN TERRACE	Access	Local Streets	271	386	115	874	ChipSeal	11799
	2026/27	HARLEY STREET	Access	Local Streets	190	276	86	455.8	ChipSeal	6153.3
	2026/27	HASTINGS STREET	Access	Local Streets	24	336	312	2527.2	ChipSeal	34117.2
	2026/27	HUTSON STREET	Low Volume	Local Streets	3	68	65	364	ChipSeal	4914
	2026/27	KAKENGA ROAD	Low Volume	Local Streets	4	190	186	930	ChipSeal	12555
	2026/27	KARAKA STREET	Access	Local Streets	0	373	373	2611	ChipSeal	35248.5
	2026/27	LEDBURY ROAD	Access	Local Streets	80	196	116	858.4	ChipSeal	11588.4
	2026/27	LEDBURY ROAD	Access	Local Streets	283	390	107	791.8	ChipSeal	10689.3
	2026/27	MAHOE STREET	Low Volume	Local Streets	3	80	77	508.2	ChipSeal	6860.7
	2026/27	MANUKA STREET	Access	Local Streets	417	525	108	1468.8	ChipSeal	19828.8
	2026/27	MARKET ROAD	Primary Collector	Local Streets	16	85	69	717.6	ChipSeal	9687.6
	2026/27	MILL STREET	Access	Local Streets	25	214	189	1171.8	ChipSeal	15819.3
	2026/27	MOANA AVENUE	Primary Collector	Local Streets	0	33	33	224.4	ChipSeal	3029.4
	2026/27	MONTREAL ROAD	Secondary Collector	Local Streets	276	412	136	992.8	ChipSeal	13402.8
	2026/27	MONTROSE DRIVE	Low Volume	Local Streets	140	331	191	1298.8	ChipSeal	17533.8
	2026/27	MURPHY STREET	Secondary Collector	Local Streets	516	821	305	2043.5	ChipSeal	27587.25
	2026/27	NATALIE STREET	Access	Local Streets	12	100	88	818.4	ChipSeal	11048.4
	2026/27	NEWMAN DRIVE	Access	Local Streets	0	19	19	184.3	ChipSeal	2488.05
	2026/27	NIKAU STREET	Secondary Collector	Local Streets	5	316	311	2301.4	ChipSeal	31068.9
	2026/27	NILE STREET EAST	Access	Local Streets	1319	1434	115	966	ChipSeal	13041
	2026/27	ORSMAN CRESCENT	Access	Local Streets	4	335	331	2019.1	ChipSeal	27257.85
	2026/27	PARKERS ROAD	Access	Local Streets	1074	1440	366	2708.4	ChipSeal	36563.4

	2026/27	PENZANCE STREET	Low Volume	Local Streets	6	76	70	567	ChipSeal	7654.5
	2026/27	POLSTEAD ROAD	Primary Collector	Urban Connectors	82	560	478	3824	ChipSeal	51624
	2026/27	PRINCES DRIVE (LOOP RD 2)	Low Volume	Local Streets	0	184	184	1840	ChipSeal	24840
	2026/27	QUEBEC ROAD	Secondary Collector	Local Streets	1120	1590	470	4089	ChipSeal	55201.5
	2026/27	RAINBOW DRIVE	Access	Local Streets	5	300	295	2242	ChipSeal	30267
	2026/27	RANUI ROAD	Secondary Collector	Local Streets	8	225	217	1822.8	ChipSeal	24607.8
	2026/27	RAWHITI STREET	Access	Local Streets	6	229	223	2408.4	ChipSeal	32513.4
	2026/27	RAYNERS ROAD	Low Volume	Rural Roads	10	641	631	3722.9	ChipSeal	50259.15
	2026/27	RENTONE STREET	Secondary Collector	Local Streets	6	137	131	851.5	ChipSeal	11495.25
	2026/27	RUSSELL STREET	Secondary Collector	Local Streets	35	150	115	1541	ChipSeal	20803.5
	2026/27	RUSSELL STREET	Secondary Collector	Local Streets	150	407	257	642.5	ChipSeal	8673.75
	2026/27	RUSSELL STREET	Secondary Collector	Local Streets	407	593	186	2585.4	ChipSeal	34902.9
	2026/27	RUSSELL STREET	Access	Local Streets	608	748	140	658	ChipSeal	8883
	2026/27	ST VINCENT STREET	Secondary Collector	Local Streets	1528	1979	451	1984.4	ChipSeal	26789.4
	2026/27	SEAFIELD TERRACE	Access	Peri-urban Roads	0	422	422	2743	ChipSeal	37030.5
	2026/27	SEAFIELD TERRACE	Access	Peri-urban Roads	575	656	81	396.9	ChipSeal	5358.15
	2026/27	TIPAHI STREET	Secondary Collector	Activity Streets	225	410	185	1831.5	ChipSeal	24725.25
	2026/27	TIPAHI STREET	Access	Local Streets	838	1228	390	3822	ChipSeal	51597
	2026/27	TOI TOI STREET	Primary Collector	Urban Connectors	469	785	316	2243.6	ChipSeal	30288.6
	2026/27	TOI TOI STREET	Arterial	Urban Connectors	862	898	36	349.2	ChipSeal	4714.2
	2026/27	TOSSWILL ROAD	Secondary Collector	Local Streets	16	359	343	2401	ChipSeal	32413.5
	2026/27	TOSSWILL ROAD	Secondary Collector	Local Streets	359	627	268	1876	ChipSeal	25326
	2026/27	TOSSWILL ROAD	Secondary Collector	Local Streets	627	1035	408	2856	ChipSeal	38556
	2026/27	TRAFALGAR SQUARE EAST	Secondary Collector	Local Streets	6	109	103	659.2	ChipSeal	8899.2
	2026/27	TRESILLIAN AVENUE	Access	Local Streets	209	392	183	1628.7	ChipSeal	21987.45

	2026/27	VICKERMAN STREET	Arterial	Activity Streets	12	152	140	910	ChipSeal	12285
	2026/27	WAINUI STREET	Primary Collector	Urban Connectors	6	262	256	3660.8	ChipSeal	49420.8
	2026/27	WASTNEY TERRACE	Access	Local Streets	461	611	150	1560	ChipSeal	21060
	2026/27	WEKA STREET	Primary Collector	Urban Connectors	0	377	377	4825.6	ChipSeal	65145.6
	2026/27	WEKA STREET	Primary Collector	Urban Connectors	377	423	46	703.8	ChipSeal	9501.3
	2026/27	HARFORD COURT	Low Volume	Local Streets	10	124	114	843.6	ChipSeal	11388.6
	2026/27	PANORAMA DRIVE	Secondary Collector	Local Streets	25	57	32	310.4	ChipSeal	4190.4
	2026/27	PANORAMA DRIVE	Secondary Collector	Local Streets	906	1567	661	5288	ChipSeal	71388
	2026/27	ELMS STREET	Arterial	Activity Streets	8	148	140	1680	ChipSeal	22680
	2026/27	VALLEY HEIGHTS ROAD	Low Volume	Local Streets	247	422	175	1032.5	ChipSeal	13938.75
	2026/27	BRONTE STREET (CENTRAL)	Access	Local Streets	116	305	189	1890	ChipSeal	25515
	2026/27	HAVEN ROAD (ST VINCENT TO HALIFAX ST)	Arterial	Activity Streets	6	49	43	258	ChipSeal	3483
	2026/27	HIGHVIEW DRIVE	Access	Local Streets	4	370	366	3111	SecondCoat	41998.5
	2026/27	HIGHVIEW DRIVE	Access	Local Streets	370	680	310	2635	SecondCoat	35572.5
	2026/27	HIGHVIEW DRIVE	Low Volume	Local Streets	680	707	27	229.5	SecondCoat	3098.25
	2026/27	SUNNINGDALE DRIVE	Access	Local Streets	131	235	104	852.8	SecondCoat	11512.8
	2026/27	SUNNINGDALE DRIVE	Access	Local Streets	235	399	164	1344.8	SecondCoat	18154.8
	2026/27	HUNTAWAY CLOSE	Low Volume	Local Streets	5	245	240	1728	SecondCoat	23328

Asphalt draft forward works programme

priorty	Year	Name	ONRC	ONF	From	To	length	area	treat	Cost Est
h	2024/25	MOANA AVENUE	Primary Collector	Local Streets	229	322	93	1000	ThinAC	85,000
h	2024/25	WASHINGTON ROAD	Primary Collector	Urban Connectors	22	307	285	3078	ThinAC	261,630

h	2024/25	ST VINCENT STREET ROUNDABOUT (GLOUCESTER)	Arterial	Activity Streets	0	65	65	1200	ThinAC	114,000
h	2024/25	MAIN ROAD STOKE	Arterial	Activity Streets	1090	1204	114	1755.6	ThinAC	149,226
h	2024/25	COLLINGWOOD STREET ROUNDABOUT (GROVE)	Primary Collector	NoData	0	47	47	940	ThinAC	79,900
m	2024/25	GRENVILLE TERRACE	Low Volume	Local Streets	10	207	197	1122.9	ThinAC	72,988
	2025/26	THE RIDGEWAY (NORTH)	Primary Collector	Urban Connectors	1540	1655	115	1000	ThinAC	85,000
	2025/26	HALIFAX STREET	Regional	Activity Streets	26	140	114	1653	ThinAC	140,505
	2025/26	VANGUARD STREET	Arterial	Activity Streets	452	800	348	2749.2	ThinAC	233,682
	2025/26	VANGUARD STREET	Arterial	Urban Connectors	800	1188	388	3065.2	ThinAC	260,542
	2025/26	VANGUARD STREET	Arterial	Urban Connectors	1188	1268	80	632	ThinAC	53,720
	2025/26	VANGUARD STREET	Arterial	Urban Connectors	1268	1541	273	2975.7	ThinAC	252,935
	2026/27	COLLINGWOOD STREET	Arterial	Activity Streets	990	1029	39	487.5	ThinAC	41,438
	2026/27	HAVEN ROAD (ARTERIAL, NORTHBOUND)	Regional	Urban Connectors	6	373	367	3119.5	ThinAC	265,158
	2026/27	NEALE AVENUE	Primary Collector	Activity Streets	835	953	118	1534	ThinAC	130,390
	2026/27	NEW STREET	Access	Activity Streets	15	173	158	1169.2	ThinAC	99,382

	2026/27	QUARANTINE ROAD	Regional	Urban Connectors	642	700	58	725	ThinAC	61,625
	2026/27	TRAFALGAR STREET (SOUTH)	Secondary Collector	Local Streets	111	478	367	3559.9	ThinAC	302,592
	2026/27	WAIMEA ROAD	Regional	Urban Connectors	2178	3098	920	9752	ThinAC	828,920
	2026/27	WAIMEA ROAD	Regional	Urban Connectors	3411	3522	111	1043.4	ThinAC	88,689

Drainage

Work Year	Asset ID	Road	Start	End	Length	Work Type	Total Project Cost
2024/25	422	AIRLIE STREET	0	13	227	Channel New Construction	$100,000.00
2024/25	805	PRINCES DRIVE - TAMAKI STREET (WALKWAY)	91	108	16	Catchpit New Construction	$300,000.00
2024/25	745	CHINGS ROAD	149	155	6	Catchpit New Construction	$15,000.00
2024/25		ABRAHAM HEIGHTS NEW SUMPS TO PREVENT FLOODING	90	110	30	Catchpit New Construction	$50,000.00
2024/25	747	WIGZELL DRIVE	38	49	11	Catchpit Renewal	$2,079.00
2025/26	763	SHARED ATAWHAI 08 SOUTH	506	620	114	Culvert New Construction	$45,520.20
2025/26	753	LITTLE TODD VALLEY ROAD	613	619	21	Culvert Renewal	$127,050.00
2025/26	754	LITTLE TODD VALLEY ROAD	408	423	18.2	Culvert Renewal	$110,110.00
2025/26	755	LITTLE TODD VALLEY ROAD	327	340	17.1	Culvert Renewal	$20,691.00
2025/26	756	LITTLE TODD VALLEY ROAD	187	210	21	Culvert Renewal	$127,050.00
2026/27	758	CABLE BAY ROAD	2922	2955	27.3	Culvert Renewal	$300,000.00
2026/27	759	CABLE BAY ROAD	7966	7987	23	Culvert Renewal	$9,183.90

2026/27		ENNER GLYNN ROAD	697	967	330	swc reshape	$50,000
2024/25		MAITAI VALLEY ROAD				swc reshape	$35,000
2026/27		CABLE BAY ROAD				swc reshape	
2024/25		GLEN ROAD				swc reshape	
2024/25		SUFFOLK ROAD				subsoil	
2024/25		RICHARDSON STREET				subsoil	
2026/27		ATAWHAI DRIVE				subsoil	

Traffic Signal and Electronic Signs Component Replacement / Improvement Programme

Priority	Site	What	Why
1	4002 Rutherford, Hardy	Recable and new cabinet	Faulting and poor cable condition. Upgrade ducts
2	4006 Collingwood, Riverside	Communications change from copper to fibre	Communications faults and camera quality
3	4009 Collingwood, Selwyn	Communications change from copper to fibre	Communications faults and camera quality
4	4003 Rutherford, Bridge	Communications change from copper to fibre	Communications faults and camera quality
5	4005 Halifax, Trafalgar	Communications change from copper to fibre	Communications faults and camera quality
6	4001 Rutherford, Selwyn	Communications change from copper to fibre	Communications faults and camera quality
7	4002 Rutherford, Hardy	Communications change from copper to fibre	Communications faults and camera quality
8	All sites	External power connection for generator	Resilience connection for power supply failure
9	Electronic School signs	Replace electronic school signs	Signs are becoming unreliable. One replaced already. All installed together.

10	All sites	LED renewals, ongoing programme refer below	LED as reach 30% failure of doides
	4004 Rutherford, Halifax	Communications change from copper to fibre	Lower priority
	4007 Collingwood, Bridge	Communications change from copper to fibre	Lower priority
	4008 Collingwood, Hardy	Communications change from copper to fibre	Lower priority

LED Renewal Priority 1
Rutherford Selwyn.
Rutherford Hardy.
Rutherford Bridge.
Halifax Trafalgar Halifax Collingwood.
Hampden Street.
Motueka Street Waimea.

LED Renewal Priority 2.
Collingwood Bridge.
Collingwood Hardy.
Collingwood Selwyn.
Main Road Stoke Songer.
Main Road Stoke Putaitai.
Rutherford Halifax. (If Second year being done after 2026)
Clarence Drive Waimea (If Second year being done after 2026)

Appendix E: Indicative structures renewal programme

WC515 Bridge Component Replacement and Renewal Programme												
Totals		650000	240000	350000	1020000	500000	150000	1050000	150000	1200000	1200000	2050000
Description	Account Code	Year1 (2024/25) Spend	Year2 (2025/26) Spend	Year3 (2026/27) Spend	Year4 (2027/28) Spend	Year5 (2028/29) Spend	Year6 (2029/30) Spend	Year7 (2030/31) Spend	Year8 (2031/32) Spend	Year9 (2032/33) Spend	Year10 (2033/34) Spend	Year11 (2034/35) Spend
2980 - Saltwater Cr bridge (Haven Rd to Traf Park) could carry over	500173652980	600,000										
Whitby Road	500173653038	20000	120,000									
Tosswill 103.1 footbridge and retaining wall	500173653038		50,000	80,000	500,000							
Tosswill 106 footbridge and retaininng wall	500173653038		50,000	80,000	500,000							
Gracefield footbridge - align with project work in this area for cycle crossings	500173653038		20,000									
Riverside footbridge handrail replacement	500173653038			170,000								
Gibbs Bridge	500173653038				20,000	400,000	footpaths and handrails first deck renewal later					
Manuka Street ford	500173653038	do a NPV calculation		20,000		100,000	100,000	1,000,000				
Waterdale Way Bridge Handrail replacement	500173653038						50,000					
Trafalgar Street Bridge renewal	500173653038											

WC515 Bridge Component Replacement and Renewal Programme												
Remove timber foopath at Trafalgar QE2	500173653038	30000										
Collingwood Street Bridge Renewal	500173653038											
Poleford Renewal	500173653038							50,000		100,000	200,000	2,000,000
Clouston Bridge renewal	500173653038								50,000			
Arthur cotton	500173653038											50,000
Newman Drive Armco	500173653038								100,000	1,000,000		
Naumai Armco	500173653038									100,000	1,000,000	
Main Road Stoke - Poorman Stream	500173653038											
Nayland Bridge Poorman Stream	500173653038											
Beatson Road	500173653038											

WC215 retaining walls												
Totals		280000	450000	600000	800000	1093104	480000	580000	580000	580000	580000	1280000
Description	Account Code	Year1 (2024/25) Spend	Year2 (2025/26) Spend	Year3 (2026/27) Spend	Year4 (2027/28) Spend	Year5 (2028/29) Spend	Year6 (2029/30) Spend	Year7 (2030/31) Spend	Year8 (2031/32) Spend	Year9 (2032/33) Spend	Year10 (2033/34) Spend	Year11 (2034/35) Spend
3039 - WC 215 Structures component replacement - Retaining walls	500173653039											
Suffolk Road	500173653039	220000										
3125 - WC 215 Jenner Road Retaining Wall Renewal	500173553125	60,000	400,000									
Tosswill 103.1 footbridge and retaining wall	500173653039			100000	500000							
Tosswill 106 footbridge and retaininng wall	500173653039				100000	500000						
Stansell 64 retaining wall	500173653039				100000	500000						
572 Brook Street	500173653039				20000	13104	400000					
Snows Hill retaining walls	500173653039											
66 Tipahi Street	500173653039		50000	500000	align with intersection upgrade							
Saltwater Creek rock walls	500173653039	Investigate										
2 Brunner Street	500173653039											100000
Konini to Vanguard path	500173653039											100000
Crib wall Princes Drive												

Handrails and Barrier renewals	500173653039				80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000
TBC future programme from latest inspections								500000	500000	500000	500000	1000000
Minor works retaining improvements												
Iwa Road catch wall	WC341	200000										
Konini Street walls to support footpath	WC341	20,000	200,000									

Unsubsidised retaining walls and barriers												
Totals		-	-	50,000	671,200	638,000	500,000	100,000	230,000	600,000	2,240,000	2,425,248
Description	Account Code	**Year1 (2024/25 Spend**	**Year2 (2025/26) Spend**	**Year3 (2026/27) Spend**	**Year4 (2027/28) Spend**	**Year5 (2028/29) Spend**	**Year6 (2029/30) Spend**	**Year7 (2030/31) Spend**	**Year8 (2031/32) Spend**	**Year9 (2032/33) Spend**	**Year10 (2033/34) Spend**	**Year11 (2034/35) Spend**
0448 - Rocks Rd Bollards	500271400448	0	30,000	0	0	30,000	0	0	30,000	0	0	30,000
Calamaris - unsub	500273653039			50000	571200							
Coster - unsub	500273653039					588000						
3 Scotia Rd	500273653039											65856
9 Scotia Rd	500273653039											259392
2 Kowhai Ave	500273653039											
Maitai Path Gabions	500273653039								130,000	100,000	2,240,000	
353 Brook Street	500273653039								100,000	400,000		
Miro Street mass concrete	500273653039					50,000	500,000					
Assume renewals in future years. To be broken out better in future AMP	500273653039											2,000,000
UNSUB new walls for unsupported banks (transfer to subsidised if site qualifies)	500273653039											
Private walls responsive Russell Street	500273653039				100,000							
Vested Assets - from private walls	500273653039							100,000		100,000		100,000

Footpath and Shared Path Renewals 2024-25

2024/25		HARLEY STREET				Police Station frontage. Protect heritage kerb			
2024/25		ATAWHAI DRIVE – FOUNDERS ENTRANCEWAY	556	591	Footpath Renewal	35	4	140	$25,410.00
2024/25		SHARED _ ATAWHAI _ CORDER PARK	590	598	Footpath Renewal	4	11	44	$80,000.00
2024/25	24	WAIMEA ROAD	2774	3033	Remove path	259	1.4	362	$20,000.00
2024/25	1527	THE RIDGEWAY (NORTH)	1007	1566	Footpath Renewal	559	1.6	950	$300,000.00
2024/25	243	THE RIDGEWAY (NORTH)	1898	2073	Footpath Renewal	175	1.5	262.5	$47,643.75
2024/25	283	SUFFOLK ROAD	1235	1247	Footpath Renewal	12	1.5	18	$10,527.00
2024/25	289	WATERHOUSE STREET	16	110	Footpath Renewal	1	121.5	121.5	$14,701.50
2024/25	305	BEATSON ROAD	704	776	Footpath Renewal	72	1.5	108	$19,602.00
2024/25	309	THE RIDGEWAY (SOUTH)	361	601	Footpath Renewal	240	1.5	360	$95,832.00
2024/25	413	WAIMEA ROAD	3898	4083	Footpath Renewal	185	1.5	277.5	$50,366.25
2024/25	448	COLLINGWOOD STREET ROUNDABOUT (GROVE)	39	41	Footpath Renewal	6	1.6	9.6	$1,742.40
2024/25	449	COLLINGWOOD STREET ROUNDABOUT (GROVE)	27	30	Footpath Renewal	4	0.8	3.2	$580.80
2024/25	528	TRAFALGAR STREET (SOUTH)	305	487	Footpath Renewal	182	2	364	$66,066.00
2024/25	541	QUARANTINE ROAD (EAST)	208	383	Footpath Renewal	175	1.5	262.5	$53,693.75
2024/25	577	WAINUI STREET	6	249	Footpath Renewal	243	2.4	583.2	$105,850.80
2024/25	593	WASTNEY TERRACE	132	323	Footpath Renewal	191	1.9	362.9	$65,866.35
2024/25	594	BOLT ROAD ROUNDABOUT	25	30	Footpath Renewal	368.3	1.6	589.3	$156,866.34
2024/25	604	WATERHOUSE STREET	226	386	Footpath Renewal	155	1.2	186	$33,759.00
2024/25	605	WATERHOUSE STREET	121	226	Footpath Renewal	104	1.2	124.8	$22,651.20
2024/25	613	TRAFALGAR SQUARE WEST	268	338	Footpath Renewal	70	1.8	126	$22,869.00
2024/25	623	DODSON VALLEY ROAD	611	630	Footpath Renewal	19	1.5	28.5	$5,172.75
2024/25	628	FRANKLYN STREET	4	174	Footpath Renewal	171	1.5	256.5	$46,554.75
2024/25	640	MOTUEKA STREET	240	355	Footpath Renewal	115	1.5	172.5	$31,308.75
2024/25	663	COLLINGWOOD STREET	1540	1720	Footpath Renewal	180	1.5	270	$49,005.00
2024/25	685	KAKA STREET	2	234	Footpath Renewal	201	1.7	341.7	$62,018.55
2024/25	686	NAYLAND ROAD	1468	1556	Footpath Renewal	84.6	1.5	126.9	$23,032.35
2024/25	736	MOUNT STREET (LOOP ROAD)	290	333	Footpath Renewal	43	1.3	55.9	$10,145.85

2024/25	737	MANUKA STREET	267	376	Footpath Renewal	109	1.7	185.3	$33,631.95
2024/25	746	KAWAI STREET (NORTH)	39	136	Footpath Renewal	99.7	1.7	169.5	$30,762.44
2024/25	806	LOCKING STREET	489	518	Footpath Renewal	28	1.4	39.2	$7,114.80
2024/25	833	SUNNYBANK RISE	6	149	Footpath Renewal	135	1.3	175.5	$31,853.25
2024/25	849	RUTHERFORD STREET	1168	1273	Footpath Renewal	105	2.6	273	$49,549.50
2024/25	888	KAKA STREET	0	43	Footpath Renewal	37	1.5	55.5	$10,073.25
2024/25	890	GREEN STREET	506	724	Footpath Renewal	217	1.1	238.7	$63,541.94
2024/25	891	RUI STREET	6	62	Footpath Renewal	56	1.5	84	$15,246.00
2024/25	892	HOMER STREET	4	100	Footpath Renewal	182	1.4	254.8	$46,246.20
2024/25	893	MAIN ROAD STOKE	1228	1296	Footpath Renewal	69	2	138	$25,047.00
2024/25	894	AKERSTEN STREET	181	285	Footpath Renewal	102	1.5	153	$28,314.00
2024/25	895	KONNISTREET	682	918	Footpath Renewal	233	1.5	349.5	$64,251.00
2024/25	629	WAIMEA ROAD	4507	4735	Footpath Renewal	228	1.9	410	$74,487.60
2024/25	896	MAIN ROAD STOKE	1774	2208	Footpath Renewal	430	1.5	645	$117,067.50
2024/25	897	BOLT ROAD	85	435	Footpath Renewal	349	1.7	593.3	$107,683.95
2024/25		SH6 TAHUNANUI DRIVE	3170	3220	Footpath Renewal	50	2.2	110	$13,200.00

Ongoing Flood Recovery 2022 Event

Maori Road retaining wall $300,300	Ross Road underslip $90,350
Konini Street underslip $412,100	Todd Valley Road underslip $80,600
Arrow Street retaining wall $224,900	Teal Valley Road underslip $899,600
Iwa Road catch fence $351,390	Chings Road dropout $49,400
Brook Street at Glenn Creek - $1M	

Appendix F Low Cost Low Risk Prioritisation List and Priority Programme

Prioritisation Matrix									
Environmental Impact/ Emissions		**Safety**		**Resilience**		**Growth/Congestion**		**Difficulty of Delivery/ Organisational Capacity**	
Improves the natural environment AND reduces emissions compared to the existing situation	**2**	Reduces the number of DSI for drivers or any crashes for active modes at a whole of network level	**2**	Improves resilience for emergency vehicles at a whole of network level AND improves resilience for the whole network	**2**	Improves capacity at a whole of network level	**2**	Has no public, SLT or councillor input needed	**2**
Improves the natural environment OR reduces emissions compared to the existing situation	**1**	Reduces the number of DSI for drivers or any crashes for active modes at an intersection or road link level	**1**	Improves resilience for emergency vehicles at a whole of network level AND/OR improves resilience for a suburb scale network	**1**	Improves capacity at a suburb or smaller scale	**1**	Has no public engagement but SLT and/or CE sign-off needed	**1**
Has a neutral impact on the environment or emissions	**0**	Has a neutral impact on road safety	**0**	Has a neutral impact on network resilience	**0**	Has a neutral impact on network capacity	**0**	Is relatively standard project with minimal public engagement needed but will still require reporting to Council	**0**
Degrades the natural environment OR increases emissions compared to the existing situation	**-1**	Increases the number of DSI for drivers or any crashes for active modes at an intersection or road link level	**-1**	Reduces resilience for emergency vehicles at a whole of network level AND/OR reduces resilience for a suburb scale network	**-1**	Reduces capacity at a suburb or smaller scale	**-1**	Is a complex project requiring limited and focused public engagement with immediate neighbours and a report to Council	**-1**

Prioritisation Matrix									
Environmental Impact/ Emissions		**Safety**		**Resilience**		**Growth/Congestion**		**Difficulty of Delivery/ Organisational Capacity**	
Degrades the natural environment AND increases emissions compared to the existing situation	**-2**	Increases the number of DSI for drivers or any crashes for active modes at a whole of network level	**-2**	Reduces resilience for emergency vehicles at a whole of network level AND reduces resilience for the whole network	**-2**	Reduces capacity at a whole of network level	**-2**	Is a very complex project requiring full public engagement, an SCP, council workshops and council reports. Project is likely to be contentious and end up in the media	**-2**

Description	**Priority area**	**Business case Status**	2024/25 Budget Comments	Total Spend 3 years	2024/25 Year1 (2024/25) Spend	2024/25 Year2 (2025/26) Spend	2024/25 Year3 (2026/27) Spend
St Vincent Toi Toi Raised tables	Z	Complete	Work on site	800000	800000		
Cable Bay Blue Duck Quarry culvert upgrade	L	resilience	Resilience for Cable Bay Road	300000	300000	0	0
3873 - WC 341L Little Todd Roading Improvements	L	Positive NPV for resilience	Resilience improvements out Little Todd. Positive NPV outcomes.	300,000	20,000	280,000	0
Marybank cycleway crossing	W	not started	Consultation with school, and NZTA complete	200,000	0	200,000	0
East west cycle connection	W	Point of entry complete	Major project	4,500,000	200000	300000	4000000
Millers Acre bus interchange	PT	Complete	Major Project	2,500,000	1,000,000	1,500,000	

Description	Priority area	Business case Status	2024/25 Budget Comments	Total Spend 3 years	2024/25 Year1 (2024/25) Spend	2024/25 Year2 (2025/26) Spend	2024/25 Year3 (2026/27) Spend
3871 - WC 341L Driver Information Boards	L	not started	Investigation and installation of driver information boards in select locations in Nelson.	100,000	0	0	100,000
2079 - Mount Street and Konini Street Upgrade	W	approved	Improvements to pedestrian safety and access. Expected to include some geotechnical work.	1,300,000	100,000	1,200,000	0
2166 - WC 341Z Haven/Halifax Intersection Improvements	Z	complete	Proposed changes at the intersection to include signalisation.	1,510,000	100,000	10,000	1,400,000
2189 - WC341 Innovative Streets - Kawai St	W	formalising trial works	Works to change the temporary measures to permanent. Kerb changes would require changes to drainage.	2,000,000	0	0	2,000,000
3009 - WC 341Z Toi Toi/Vanguard intersection upgrade	Z	approved	Installation of signals at the intersection to connect walk to school route and address safety at the intersection.	1,790,000	20,000	20,000	1,750,000
3227 - Waimea Road Franklyn Street intersection improvements	W	approved	Installation of signals. Design 23/24 and construction to follow next 3-year cycle.	1,810,000	10,000	1,800,000	0
3233 - Atawhai Shared path extension to Todds Valley	tbc	not started	Possible option to put a path on top of the rising main sewer alignment. May not be subsidisable if it is in the state highway corridor unless can get 100% WK funding as a highways project	67,655	0	11,276	56,379
3458 - WC341L Selwyn Place Pedestrian Crossings	L	started	Traffic calming to support 30kph speed limit and improve safety at pedestrian crossings with raised tables	620,000	20,000	600,000	0

Description	Priority area	Business case Status	2024/25 Budget Comments	Total Spend 3 years	2024/25 Year1 (2024/25) Spend	2024/25 Year2 (2025/26) Spend	2024/25 Year3 (2026/27) Spend
3511 - WC341Z Speed Limit changes speed signs	Z	regulatory to support speed management plan	Changes to speed limit signage stemming from speed management plan. Assumes all regulatory changes complete y1. Future changes would require further budget.	100,000	100,000	0	0
3514 - WC341 Stoke School speed zone upgrade	Z	not started	Changes to road layout and school frontage to slow speeds. May need to be informed by the Stoke Programme Business Case	1,000,000	0	100,000	900,000
3517 - WC341L Traffic calming to support speed reduction	L	refer potential sites appendix F	Installation of traffic calming measures along local roads.	750,000	250,000	250,000	250,000
3526 - WC341 School Speed Zone Haven Road	Z	regulatory to support speed management plan	Budget would be carry over of local share if not complete in 23/24. Shown in 24/25 for the NZTA funding request and assuming supported by speed limit review	77,500	77,500	0	0
3527 - WC341 School Speed Zone NCA	Z	regulatory to support speed management plan	Budget would be carry over of local share if not complete in 23/24. Shown in 24/25 for the NZTA funding request and assuming supported by speed limit review	77,500	77,500	0	0
3529 - St Vincent Street separated cycle facility improvements	W	started	Changes to the existing St. Vincent Street separated cycle facility at driveways in y1-3 and at intersections in future years.	1,000,000	100,000	900,000	0
3668 - WC 341Z - Gloucester Vanguard intersection safety	Z	approved	Installation of raised pedestrian crossings on all legs of the intersection.	800,000	800,000	0	0

Description	Priority area	Business case Status	2024/25 Budget Comments	Total Spend 3 years	2024/25 Year1 (2024/25) Spend	2024/25 Year2 (2025/26) Spend	2024/25 Year3 (2026/27) Spend
			Design underway and construction Y1-3. Site is identified because of crash history				
3669 - WC341Z - Gloucester St Vincent intersection safety	Z	approved	Installation of raised pedestrian crossings on all legs of the intersection. Design underway and construction Y1-3. Site is identified because of crash history.	800,000	800,000	0	0
3670 - WC341Z - Hardy Vanguard intersection safety	Z	approved	Installation of raised pedestrian crossings on all legs of the intersection. Design underway and construction Y1-3. Site is identified because of crash history.	800,000	0	800,000	0
3672 - WC341L - Nayland Songer Roundabout safety	L	not started	Installation of raised pedestrian crossings on all legs of the intersection. Design underway and construction Y1 to suit resurfacing programme.	800,000	800,000	0	0
3674 - WC341L - Nile Collingwood	Z	not started	Installation of raised pedestrian crossings on all legs of the intersection. Design underway and construction Y1-3.	800,000	0	0	800,000
3675 - WC341W - Maori Road raised crossing	W	started	Installation of raised crossing at the intersection. Has been designed.	300,000	300,000	0	0
3705 - WC 341L IAF Active Linear Corridor	L	not required	Works at the two ends of Bridge Street (Rutherford and Collingwood) and at Rutherford/Haven/Vanguard to support Bridge Street IAF works.	1,000,000	50,000	950,000	0
3862 - WC 341W Tipahi/Motueka Safety Improvements	W	not started	Installation of raised pedestrian crossings on all legs or signals. Needs	200,000	0	0	200,000

Description	Priority area	Business case Status	2024/25 Budget Comments	Total Spend 3 years	2024/25 Year1 (2024/25) Spend	2024/25 Year2 (2025/26) Spend	2024/25 Year3 (2026/27) Spend
			business case to determine what measures to install.				
3863 - WC 341L Quarantine/Pascoe Intersection Improvements	L	started	Short-term improvements at the intersection.	100,000	0	100,000	0
3866 - WC 341L Transport Temporary Works	L	TBC on approval to use activating streets rules and trial works to inform future programme	Temporary measures at selected locations to trial before considering permanent installation. Budget may need to be brought forward in the 3-year period to suit planning consultation and demand. Requires the support of consultation and design staff and ongoing maintenance until permanent works are installed.	200,000	0	0	200,000
3868 - WC 341W Pedestrian and Cycle Crossing Improvements	W	refer potential sites appendix F	Installation and upgrades of street crossings for pedestrians and cyclists.	450,000	0	0	450,000
3869 - WC 341W Cycleway and Cycle Lane Improvements	W	refer potential sites appendix F	Installation and upgrades of cycleways and cycle connections throughout Nelson.	600,000	0	250,000	350,000
2054 - WC222 Washington Valley Streetlight renewal	L	N/A	Streetlight installation/upgrade on Washington Road to coincide with utility works and because the host power poles are to be removed	200,000	0	0	200,000

Potential Speed Management Sites, all require confirmation of safety benefits, differential speed problem, other benefits, value for money, community acceptance before funding request for delivery

Quebec Road

Abraham Heights

Emano Street

Stanley Crescent

Beachville Crescent

Kawai Street

Waikare Street

Weka Street/Wainui Street

Bisley Ave

Atawhai Drive at Founders (police request)

Marsden Valley Road

Ridgeway

Dodson Valley

Larges Lane

Potential Walk / Cycle Projects, all require benefit assessment, value for money confirmation, route option confirmed, community acceptance before funding request for delivery

Nile Street

Cross town links

Gracefield Bridge crossings

Railway Reserve to Whakatu Drive underpass connection

Beatson Road raised crossing at Railway Reserve

Ulster Street crossing upgrade

Toi Toi Street connect shared path to St Vincent Street

Upgrade separated cycleway at Toi Toi / St Vincent Street roundabout

Refer also Et u Whakatu active travel strategy

Suffolk Road at Orphanage Stream

Ridgeway Arapiki Road east and View Mount connections

Crossing upgrade sites all require benefit assessment, value for money confirmation, route option confirmed, community acceptance before funding request for delivery

Main Road Stoke at Stoke School

Vanguard Street at Victory School

Putaitai Street at Main Road Stoke

Trafalgar Street at QEII roundabout

Trafalgar Street at Trafalgar Park

Van Diemen at Fairfield Park

City centre pedestrian crossings

Saxton Road east at Saxton Field

Nayland Road pedestrian crossings at Schools

Waimea Road between Beatson Road roundabout and Cawthon Crescent (Enner Glynn journey to school route)

Potential Trial Works

Pre-design of cycleways

Hastings Street closure/one way

North Esk Street closure/one way

Totara Street closure/oneway

Trafalgar Street parking reduction Nelson Girls College

Appendix G: Corporate Risk Register

Risk #	Risk Title	Control / Treatment	Treatment Description	Likelihood	Severity	Rating
R00573	Increased costs to manage carbon emissions		Intervention hierarchy, economic benefit/cost and net present value calculations	Possible	Moderate	Medium
R00575	Transport strategy skills gap	MC00856	- Ensure assumption to project cost estimates are fully understood and refine estimates before each Annual Plan and Transport Investment On Line entries. - Ensure robust asset management and project management practices are followed	Almost certain	Moderate	HIGH
R00551	Increased cost of working from new freshwater guidelines/ align with Water Services Reform & RMA reform	MC00827	- Investigation into contamination treatment options, - establish monitoring framework; and - coordination with Stormwater Utilities to invest in freshwater improvement programmes.	Almost certain	Moderate	HIGH
R00554	Non-compliant road signage / line-markings / vegetation affecting line of sight/ signal failures	MC00830	- Prioritise markings renewals to ensure critical signs and markings are renewed before end of life - Avoid waterblasting - manage improvements/changes to occur before resurfacings	Possible	Major	HIGH
		MC00844	Vegetation / tree management maintenance & planning			
		MC00900	Planned upgrade in 2024-27 of copper cable linking the CBD ring road traffic signals to more secure/resilient wireless or fibre connections.			
R00559	Key person risk - Transport Network Adminstrator	MC00837	Additional staff resources.	Possible	Major	HIGH

R00569	Step change in allowing cyclist on footpaths	MC00849	- Introduce bylaw to control cycle access to footpaths where required (uncertain whether this is feasible) - Increased capex to mitigate increased safety risk - Additional staff resources for consultation, planning and trial works to determine network changes to manage change of use demands	Likely	Moderate	HIGH
R00570	Changes in use / design standards requires different infrastructure	MC00850	- Monitoring trends and consultation with stakeholders and customers e.g. active travel strategy - Future Development Strategy - Consider aged population, technology and mode share considerations in all asset management decisions - Additional staff resources for consultation, planning and trial works to determine network changes to manage change of use demands	Possible	Major	HIGH
		MC01009	- Safety audits at appropriate stages of concept design and construction (for layout/design changes)			
R00594	Road Maintenance Contract Renewal		- Contract management and governance	Unlikely	Major	LOW
R00556	Unsafe 'third party' retaining walls	MC00833	- programme to identify all road retaining walls and undertake condition assessments - communication and negotiation with private structure owners to accept and manage their assets and liabilities - principal inspections on all structures and ongoing inspection programme and improvement programme to confirm private ownership responsibilities for walls on road reserve that are not road assets - policy review of road reserve encroachments, and structures on road reserve. Investigate quantity of private structures on road reserve - deed of encumbrance for new private retaining walls on road reserve clearly states that liability sits with the private owner	Possible	Major	HIGH

R00301	Contractors do not meet required health and safety standard	MC00465	Contractor reports to Council Council reviews H&S systems Audits of H&S systems	Possible	Major	HIGH
R00288	Desired NZ Transport Agency funding not obtained	MC00415	Asset management improvement plans. Meetings with NZTA and monitoring of their planning	Possible	Major	HIGH
R00700	Electrical risk Collingwood Street trees		Work with power authority to underground power wires, or remove trees	Possible	Major	HIGH
R00557	Step change in traffic loads	MC00834	- Desktop structural assessment when loading rules are changed and posting of bridges that do not accommodate new loadings. - Include loading data and demand into structural maintenance and renewal programme, so under capacity bridges and culverts are identified and monitored - decline high productivity motor vehicles (HPMV) new route applications if route has structure limitations. - extend pavement rehabilitation programme to include new bus routes - heavy maintenance programme to treat bus stops and isolated significant pavement failures	Unlikely	Extreme	HIGH
	Utility failure post ac surfacing or rehabilitation		- Adequate budget for utility works - Programme utility works ahead of high value resurfacing and rehabilitations - Accept lower LOS when safe and utilities programme not ready	Likely	Moderate	Moderate

Rating	Safety	Health	Asset Performance/ Service Delivery	Environmental/ Historical/cultural	Financial	Political / Community/ Reputational	Relationship with Iwi	Legal compliance	Information/ decision support
Exterme (5)	Multiple fatalities of workers or public (MF)	Significant loss of life expectancy for multiple persons or incapacity for more than 1000 person days	Service not provided for more than 5000 person days	Permanent environmental damage on a nationally significant scale and/or permanent loss of nationally significant building, artwork, or other valued entity	Overspend, loss (i.e. spend without result) or income loss of > $5m OR >100% of business unit budget	Major loss of public confidence in Council (>2000 opponents via social media or other mediums) Negative international mainstream media coverage; shareholder or key stakeholder outage; or loss of a key customer	Major breakdown of relationship affecting multiple areas. Refusal to resolve without one or more major concessions from council	Litigation/ prosecution or civil action successful resulting in major (>50% of maximum available) fine/costs awarded and/or imprisonment of council officer.	Multiple errors in information and analysis and presentation misleading (intentionallly or not) or not understandable by non- specialists
Major (4)	Single fatality of workers or public (SF)	Single loss of life expectancy or incapacity for between 100 and 1000 person days	Service not provided for less than 5000 person days but more than 500 person days	Major environmental damage with long-term recovery requiring significant investment and/or loss or permanent damage to a registered historical, cultural or archaeological site or object	Overspend, loss (i.e. spend without result) or income loss of > $1m and <$5m OR between 70% and 100% of business unit budget	Significant negative public reaction likely (200-2000 opponents via social media or other mediums) Negative national mainstream media coverage; significant negative perception by shareholder or key stakeholder; or a customer disruption	Significant breakdown of relationship largely in in one area. Some concessions from council sought before substantive issue considered by iwi grouping affected	Litigation/ prosecution or civil action successful resulting in minor fine(<50% of max available)/ costs awarded.	One major error in information, analysis incomplete and presentation ambiguous
Moderate (3)	Notifiable injury of workers or public.	Incapacity for between 20 and 100 person days	Service not provided for less than 500 person days but more than 50 person days	Measurable environmental harm on a nationally significant scale. Some costs in terms of money and/or loss of public access or conservation value of the site and/or restorable damage to historical, cultural or archaeological site or object	Overspend, loss (i.e. spend without result) or income loss of > $0.5m and <$1m OR between 30% and 70% of business unit budget	Some negative public reaction likely (30-200 opponents via social media or other mediums) Repeated complaints; Regulatory notification; or negative stakeholder, local media attention	Major relationship damaged in a single area but amenable to negotiation	Documented Breach of legislation, no legal action or prosecution or civil action not successful.	Information correct but presentation/ analysis insufficient to support decision on the day
Minor (2)	Serious injury on one person requiring medical treatment (MA)	Incapacity for between 1 and 20 person days	Service not provided for less than 50 person days but more than 5 person days	Medium term environmental impact at a local level and/or development compromising the integrity of a registered historical, cultural or archaeological site	Overspend, loss (i.e. spend without result) or income loss of > $100k and <$500k OR between 10% and 30% of business unit budget	Minor public reaction likely (<30 active opponents via social media or other mediums) Workforce attention; limited external attention;	Relationship damage resolvable through normal communication/ consultation mechanisms	Formal warning of breach from legislative authority.	Information correct, analysis complete but presented in a way which could be misinterpreted
Insignificant (1)	Minor injury requiring only first aid or less (FA)	Incapacity for less than 1 person day	Service not provided for between 1 & 5 person days	Short term and temporary impact requiring no remedial action and/or restorable loss damage to historical/ cultural record	Overspend, loss (i.e. spend without result) or income loss of > $10k and <$100k OR between 5% and 10% of business unit budget	Very limited negative reaction (1 or 2 active opponents via social media or other mediums) Internal attention only from staff directly working on the matter.	Iwi/ tribe/ hapu public dissatisfaction resolvable through routine communication	Breach of minor legislation/ no legal action	Small errors in information or presentation - no effect on decision

CONSEQUENCES					LIKELIHOOD of the given consequence occurring			
Insignificant(1)	Minor (2)	Moderate (3)	Major (4)	Extreme (5)	Descriptor	Qualitative guidance statement	Indicative Probability range %	Indicative frequency range (years)
Medium (5)	Medium (10)	High (15)	Very High (20)	Very High (25)	Almost certain (5)	The consequence can be expected in most circumstances OR *A very low level of confidence/information*	>90%	>1 occurrence per year
Medium (4)	Medium (8)	High (12)	High (16)	Very High (20)	Likely (4)	The consequence will quite commonly occur OR *A low level of confidence/information*	20% - 90%	Once per 1-5 years
Low (3)	Medium (6)	Medium (9)	High (12)	High (15)	Possible (3)	The consequence may occur occasionally *A moderate level of confidence/information*	10% - 20%	Once per 5-10 years
Very Low (2)	Low (4)	Medium (6)	Medium (8)	High (10)	Unlikely (2)	The consequence may occur only infrequently *A high level of confidence/information*	2% - 10%	Once per 10 - 50 years
Very Low (1)	Very Low (2)	Low (3)	Medium (4)	Medium (5)	Rare (1)	The consequence may occur only in exceptional circumstances *A very high level of confidence/information*	<2%	Less than once per 50 years

Risk Level	Description and Action	Authority for continued tolerance	Timing for implementing action	Obligation to promptly advise including advising treatments
Very High	Not normally tolerable, immediate intervention to reduce risk	Full Council on advice from CE	Immediate if possible but no more than one month	Full Council using best practicable means
High	Not normally tolerable, initiate action as soon as practicable to reduce risk below High	SLT or Group Manager (Council at CE discretion)	As soon as practicable but no more than 2 months	SLT or accountable Group Manager (Council at CE discretion)
Medium	Normally tolerable, frequently review to look for opportunities to further reduce risk where practicable	Business Unit Manager	At least within one quarter	Accountable Group Manager
Low	Acceptable risk, routine review for low cost actions to reduce risk further	No specific authority required	Routine review period (e.g. 3- 6 monthly)	None
Very Low	Acceptable risk, no specific actions to reduce further	No specific authority required	Only if incidental to another action	None

Appendix F: Budget Summaries by Activity area (final LTP)

Account	LTP 2024-34 Year1 2024/25	LTP 2024-34 Year2 2025/26	LTP 2024-34 Year3 2026/27	LTP 2024-34 Year4 2027/28	LTP 2024-34 Year5 2028/29	LTP 2024-34 Year6 2029/30	LTP 2024-34 Year7 2030/31	LTP 2024-34 Year8 2031/32	LTP 2024-34 Year9 2032/33	LTP 2024-34 Year10 2033/34
5001 Subsidised Roading	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Income	**(5,985,428)**	**(6,183,311)**	**(6,528,387)**	**(6,850,000)**	**(7,056,675)**	**(7,125,643)**	**(7,387,181)**	**(7,347,893)**	**(7,518,895)**	**(8,342,152)**
Rates Income	**(2,929,088)**	**(3,026,128)**	**(3,195,304)**	**(3,355,774)**	**(3,457,198)**	**(3,491,138)**	**(3,619,432)**	**(3,600,326)**	**(3,684,253)**	**(4,087,791)**
Other Income	**(3,056,340)**	**(3,157,183)**	**(3,333,083)**	**(3,494,226)**	**(3,599,477)**	**(3,634,505)**	**(3,767,749)**	**(3,747,567)**	**(3,834,642)**	**(4,254,361)**
Expenses	**5,985,428**	**6,183,311**	**6,528,387**	**6,850,000**	**7,056,675**	**7,125,643**	**7,387,181**	**7,347,893**	**7,518,895**	**8,342,152**
Staff Operating Expenditure	**1,470,495**	**1,512,666**	**1,539,757**	**1,569,328**	**1,599,626**	**1,633,725**	**1,663,810**	**1,696,650**	**1,733,081**	**1,764,233**
Base Expenditure	**3,604,293**	**3,637,971**	**4,141,616**	**4,249,755**	**4,271,941**	**4,393,729**	**4,489,308**	**4,624,786**	**4,739,650**	**5,235,230**
500120100118. WC 124 Cycle Path Maintenance	10,000	10,731	11,500	12,300	13,117	13,950	14,799	15,675	16,565	17,483
500120100119. WC 111 Sealed Pavement Maintenance	380,000	342,370	350,242	358,316	366,188	334,800	318,752	325,108	331,296	337,596
500120100120. WC 112 Unsealed Pavement Maintenance	64,949	66,378	67,904	69,469	70,996	72,483	73,938	75,412	76,848	78,309
500120100121. WC 113 Routine Drainage Maintenance	6,000	6,132	6,273	11,562	11,816	12,064	12,306	12,551	12,790	13,034
500120100122. WC 114 Barrier Maintenance	25,000	25,550	26,138	55,887	57,114	58,311	59,481	60,667	61,822	62,998
500120100125. WC 123 Operational Traffic Management	20,000	20,440	20,910	26,740	27,328	27,900	28,460	29,028	29,580	30,142
500120100448. WC125 Mtce: Rocks Rd Bollards	8,000	8,176	8,364	8,557	8,745	8,928	9,107	9,289	9,466	9,646
500120100583. WC 112 Unsealed Pavement Grading	19,296	19,720	20,174	20,639	21,092	21,534	21,966	22,404	22,831	23,265
500120100673. WC 121 Stock Effluent Facility Maintenance	40,000	40,880	41,820	52,079	53,223	54,338	55,429	56,534	57,610	58,706
500120103676. WC 112 Unsealed Pavement Maintenance - Aniseed	15,000	15,330	15,682	16,044	16,396	16,740	17,076	17,416	17,748	18,086
500120140124. WC 123 Electronic Sign maintenance	20,000	20,440	10,455	5,348	8,745	11,160	11,384	11,611	11,832	12,057
500120160416. WC 125 Blockwork Maintenance	20,000	20,440	20,910	49,202	52,469	55,800	59,197	62,699	66,259	69,931
500120240117. WC151 Traffic counts	150,000	153,300	156,825	160,440	163,965	167,400	170,760	174,165	177,480	180,855
500120313676. WC 122 Sign Maintenance - Aniseed	1,000	1,022	1,046	1,070	1,093	1,116	1,138	1,161	1,183	1,206
500120410121. WC 113 Routine Drainage Maintenance	130,000	153,300	188,190	213,920	218,620	223,200	227,680	232,220	236,640	241,140
500120410122. WC 114 Bridge Maintenance	456,745	211,293	404,342	221,134	225,993	230,727	235,359	240,052	244,621	610,982
500120410123. WC 121 Roading Environmental Maintenance	30,000	30,660	31,365	32,088	32,793	33,480	34,152	34,833	35,496	36,171
500120410124. WC 122 Street Light Maintenance	260,000	275,940	292,740	308,326	318,251	328,168	338,101	348,292	358,471	368,941
500120410125. WC 123 Traffic Signal Maintenance	73,774	75,397	83,640	90,916	98,379	100,440	113,840	116,110	118,320	126,598
500120412278. WC125 Seat Maintenance	10,000	10,200	10,404	10,612	10,824	11,041	11,262	11,487	11,717	11,951
500120413676. WC 113 Routine Drainage Maintenance - Aniseed	10,000	10,220	10,455	10,696	10,931	11,160	11,384	11,611	11,832	12,057
500120418076. WC 125 Footpath maintenance	250,000	265,720	292,740	320,880	327,930	334,800	341,520	348,330	354,960	361,710
500120420118. WC 124 Atawhai and Whakatu Cycle path Maintenance	15,000	15,330	15,682	21,392	21,862	22,320	22,768	23,222	23,664	24,114
500120420121. WC 113 Street & Sump Cleaning	80,000	81,760	83,640	85,568	87,448	89,280	91,072	92,888	94,656	96,456
500120420124. WC 122 Sign Maintenance	177,000	183,960	193,418	203,564	210,106	215,525	222,049	228,743	235,427	242,304
500120430118. WC 124 Cycle Path Sweeping	10,000	10,220	10,455	16,044	16,396	16,740	17,076	17,416	17,748	18,086
500120450117. WC 151 Structures Inspections	150,000	183,960	261,375	161,873	185,827	189,720	193,528	197,387	201,144	204,969
500120460122. WC 114 Retaining wall maintenance	50,000	102,200	52,275	106,960	54,655	111,600	56,920	116,110	59,160	120,570
500120480123. WC 121 Routine Emergency	150,000	153,300	156,825	192,528	196,758	200,880	216,296	220,609	224,808	229,083

500120490123. WC 121 Roadside Vegetation Maintenance	190,000	204,400	219,555	256,704	240,482	245,520	250,448	278,664	260,304	265,254
500120500124. WC 122 Road Marking	100,000	224,840	261,375	299,488	306,068	312,480	318,752	325,108	331,296	337,596
500123101221. WC 432 Road Safety Promotion	50,000	51,100	52,275	53,480	54,655	55,800	56,920	58,055	59,160	60,285
500123101475. WC 151 South Island RTC Support	5,000	5,110	5,228	5,348	5,466	5,580	5,692	5,806	5,916	6,028
500123103301. WC151 Travel Demand Management	50,000	51,100	52,275	53,480	54,655	55,800	56,920	58,055	59,160	60,285
500126011475. WC 001 Regional Land Tspt Programme	18,000	18,396	18,819	19,253	19,676	20,088	20,491	20,900	21,298	21,703
50012607. WC 123 Traffic Signal Comms	14,529	18,616	26,138	35,787	40,945	43,524	44,398	48,766	49,694	51,845
500126170124. WC 122 Street Light Power	320,000	330,310	341,285	352,643	363,995	375,336	386,699	398,354	409,995	421,970
500126170125. WC 123 Traffic Signal Power	15,000	15,330	15,682	21,392	25,606	26,142	26,667	27,199	27,716	28,244
500126330124. WC 122: LED cleaning	10,000	0	0	0	0	0	0	0	0	0
500126930117. WC 151 mtce contract management	100,000	102,200	146,370	158,282	118,299	121,614	176,145	128,295	227,489	194,776
500127600117. WC 151: Cadet programme	0	0	52,275	53,480	54,655	55,800	56,920	58,055	59,160	60,285
500127600125. WC 123 Professional Services	10,000	10,220	10,455	0	0	0	0	0	0	0
500127600127. WC 004 Other Consultants: Road Studies	90,000	91,980	94,095	96,264	98,379	100,440	102,456	104,499	106,488	108,513
Programmed Expenses	**910,640**	**1,032,674**	**847,014**	**1,030,917**	**1,185,108**	**1,098,189**	**1,234,063**	**1,026,457**	**1,046,164**	**1,342,689**
500140320117. WC 151 condition inspections and data collection	475,640	486,104	497,282	508,745	519,922	530,814	541,469	552,266	562,777	573,479
500143222164. WC 151 Studies & Strategies	100,000	102,000	104,040	159,180	162,360	165,615	168,930	172,305	175,755	179,265
500143222518. WC421 Parking Strategy	0	0	0	84,896	0	0	0	0	0	95,608
500143321221. WC432 Cycle Safety	75,000	76,650	78,412	106,960	109,310	111,600	113,840	116,110	118,320	120,570
50014372. WC151 Capex investigation, options, testing, engagement	45,000	45,990	47,048	48,132	49,190	50,220	51,228	52,250	53,244	54,256
500143721375. WC324 Marsden Valley Intersection Study	100,000	51,100	0	0	0	0	0	0	0	0
500143722937. WC341 CBD West traffic study	0	0	0	0	0	111,600	227,680	0	0	0
50014730. WC 004: Major project business cases	0	153,300	0	0	218,620	0	0	0	0	0
500147601624. WC 151 transport asset mgmt support	115,000	117,530	120,232	123,004	125,706	128,340	130,916	133,526	136,068	138,656
500147603935. Todds Valley to The Glen Cycleway -Investigation	0	0	0	0	0	0	0	0	0	180,855
Sources of Funds	**(16,341,007)**	**(19,241,094)**	**(23,337,820)**	**(22,275,556)**	**(21,603,561)**	**(25,046,655)**	**(29,120,181)**	**(27,761,906)**	**(30,761,927)**	**(31,862,935)**
Non Operating Income	**(8,698,914)**	**(9,812,958)**	**(11,902,140)**	**(11,360,514)**	**(11,017,816)**	**(12,773,794)**	**(14,851,292)**	**(14,158,572)**	**(15,688,583)**	**(16,297,255)**
Loan Raised	**(6,720,843)**	**(8,972,426)**	**(11,286,824)**	**(10,894,038)**	**(10,585,745)**	**(12,272,861)**	**(14,268,889)**	**(13,603,334)**	**(15,073,344)**	**(15,565,680)**
Transfer from Reserves	**(921,250)**	**(455,710)**	**(148,856)**	**(21,004)**	**0**	**0**	**0**	**0**	**0**	**0**
Capital Expenditure	**16,341,007**	**19,241,094**	**23,337,820**	**22,275,556**	**21,603,561**	**25,046,655**	**29,120,181**	**27,761,906**	**30,761,927**	**31,862,935**
Capital Staff Cost	**1,052,324**	**1,085,566**	**1,107,458**	**1,131,342**	**1,154,071**	**1,177,269**	**1,200,837**	**1,224,825**	**1,249,280**	**1,274,161**
Renewals	**12,740,774**	**12,354,509**	**12,677,649**	**14,779,332**	**14,846,606**	**16,029,309**	**18,083,114**	**17,824,915**	**21,418,618**	**20,397,861**
500171400448. WC215 Rocks Rd Bollards	0	51,100	0	0	54,710	0	0	58,170	0	0
500171400673. WC221 Stock Effluent Facility renewals	0	0	209,300	0	0	0	0	0	0	0
50017355. WC 214 Quarantine Road Rehab	0	0	0	0	0	0	0	122,946	125,408	127,786
500173550118. WC 224 Atawhai and Whakatu Cycle path Renewals	20,000	122,640	52,325	53,530	54,710	55,855	57,030	58,170	59,335	60,460
500173550119. WC 111 Sealed Pavement Heavy Works	330,000	337,260	313,950	321,180	328,260	312,788	319,368	325,752	332,276	338,576
500173551539. WC 214 Sealed Road Pavement Rehabilitation	3,496,860	3,900,052	3,130,992	2,150,471	1,761,632	1,568,023	1,601,009	1,762,945	1,593,536	1,623,750
500173551540. WC 212 Sealed Road Resurfacing	2,242,854	2,490,004	2,549,696	2,783,560	2,844,920	2,904,460	2,965,560	3,024,840	3,085,420	3,143,920
500173551542. WC 211 Unsealed Road Metalling	70,382	71,930	146,909	150,292	153,605	156,820	194,337	198,222	202,192	206,025
500173553239. WC 224 Cyclepath renewals	105,678	108,003	110,592	113,139	1,099,671	1,122,686	1,146,303	1,169,217	1,192,634	1,215,246
500173553621. WC141 Todd Valley Road Flood Repairs	90,000	0	0	0	0	0	0	0	0	0
500173553626. WC141 Maori Road Flood Repair	310,000	0	0	0	0	0	0	0	0	0
500173553627. WC141 Ross Road Flood Repairs	50,000	0	0	0	0	0	0	0	0	0

500173553633. WC141 Flood Recovery - Minor Works	145,000	112,420	303,485	42,824	0	0	0	0	0	0
500173553635. WC141 Slip Repair Maitai Road	500,000	0	0	0	0	0	0	0	0	0
500173553636. WC141 Cable Bay Road slip repairs	100,000	0	0	0	0	0	0	0	0	0
500173553637. WC 141 Glen Creek washout repairs	100,000	0	0	0	0	0	0	0	0	0
500173553640. WC141 Chings Road flood repairs	50,000	0	0	0	0	0	0	0	0	0
500173553644. WC141 Teal Valley Road flood repairs	100,000	817,600	0	0	0	0	0	0	0	0
500173553645. WC141 Arrow Street Retaining Wall Slip Protection	250,000	0	0	0	0	0	0	0	0	0
500173553646. WC 141 Konini Street	430,000	0	0	0	0	0	0	0	0	0
500173553647. WC141 Iwa Road flood repairs	350,000	0	0	0	0	0	0	0	0	0
500173553650. WC141 Wakefield Quay	150,000	0	0	0	0	0	0	0	0	0
500173601538. WC 213 Drainage Renewals	500,000	511,000	837,200	1,520,252	1,455,286	1,753,847	2,332,527	2,495,493	4,800,202	2,496,998
500173650122. WC 216: Structures Renewals	0	0	0	642,360	0	0	0	0	0	0
500173653038. WC 215 Structures component replacement - Bridges	50,000	245,280	366,275	1,092,012	547,100	167,565	1,197,630	174,510	1,424,040	1,451,040
500173653039. WC215 Structure replacement	280,000	459,900	627,900	856,480	1,196,074	536,208	661,548	674,772	688,286	701,336
500173703078. WC 222 Streetlight renewals	610,000	613,200	837,200	1,070,600	1,313,040	1,340,520	1,368,720	1,396,080	1,424,040	2,418,400
500173751494. WC225 Renewals: Footpaths	2,100,000	2,197,300	2,825,550	3,640,040	3,720,280	5,697,210	5,817,060	5,933,340	6,052,170	6,166,920
500173903040. WC 222 Traffic Service Renewals - Signs, markings and deline	110,000	112,420	156,975	128,472	131,304	223,420	228,120	232,680	237,340	241,840
500173903041. WC 222 Traffic Service Renewals - Signals	200,000	204,400	209,300	214,120	186,014	189,907	193,902	197,778	201,739	205,564
Capital Growth	**381,996**	**1,226,400**	**0**	**455,558**	**2,872,841**	**3,156,385**	**2,310,305**	**262,366**	**356,010**	**3,990,360**
500175153511. WC341Z Speed Limit changes speed signs	281,996	204,400	0	0	0	0	0	0	0	0
500176551375. WC 341 Marsden Valley Ridgeway Upgrade	0	0	0	214,120	2,626,080	2,681,040	0	0	0	0
500176552933. WC 324 Main Rd Stoke/Marsden Rd	0	0	0	0	0	0	0	0	118,670	1,813,800
500176553169. WC 341 Montreal Princes Drive Intersection	0	0	0	241,438	246,761	251,925	257,225	262,366	0	0
500176553172. WC 324 Polstead Main Road Stoke Intersection Upgrade	0	0	0	0	0	223,420	2,053,080	0	0	0
500176553173. WC 341 Ngawhatu Suffolk Intersection	0	0	0	0	0	0	0	0	237,340	2,176,560
500176553335. WC341 Maitai Bayview Growth programme	100,000	1,022,000	0	0	0	0	0	0	0	0
Capital Increased LOS	**2,165,913**	**4,574,619**	**9,552,713**	**5,909,324**	**2,730,043**	**4,683,692**	**7,525,925**	**8,449,800**	**7,738,019**	**6,200,553**
500178903225. WC 452 Nile Street cycle facilities	0	102,200	1,465,100	0	0	0	0	0	0	0
500179102054. WC222 Washington Valley Streetlight renewal	0	0	0	0	0	0	0	232,680	237,340	0
500179550551. WC 111: Pre Seal Programme	400,000	459,900	470,925	481,770	492,390	502,695	513,270	523,530	534,015	544,140
500179551525. WC 341L Minor Improvements	0	0	0	678,833	693,797	708,317	723,218	737,675	752,448	766,715
500179552079. WC 341L: Mount Street and Konini Street upgrade	90,000	0	0	0	0	111,710	570,300	0	0	0
500179552166. WC 341Z Haven/Halifax Intersection Improvements	100,000	10,220	1,465,100	0	0	0	0	0	0	0
500179552184. Nile St/Maitai Rd interserction (Bayview/Maitai)	100,000	204,400	1,569,750	0	0	0	0	0	0	0
500179552189. 2189 WC341 Innovative Streets - Kawai St	51,975	0	0	2,141,200	0	0	0	0	0	0
500179552934. WC 324 Quarantine/Nayland intersection upgrades	200,000	0	0	0	0	0	0	0	0	0
500179553009. WC 341Z Toi Toi/Vanguard intersection upgrade	225,000	20,440	1,831,375	0	0	0	0	0	0	0
500179553062. WC 341 Elm Street Intersection safety improvements	0	0	0	0	0	0	0	0	237,340	2,176,560
500179553211. WC 151 Nelson Future Access Study	0	0	379,792	214,120	218,840	2,047,419	6,026,816	7,376,747	5,016,323	3,696,258
500179553227. WC 341L Waimea Road Franklyn Street intersection improvement	110,000	1,839,600	0	0	0	0	0	0	0	0
500179553239. WC 341 Railway Reserve Improvements	0	0	0	0	0	0	0	491,783	501,632	511,143
500179553458. WC341L Selwyn Place Pedestrian Crossings	0	0	20,930	642,360	0	0	0	0	0	0
500179553512. WC341 Nayland Road school zone Upgrade	0	0	0	0	109,420	1,005,390	0	0	0	0
500179553513. WC341 Central School speed zone upgrade	0	0	104,650	963,540	0	0	0	0	0	0

500179553514. WC341 Stoke School speed zone upgrade	100,000	459,900	470,925	0	0	0	0	0	0	0
500179553517. WC341L Traffic calming to support speed reduction	100,000	102,200	104,650	321,180	547,100	335,130	570,300	581,700	593,350	604,600
500179553518. WC341Z St Vincent Street Toi Toi Street raised roundabout	300,000	0	0	0	0	0	0	0	0	0
500179553526. WC 341Z School Speed Zone Haven Road	0	0	156,975	0	0	0	0	0	0	0
500179553527. WC 341Z School Speed Zone NCA	0	0	0	0	84,800	0	0	0	0	0
500179553564. WC452 SFP Hospital Connection	0	0	0	0	0	0	0	0	0	120,920
500179553668. WC 341Z - Gloucester Vanguard intersection safety	0	817,600	0	0	0	0	0	0	0	0
500179553669. WC341Z - Gloucester St Vincent intersection safety	0	817,600	0	0	0	0	0	0	0	0
500179553670. WC341Z - Hardy Vanguard intersection safety	800,000	0	0	0	0	0	0	0	0	0
500179553672. WC 341 L Nayland Songer intersection	800,000	0	0	0	0	0	0	0	0	0
500179553674. WC341L - Nile Collingwood	0	0	837,200	0	0	0	0	0	0	0
500179553705. WC 341L IAF Active Linear Corridor	50,000	970,900	0	0	0	0	0	0	0	0
500179553863. WC 341L Quarantine/Pascoe Intersection Improvements	0	102,200	0	0	0	0	0	0	0	0
500179553864. WC 341Z Victory School Speed Zone Upgrade	0	0	0	0	0	111,710	1,026,540	0	0	0
500179553871. WC 341L Driver Information Boards	0	0	104,650	107,060	109,420	0	0	0	0	0
500179553872. WC 341L Cable Bay Roading Improvements	0	0	0	0	1,094,200	1,117,100	0	0	0	0
500179553873. WC 341L Little Todd Roading Improvements	0	0	20,930	299,768	0	0	0	0	0	0
500179553874. WC341 Iwa Catch wall	0	0	0	0	218,840	0	0	0	0	0
50017960. WC341L Road Drainage Improvements	100,000	102,200	104,650	107,060	109,420	111,710	114,060	116,340	118,670	120,920
500179601173. Freshwater Improvements programme	0	0	0	0	10,942	55,855	0	116,340	2,373,400	0
500179701080. WC 341L Streetlight Improvement	100,000	102,200	104,650	107,060	109,420	111,710	114,060	116,340	118,670	30,230
500179753675. WC341W - Maori Road raised crossing	0	0	313,950	0	0	0	0	0	0	0
500179753865. WC 341W Walkway and Footpath Lighting Improvements	0	0	0	214,120	0	0	228,120	0	0	241,840
500179753868. WC 341W Pedestrian and Cycle Crossing Improvements	0	0	0	481,770	218,840	893,680	0	0	0	0
500179802054. WC151 NFAS Washington Road	0	0	89,601	214,120	0	0	0	0	0	0
500179802537. WC 452 CBD Cycle parking facilities	50,000	0	0	0	0	0	0	0	0	0
500179803212. WC 341 Cross Town Links Brook to Central Programme	0	408,800	2,197,650	749,420	0	0	0	0	0	0
500179803349. WC341W St Vincent St cycleway crash reduction	37,680	0	0	0	0	0	0	0	0	0
500179803529. WC341 St Vincent Street sepataed cycle facility improvements	200,000	122,640	0	0	0	0	570,300	581,700	0	0
500179803869. WC 341W Cycleway and Cycle Lane Improvements	0	0	261,625	374,710	1,039,490	279,275	0	581,700	593,350	604,600
500179903866. WC 341L Transport Temporary Works	0	0	0	214,120	0	0	228,120	0	0	241,840
50017996. Scope Adjustment	(1,703,742)	(2,022,391)	(2,475,273)	(2,354,710)	(2,277,637)	(2,657,739)	(3,107,852)	(2,954,382)	(3,285,117)	(3,404,799)
50017997. LoS: investigation, options, testing, engagement	(45,000)	(45,990)	(47,092)	(48,177)	(49,239)	(50,270)	(51,327)	(52,353)	(53,402)	(54,414)
5002 Unsubsidised Roading	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Income	**(7,675,088)**	**(8,324,570)**	**(9,079,963)**	**(10,130,663)**	**(11,293,455)**	**(11,962,972)**	**(12,846,272)**	**(13,639,033)**	**(14,550,086)**	**(15,100,268)**
Rates Income	**(7,541,772)**	**(8,188,383)**	**(8,940,740)**	**(9,988,329)**	**(11,148,059)**	**(11,814,561)**	**(12,694,884)**	**(13,484,625)**	**(14,392,703)**	**(14,939,858)**
Other Income	**(133,316)**	**(136,187)**	**(139,223)**	**(142,334)**	**(145,396)**	**(148,411)**	**(151,388)**	**(154,408)**	**(157,383)**	**(160,410)**
Expenses	**15,448,970**	**15,790,956**	**16,590,083**	**18,010,976**	**19,311,680**	**20,157,345**	**21,151,250**	**22,092,792**	**23,036,718**	**24,022,289**
Staff Operating Expenditure	**1,151,331**	**1,225,693**	**1,238,050**	**1,239,180**	**1,259,503**	**1,291,590**	**1,308,177**	**1,332,910**	**1,368,678**	**1,384,167**
Base Expenditure	**1,251,203**	**1,299,129**	**1,349,851**	**1,416,127**	**1,455,756**	**1,495,260**	**1,512,248**	**1,552,385**	**1,616,097**	**1,657,848**
500220100409. Street and Sump Cleaning	210,000	224,840	240,465	203,224	207,689	212,040	216,296	220,609	248,472	253,197
500220100622. Artwork and heritage panel mtce	5,000	5,110	5,228	5,348	5,466	5,580	5,692	5,806	5,916	6,028
50022016. Street Tree Maintenance	240,000	245,280	250,920	280,507	295,270	310,500	326,235	342,722	359,722	377,560
500220160410. Street garden, vegetation and berms - Contract maintenance	385,000	393,470	402,518	411,796	420,844	429,660	438,284	447,024	455,532	464,194

500220160800. Street garden, vegetation and berms - Programmed maintenance	50,000	61,320	73,185	106,960	109,310	111,600	113,840	116,110	118,320	120,570
50022017. After Hours Duty Officer	23,000	23,506	24,046	25,495	26,055	26,601	27,135	27,676	28,203	28,739
50022049. Vegetation and berms	120,000	122,640	125,460	171,136	174,896	178,560	182,144	185,776	189,312	192,912
500220540409. Upper Trafalgar St Cleaning	40,000	40,880	41,820	0	0	0	0	0	0	0
500223100298. Support for Corridor Access Requests	126,600	129,385	132,360	135,411	138,386	141,286	144,121	146,995	149,793	152,642
500223100435. Christmas/New Year Road Closures	6,810	6,960	7,120	7,284	7,444	7,600	7,753	7,907	8,058	8,211
50022617. Electricity Non Sub	6,963	7,116	7,280	7,448	7,611	7,771	7,927	8,085	8,239	8,396
500226200685. Rental: Maitai / Wakatu	10,000	10,220	10,455	10,696	10,931	11,160	11,384	11,611	11,832	12,057
50022621. Rates	830	848	867	887	907	926	944	963	982	1,000
50022625. Streetgarden water	2,000	2,044	2,091	2,139	2,186	2,232	2,277	2,322	2,366	2,411
500226450692. Temporary Road closure expense	1,000	1,022	1,046	1,070	1,093	1,116	1,138	1,161	1,183	1,206
50022710. Legal Fees	20,000	20,400	20,808	42,448	43,296	44,164	22,524	22,974	23,434	23,902
50022720. Valuation Fees	4,000	4,088	4,182	4,278	4,372	4,464	4,554	4,644	4,733	4,823
Unprogrammed Expenses	**476,000**	**77,672**	**79,458**	**99,444**	**101,629**	**103,758**	**110,147**	**112,344**	**114,482**	**116,659**
500230162016. Street Tree Maintenance - Responsive	70,000	71,540	73,185	96,264	98,379	100,440	102,456	104,499	106,488	108,513
500230303291. Seafield Tce road reinstatement post Feb18 storm events	6,000	6,132	6,273	3,180	3,250	3,318	7,691	7,845	7,994	8,146
500230303632. Clean fill Site Management	400,000	0	0	0	0	0	0	0	0	0
Programmed Expenses	**90,000**	**91,980**	**94,095**	**160,440**	**163,965**	**145,080**	**159,376**	**162,554**	**189,312**	**192,912**
500240701078. Replacement Planting	20,000	20,440	20,910	64,176	65,586	66,960	68,304	69,666	70,992	72,342
500240708025. rain garden surface re-planting/ landscaping	0	0	0	21,392	21,862	0	0	0	23,664	24,114
50024760. Other professional advice	50,000	51,100	52,275	53,480	54,655	55,800	68,304	69,666	70,992	72,342
500247601624. Transport AMP	20,000	20,440	20,910	21,392	21,862	22,320	22,768	23,222	23,664	24,114
Finance Expenses	**477,344**	**565,469**	**773,817**	**1,178,421**	**1,646,028**	**1,892,535**	**2,179,470**	**2,435,447**	**2,668,296**	**2,979,866**
Depreciation	**12,003,092**	**12,531,013**	**13,054,812**	**13,917,364**	**14,684,799**	**15,229,122**	**15,881,832**	**16,497,152**	**17,079,853**	**17,690,837**
Sources of Funds	**(18,483,835)**	**(18,267,283)**	**(26,116,477)**	**(19,749,593)**	**(16,924,983)**	**(18,324,944)**	**(18,949,996)**	**(19,628,360)**	**(20,274,069)**	**(20,949,564)**
Non Cash Income	**(12,003,092)**	**(12,531,013)**	**(13,054,812)**	**(13,917,364)**	**(14,684,799)**	**(15,229,122)**	**(15,881,832)**	**(16,497,152)**	**(17,079,853)**	**(17,690,837)**
Non Operating Income	**(4,600,747)**	**(5,736,270)**	**(13,061,665)**	**(5,832,229)**	**(2,240,184)**	**(3,006,454)**	**(3,068,164)**	**(3,131,208)**	**(3,194,216)**	**(3,258,727)**
Transfer from Reserves	**(1,709,996)**	**0**	**0**	**0**	**0**	**(89,368)**	**0**	**0**	**0**	**0**
Sale of Fixed Assets	**(170,000)**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Uses of Funds	**4,789,309**	**5,283,018**	**4,355,172**	**134,720**	**6,900,837**	**8,089,715**	**9,096,065**	**9,469,038**	**9,599,143**	**8,067,386**
Loans Paid	**4,789,309**	**5,283,018**	**4,355,172**	**134,720**	**6,900,837**	**8,089,715**	**9,096,065**	**9,469,038**	**9,599,143**	**8,067,386**
Capital Expenditure	**5,920,644**	**5,517,879**	**14,251,185**	**11,734,560**	**2,005,921**	**2,040,856**	**1,548,953**	**1,705,563**	**2,188,294**	**3,960,157**
Capital Staff Cost	**7,980**	**8,276**	**8,443**	**8,613**	**8,786**	**8,962**	**9,142**	**9,324**	**9,511**	**9,700**
Renewals	**0**	**0**	**115,115**	**718,587**	**698,100**	**615,522**	**125,466**	**267,582**	**771,355**	**2,708,608**
50027150. Renewals: Street/Garden Furniture	0	0	10,465	0	0	0	11,406	0	0	0
500271903477. Renewal Moller Fountain	0	0	0	0	0	1,117	0	0	0	0
500272300622. Heritage panel renewal	0	0	52,325	0	0	55,855	0	0	59,335	0
500273653039. Structures replacement	0	0	52,325	718,587	698,100	558,550	114,060	267,582	712,020	2,708,608
Capital Growth	**4,854,132**	**4,651,123**	**15,355,390**	**12,161,429**	**1,368,845**	**1,486,861**	**1,426,892**	**1,455,415**	**1,484,563**	**1,512,710**
500274103508. Land Purchase	450,000	0	0	0	0	0	0	0	0	0
500276552826. Hill St North ex Summerst	0	0	0	0	0	89,368	0	0	0	0
500276553335. Maitai Bayview Growth programme	249,996	0	0	0	0	0	0	0	0	0
500276553705. IAF Active Linear Corridor	2,903,135	3,372,600	14,046,217	10,822,107	0	0	0	0	0	0
50027691. Vested Assets	1,251,001	1,278,523	1,309,173	1,339,322	1,368,845	1,397,493	1,426,892	1,455,415	1,484,563	1,512,710

Capital Increased LOS	**1,058,532**	**858,480**	**(1,227,763)**	**(1,154,069)**	**(69,810)**	**(70,489)**	**(12,547)**	**(26,758)**	**(77,135)**	**(270,861)**
500277701076. Road Frontage Planting Program	50,000	51,100	52,325	0	0	0	0	0	0	0
500277701078. Street Garden Dev	186,499	153,300	156,975	0	0	0	0	0	1	0
500278553959. Paru Paru Road Carpark	150,000	1,124,200	0	0	0	0	0	0	0	0
500278903687. Slip 9 Maire Street	85,000	0	0	0	0	0	0	0	0	0
500278903691. Slip 13 Cleveland Terrace	975,000	0	0	0	0	0	0	0	0	0
500279802946. Railway Reserve Lighting	30,000	0	0	0	0	0	0	0	0	0
500279803508. Hill Street Investigation	99,996	0	0	0	0	0	0	0	0	0
50027996. Scope Adjustment	(517,963)	(470,120)	(1,437,063)	(1,154,069)	(69,810)	(70,489)	(12,547)	(26,758)	(77,136)	(270,861)
5030 Roading Properties	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Income	**(197,108)**	**(273,478)**	**(239,964)**	**(216,781)**	**(220,281)**	**(218,711)**	**(221,577)**	**(231,889)**	**(230,155)**	**(237,561)**
Rates Income	**(46,911)**	**(164,002)**	**(128,298)**	**(102,883)**	**(104,108)**	**(100,209)**	**(100,702)**	**(108,599)**	**(104,397)**	**(109,291)**
Other Income	**(150,197)**	**(109,476)**	**(111,666)**	**(113,898)**	**(116,173)**	**(118,502)**	**(120,875)**	**(123,290)**	**(125,758)**	**(128,270)**
Expenses	**197,108**	**273,478**	**239,964**	**216,781**	**220,281**	**218,711**	**221,577**	**231,889**	**230,155**	**237,561**
Staff Operating Expenditure	**147,000**	**155,939**	**156,865**	**155,510**	**157,828**	**162,257**	**163,807**	**166,822**	**171,814**	**173,061**
Base Expenditure	**33,002**	**39,854**	**40,760**	**41,692**	**36,075**	**36,830**	**37,569**	**38,317**	**39,047**	**44,764**
50302621. Rates	12,411	12,684	12,976	13,275	13,566	13,851	14,129	14,410	14,685	14,964
50302625. Water By Meter	2,335	2,386	2,441	2,498	2,553	2,606	2,658	2,711	2,763	2,815
50302626. Trade Waste Charges	364	372	380	389	398	406	414	422	430	439
50302637. Insurance	13,392	13,687	14,001	14,324	14,639	14,945	15,245	15,549	15,845	16,147
50302670. Commissions	4,500	4,599	4,705	4,813	4,919	5,022	5,123	5,225	5,324	5,426
50302710. Legal Fees	0	3,060	3,121	3,184	0	0	0	0	0	1,356
50302720. Valuations	0	3,066	3,136	3,209	0	0	0	0	0	3,617
Unprogrammed Expenses	**6,000**	**61,320**	**31,365**	**9,285**	**9,489**	**9,687**	**9,882**	**10,079**	**10,271**	**10,466**
50303011. Roading Residential External Building Maintenance	6,000	61,320	31,365	9,285	9,489	9,687	9,882	10,079	10,271	10,466
Programmed Expenses	**1,000**	**6,336**	**523**	**0**	**6,777**	**0**	**569**	**7,199**	**0**	**603**
50304032. Condition Assessments	1,000	6,336	523	0	6,777	0	569	7,199	0	603
Finance Expenses	**1,498**	**1,421**	**1,843**	**1,686**	**1,504**	**1,329**	**1,142**	**864**	**415**	**59**
Depreciation	**8,608**	**8,608**	**8,608**	**8,608**	**8,608**	**8,608**	**8,608**	**8,608**	**8,608**	**8,608**
Sources of Funds	**(8,608)**	**(22,284)**	**(8,608)**	**(8,608)**	**(8,608)**	**(8,608)**	**(8,608)**	**(8,608)**	**(8,608)**	**(8,608)**
Non Cash Income	**(8,608)**	**(8,608)**	**(8,608)**	**(8,608)**	**(8,608)**	**(8,608)**	**(8,608)**	**(8,608)**	**(8,608)**	**(8,608)**
Loan Raised	**0**	**(13,676)**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Uses of Funds	**4,803**	**0**	**4,626**	**4,535**	**4,445**	**4,358**	**4,268**	**8,608**	**8,608**	**8,608**
Loans Paid	**4,803**	**0**	**4,626**	**4,535**	**4,445**	**4,358**	**4,268**	**8,608**	**8,608**	**1,510**
Transfer to Reserves	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7,098**
Capital Expenditure	**3,805**	**22,284**	**3,982**	**4,073**	**4,163**	**4,250**	**4,340**	**0**	**0**	**0**
Renewals	**4,228**	**24,760**	**4,424**	**4,526**	**4,626**	**4,722**	**4,822**	**0**	**0**	**0**
503071200200. Renewals - 213 St Vincent St	2,114	2,160	2,212	2,263	2,313	2,361	2,411	0	0	0
503071200202. Renewals - 92 Beatson	2,114	22,600	2,212	2,263	2,313	2,361	2,411	0	0	0
Capital Increased LOS	**(423)**	**(2,476)**	**(442)**	**(453)**	**(463)**	**(472)**	**(482)**	**0**	**0**	**0**
50307996. Scope Adjustment	(423)	(2,476)	(442)	(453)	(463)	(472)	(482)	0	0	0
5505 Parking Regulation	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Income	**(882,963)**	**(908,785)**	**(928,507)**	**(945,598)**	**(965,887)**	**(988,012)**	**(1,005,098)**	**(1,024,091)**	**(1,046,552)**	**(1,064,455)**
Rates Income	**42,037**	**34,715**	**33,863**	**36,012**	**35,333**	**33,280**	**36,637**	**38,457**	**37,270**	**41,013**

Other Income	**(925,000)**	**(943,500)**	**(962,370)**	**(981,610)**	**(1,001,220)**	**(1,021,292)**	**(1,041,735)**	**(1,062,548)**	**(1,083,822)**	**(1,105,468)**
Expenses	**882,963**	**908,785**	**928,507**	**945,598**	**965,887**	**988,012**	**1,005,098**	**1,024,091**	**1,046,552**	**1,064,455**
Staff Operating Expenditure	**190,945**	**200,763**	**202,585**	**202,144**	**205,394**	**210,777**	**213,298**	**217,302**	**223,304**	**225,580**
Base Expenditure	**690,539**	**705,731**	**721,959**	**738,601**	**754,828**	**770,642**	**786,110**	**801,785**	**817,046**	**832,583**
55052310. Providing Parking Reg Service	10,000	10,220	10,455	10,696	10,931	11,160	11,384	11,611	11,832	12,057
550523100454. Court Processing	120,000	122,640	125,460	128,352	131,172	133,920	136,608	139,332	141,984	144,684
550523100700. Providing service - EIL contract	520,000	531,440	543,660	556,192	568,412	580,320	591,968	603,772	615,264	626,964
55052650. Flea Market Towing	20,539	20,991	21,474	21,969	22,451	22,922	23,382	23,848	24,302	24,764
550526930800. Moto Check Fees	20,000	20,440	20,910	21,392	21,862	22,320	22,768	23,222	23,664	24,114
Finance Expenses	**0**	**0**	**27**	**85**	**27**	**85**	**0**	**44**	**211**	**233**
Depreciation	**1,479**	**2,291**	**3,936**	**4,768**	**5,638**	**6,508**	**5,690**	**4,960**	**5,991**	**6,059**
Sources of Funds	**(1,479)**	**(7,358)**	**(7,535)**	**(4,768)**	**(7,879)**	**(6,508)**	**(5,690)**	**(8,376)**	**(8,545)**	**(6,059)**
Non Cash Income	**(1,479)**	**(2,291)**	**(3,936)**	**(4,768)**	**(5,638)**	**(6,508)**	**(5,690)**	**(4,960)**	**(5,991)**	**(6,059)**
Loan Raised	**0**	**0**	**(2,363)**	**0**	**(2,241)**	**0**	**0**	**(3,416)**	**(2,554)**	**0**
Transfer from Reserves	**0**	**(5,067)**	**(1,236)**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Uses of Funds	**1,479**	**0**	**0**	**4,768**	**0**	**6,508**	**5,690**	**0**	**0**	**6,059**
Loans Paid	**0**	**0**	**0**	**2,363**	**0**	**2,241**	**0**	**0**	**0**	**5,970**
Transfer to Reserves	**1,479**	**0**	**0**	**2,405**	**0**	**4,267**	**5,690**	**0**	**0**	**89**
Capital Expenditure	**0**	**7,358**	**7,535**	**0**	**7,879**	**0**	**0**	**8,376**	**8,545**	**0**
Capital Growth	**0**	**8,176**	**8,372**	**0**	**8,754**	**0**	**0**	**9,307**	**9,494**	**0**
55057440. Capital: Plant & Equipment	0	8,176	8,372	0	8,754	0	0	9,307	9,494	0
Capital Increased LOS	**0**	**(818)**	**(837)**	**0**	**(875)**	**0**	**0**	**(931)**	**(949)**	**0**
55057996. Scope Adjustment	0	(818)	(837)	0	(875)	0	0	(931)	(949)	0
5510 Parking and CBD Enhancement	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Income	**(2,406,668)**	**(2,511,715)**	**(2,701,367)**	**(2,888,209)**	**(2,912,597)**	**(3,011,459)**	**(3,164,850)**	**(3,366,587)**	**(3,430,207)**	**(3,490,850)**
Rates Income	**(1,454,731)**	**(1,540,739)**	**(1,710,973)**	**(1,867,401)**	**(1,871,398)**	**(1,949,386)**	**(2,070,255)**	**(2,250,123)**	**(2,291,388)**	**(2,329,288)**
Other Income	**(951,937)**	**(970,976)**	**(990,394)**	**(1,020,808)**	**(1,041,199)**	**(1,062,073)**	**(1,094,595)**	**(1,116,464)**	**(1,138,819)**	**(1,161,562)**
Expenses	**2,406,668**	**2,511,715**	**2,701,367**	**2,888,209**	**2,912,597**	**3,011,459**	**3,164,850**	**3,366,587**	**3,430,207**	**3,490,850**
Staff Operating Expenditure	**190,681**	**200,582**	**202,797**	**203,387**	**206,810**	**212,005**	**214,847**	**218,926**	**224,668**	**227,346**
Base Expenditure	**1,834,511**	**1,895,300**	**1,944,095**	**2,064,561**	**2,109,911**	**2,154,108**	**2,197,344**	**2,241,161**	**2,283,822**	**2,327,257**
551020100415. Mtce and Ops Parking Meters	200,000	204,400	209,100	226,605	231,584	236,436	241,181	245,991	250,673	255,440
551020100457. Mtce: CBD Street Sweeping	120,000	122,640	125,460	96,264	98,379	100,440	102,456	104,499	106,488	108,513
551020100458. Clean Asphalt Footpaths	100,000	102,200	104,550	106,960	109,310	111,600	113,840	116,110	118,320	120,570
551020142943. CBD and carpark electrical mtce	3,000	3,066	3,136	6,418	6,559	6,696	6,830	6,967	7,099	7,234
55102016. Mtce: Street Gardens	15,000	15,330	20,910	26,740	27,328	27,900	28,460	29,028	29,580	30,142
551020160410. Mtce: Street Trees	28,000	28,616	29,274	32,088	32,793	33,480	34,152	34,833	35,496	36,171
551020160417. Mtce: Carpark Maintenance	32,000	32,704	33,456	42,784	43,724	44,640	45,536	46,444	47,328	48,228
551020161267. Hanging Baskets	101,000	103,222	105,596	108,030	110,403	112,716	114,978	117,271	119,503	121,776
55102029. Mtce: CBD street furniture	50,000	51,100	52,275	96,264	98,379	100,440	102,456	104,499	106,488	108,513
55102310. Provide: CBD Professional Serv	0	20,440	20,910	21,392	21,862	22,320	22,768	23,222	23,664	24,114
551023100701. Provide: CCTV Operation	120,000	122,640	125,460	160,440	163,965	167,400	170,760	174,165	177,480	180,855
551023102779. CBD Lighting Festivals operations	5,000	5,110	5,228	5,348	5,466	5,580	5,692	5,806	5,916	6,028
55102342. Uniquely Nelson: Provide CBD Coordinator	209,286	213,891	218,809	223,853	228,771	233,564	238,252	243,002	247,628	252,337
55102602. Bank Fees	5,189	5,303	5,425	5,550	5,672	5,791	5,907	6,025	6,139	6,256

55102608. CBD Wifi	14,000	14,308	14,637	15,921	16,271	16,612	16,946	17,283	17,612	17,947
55102620. Rent (Wakatu Leases)	199,770	204,165	208,859	213,674	218,368	222,943	227,418	231,953	236,368	240,863
55102621. Rates	379,676	388,029	396,952	406,102	415,024	423,719	432,224	440,842	449,233	457,776
55102625. Water By Meter	4,983	5,092	5,209	5,330	5,447	5,561	5,672	5,785	5,896	6,008
55102627. Mtce: CBD Litter Collection	35,656	36,441	37,279	38,138	38,976	39,793	40,592	41,401	42,189	42,991
551026270800. CBD rubbish bin collection	187,283	191,403	195,805	200,318	204,719	209,008	213,203	217,455	221,594	225,807
55102637. Insurance	2,668	2,726	2,789	2,853	2,916	2,977	3,037	3,097	3,156	3,216
55102650. Security / Cash Collections	12,000	12,264	12,546	12,835	13,117	13,392	13,661	13,933	14,198	14,468
55102710. Legal Fees	5,000	5,100	5,202	5,306	5,412	5,520	5,631	5,744	5,858	5,976
55102720. Valuations	5,000	5,110	5,228	5,348	5,466	5,580	5,692	5,806	5,916	6,028
Unprogrammed Expenses	**5,000**	**5,110**	**5,228**	**5,348**	**5,466**	**5,580**	**5,692**	**5,806**	**5,916**	**6,028**
551033100827. Provision of Freedom Camping Ammenities	5,000	5,110	5,228	5,348	5,466	5,580	5,692	5,806	5,916	6,028
Programmed Expenses	**40,000**	**40,880**	**94,095**	**128,352**	**43,724**	**44,640**	**45,536**	**69,666**	**47,328**	**48,228**
551043722984. Stoke Urban Design	0	0	52,275	64,176	0	0	0	0	0	0
551047302518. Parking Strategy	0	0	0	21,392	0	0	0	23,222	0	0
55104760. Parking Surveys	40,000	40,880	41,820	42,784	43,724	44,640	45,536	46,444	47,328	48,228
Finance Expenses	**147,160**	**160,540**	**225,506**	**250,027**	**303,175**	**351,759**	**443,567**	**559,409**	**597,968**	**612,171**
Depreciation	**189,316**	**209,303**	**229,646**	**236,534**	**243,511**	**243,367**	**257,864**	**271,619**	**270,505**	**269,820**
Sources of Funds	**(879,316)**	**(2,045,263)**	**(334,334)**	**(1,319,394)**	**(864,837)**	**(1,437,477)**	**(2,923,522)**	**(1,168,466)**	**(540,367)**	**(550,663)**
Non Cash Income	**(189,316)**	**(209,303)**	**(229,646)**	**(236,534)**	**(243,511)**	**(243,367)**	**(257,864)**	**(271,619)**	**(270,505)**	**(269,820)**
Loan Raised	**0**	**(1,835,960)**	**(104,688)**	**(1,082,860)**	**(621,326)**	**(1,194,110)**	**(2,665,658)**	**(896,847)**	**(269,862)**	**(280,843)**
Sale of Fixed Assets	**(690,000)**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Uses of Funds	**34,430**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Loans Paid	**34,430**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Capital Expenditure	**844,886**	**2,045,263**	**334,334**	**1,319,394**	**864,837**	**1,437,477**	**2,923,522**	**1,168,466**	**540,367**	**550,663**
Capital Staff Cost	**43,886**	**45,513**	**46,431**	**47,367**	**48,318**	**49,289**	**50,276**	**51,280**	**52,304**	**53,346**
Renewals	**200,000**	**226,144**	**209,300**	**621,391**	**852,533**	**1,312,668**	**1,327,421**	**1,241,318**	**542,292**	**552,574**
551071401484. Renewals: On and Off St Parking Meter	0	0	0	0	0	629,812	643,061	0	0	0
551072252207. Renewal CBD Rubbish Bins	0	11,524	0	12,072	0	12,596	0	8,114	8,277	8,434
551072552943. Carpark Street Light Renewal	0	10,220	0	0	10,942	0	0	11,634	0	0
551073551108. Renewal: CBD aesthetic elements	100,000	102,200	104,650	181,079	185,071	223,420	228,120	232,680	237,340	241,840
551073553217. CBD Carpark Resurfacing	100,000	102,200	104,650	428,240	656,520	446,840	456,240	988,890	296,675	302,300
Capital Increased LOS	**601,000**	**1,773,606**	**78,603**	**650,636**	**(36,014)**	**75,520**	**1,545,825**	**(124,132)**	**(54,229)**	**(55,257)**
55107710. New Car parks	690,000	1,941,800	0	0	0	0	0	0	0	0
551079552994. Strawbridge Sq Layout & access improvement	0	54,001	110,592	791,972	0	0	0	0	0	0
551079553120. Stoke Centre Traffic Calming and Ped Safety Works non sub ae	0	0	0	0	0	118,053	1,808,045	0	0	0
551079752984. Stoke Centre Enhancements	0	0	0	0	54,710	111,710	57,030	0	0	0
55107996. Scope Adjustment	(89,000)	(222,195)	(31,989)	(141,336)	(90,724)	(154,243)	(319,250)	(124,132)	(54,229)	(55,257)
5511 Millers Acre Centre	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Income	**(493,567)**	**(499,482)**	**(511,379)**	**(524,485)**	**(539,381)**	**(555,146)**	**(553,125)**	**(564,975)**	**(646,978)**	**(568,474)**
Rates Income	**(114,560)**	**(102,597)**	**(113,420)**	**(118,415)**	**(125,094)**	**(132,508)**	**(122,023)**	**(125,260)**	**(198,518)**	**(111,109)**
Other Income	**(379,007)**	**(396,885)**	**(397,959)**	**(406,070)**	**(414,287)**	**(422,638)**	**(431,102)**	**(439,715)**	**(448,460)**	**(457,365)**
Expenses	**493,567**	**499,482**	**511,379**	**524,485**	**539,381**	**555,146**	**553,125**	**564,975**	**646,978**	**568,474**
Staff Operating Expenditure	**67,078**	**71,157**	**71,580**	**70,962**	**72,019**	**74,040**	**74,748**	**76,123**	**78,401**	**78,970**

Base Expenditure	**154,279**	**157,670**	**164,678**	**162,290**	**165,854**	**169,327**	**172,726**	**176,170**	**179,525**	**182,939**
55112011. Repairs & Ext Building Maintenance: common areas	7,000	7,154	7,318	7,487	7,652	7,812	7,969	8,128	8,282	8,440
55112617. Electricity	12,265	12,534	12,823	13,118	13,406	13,687	13,962	14,240	14,512	14,788
55112621. Rates Millers Acre	79,131	80,872	82,731	84,638	86,498	88,310	90,082	91,879	93,627	95,408
55112625. Water by Meter	636	650	665	680	695	709	724	738	752	766
55112628. BWOF	10,000	10,220	10,455	10,696	10,931	11,160	11,384	11,611	11,832	12,057
55112633. Cleaning	2,702	2,762	2,825	2,891	2,954	3,016	3,077	3,138	3,198	3,258
55112637. Insurance	34,917	35,685	36,505	37,347	38,168	38,967	39,749	40,542	41,314	42,099
55112650. Security	764	781	799	817	835	853	870	887	904	921
55112710. Legal Expenses	2,000	2,040	2,081	1,147	1,170	1,194	1,217	1,242	1,267	1,292
55112720. Valuations	4,864	4,972	8,476	3,469	3,545	3,619	3,692	3,765	3,837	3,910
Unprogrammed Expenses	**30,000**	**30,660**	**31,365**	**53,480**	**54,655**	**55,800**	**56,920**	**58,055**	**59,160**	**60,285**
55113011. Building General Maintenance	30,000	30,660	31,365	53,480	54,655	55,800	56,920	58,055	59,160	60,285
Programmed Expenses	**22,200**	**28,616**	**33,665**	**23,745**	**30,607**	**35,935**	**25,272**	**32,511**	**109,091**	**26,767**
55114011. Programmed- External Building Maintenance	20,000	20,440	31,365	21,392	21,862	33,480	22,768	23,222	106,488	24,114
55114032. Condition Assessment	2,200	8,176	2,300	2,353	8,745	2,455	2,504	9,289	2,603	2,653
Finance Expenses	**162,091**	**153,294**	**151,871**	**155,672**	**157,791**	**161,467**	**164,758**	**163,288**	**161,844**	**160,425**
Depreciation	**57,919**	**58,085**	**58,220**	**58,336**	**58,455**	**58,577**	**58,701**	**58,828**	**58,957**	**59,088**
Sources of Funds	**(57,919)**	**(58,085)**	**(58,220)**	**(58,336)**	**(58,455)**	**(58,577)**	**(58,701)**	**(58,828)**	**(58,957)**	**(59,088)**
Non Cash Income	**(57,919)**	**(58,085)**	**(58,220)**	**(58,336)**	**(58,455)**	**(58,577)**	**(58,701)**	**(58,828)**	**(58,957)**	**(59,088)**
Uses of Funds	**31,288**	**30,868**	**30,352**	**29,825**	**29,315**	**28,827**	**28,326**	**27,845**	**27,353**	**26,886**
Loans Paid	**31,288**	**30,868**	**30,352**	**29,825**	**29,315**	**28,827**	**28,326**	**27,845**	**27,353**	**26,886**
Capital Expenditure	**26,631**	**27,217**	**27,868**	**28,511**	**29,140**	**29,750**	**30,375**	**30,983**	**31,604**	**32,202**
Renewals	**21,136**	**21,601**	**22,118**	**22,628**	**23,127**	**23,611**	**24,107**	**24,589**	**25,082**	**25,557**
55117140. Renewals Plant and Equipment	21,136	21,601	22,118	22,628	23,127	23,611	24,107	24,589	25,082	25,557
Capital Increased LOS	**5,495**	**5,616**	**5,750**	**5,883**	**6,013**	**6,139**	**6,268**	**6,394**	**6,522**	**6,645**
55117740. Plant & Equipment	8,454	8,640	8,847	9,051	9,251	9,444	9,643	9,836	10,033	10,223
55117996. Scope Adjustment	(2,959)	(3,024)	(3,097)	(3,168)	(3,238)	(3,305)	(3,375)	(3,442)	(3,511)	(3,578)
5560 Public Transport	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Income	**(8,817,510)**	**(9,560,905)**	**(11,251,965)**	**(11,414,617)**	**(11,437,544)**	**(14,972,998)**	**(15,083,828)**	**(15,091,822)**	**(15,182,531)**	**(15,325,738)**
Rates Income	**(2,616,281)**	**(2,952,161)**	**(3,394,981)**	**(3,392,171)**	**(3,397,786)**	**(4,667,837)**	**(4,664,701)**	**(4,672,320)**	**(4,686,331)**	**(4,724,364)**
Other Income	**(6,201,229)**	**(6,608,744)**	**(7,856,984)**	**(8,022,446)**	**(8,039,758)**	**(10,305,161)**	**(10,419,127)**	**(10,419,502)**	**(10,496,200)**	**(10,601,374)**
Expenses	**8,891,848**	**9,649,011**	**11,357,986**	**11,527,326**	**11,553,550**	**15,096,542**	**15,223,569**	**15,243,166**	**15,338,465**	**15,495,057**
Staff Operating Expenditure	**357,464**	**373,067**	**377,501**	**379,688**	**386,385**	**395,641**	**401,494**	**409,136**	**419,141**	**424,707**
Base Expenditure	**8,163,234**	**8,847,449**	**10,488,779**	**10,546,991**	**10,614,683**	**14,110,230**	**14,090,568**	**14,138,879**	**14,210,488**	**14,236,694**
556020142945. WC 525 Electronic ticketing Maintenance	2,000	2,044	2,091	2,139	2,186	2,232	2,277	2,322	2,366	2,411
556023100391. WC 511 Bus Service Subsidised	7,325,168	7,797,538	8,291,652	9,034,832	9,045,595	9,057,079	12,417,267	12,430,819	12,444,361	12,459,373
556023100392. WC511 TDC Weekend Motueka and Wakefield Bus Serv9ice Subsidi	0	0	0	419,679	429,121	438,347	447,334	456,280	465,406	474,481
556023102321. WC 514 PT Bus stop facility cleaning	40,000	42,924	46,002	49,202	52,469	55,800	59,197	62,699	66,259	69,931
556023102335. WC 524 PT Minor Improvements Opex	0	0	731,835	0	0	3,348,000	0	0	0	0
556023102945. WC 524B Integrated Ticketing ORC	23,000	23,506	24,046	24,601	25,141	25,668	26,183	26,705	27,214	27,731
556023103352. WC511 TDC Fare recovery from NCC	377,413	384,660	413,465	421,890	430,104	483,078	491,810	500,661	509,276	518,048
556023103956. WC 531 PT Minor Improvements Opex Weekend Motueka and Wakef	0	0	410,243	0	0	0	0	0	0	0
556023222945. WC 524A Integrated Ticketing INIT	55,000	56,210	57,502	58,828	60,120	66,960	68,304	69,666	70,992	72,342

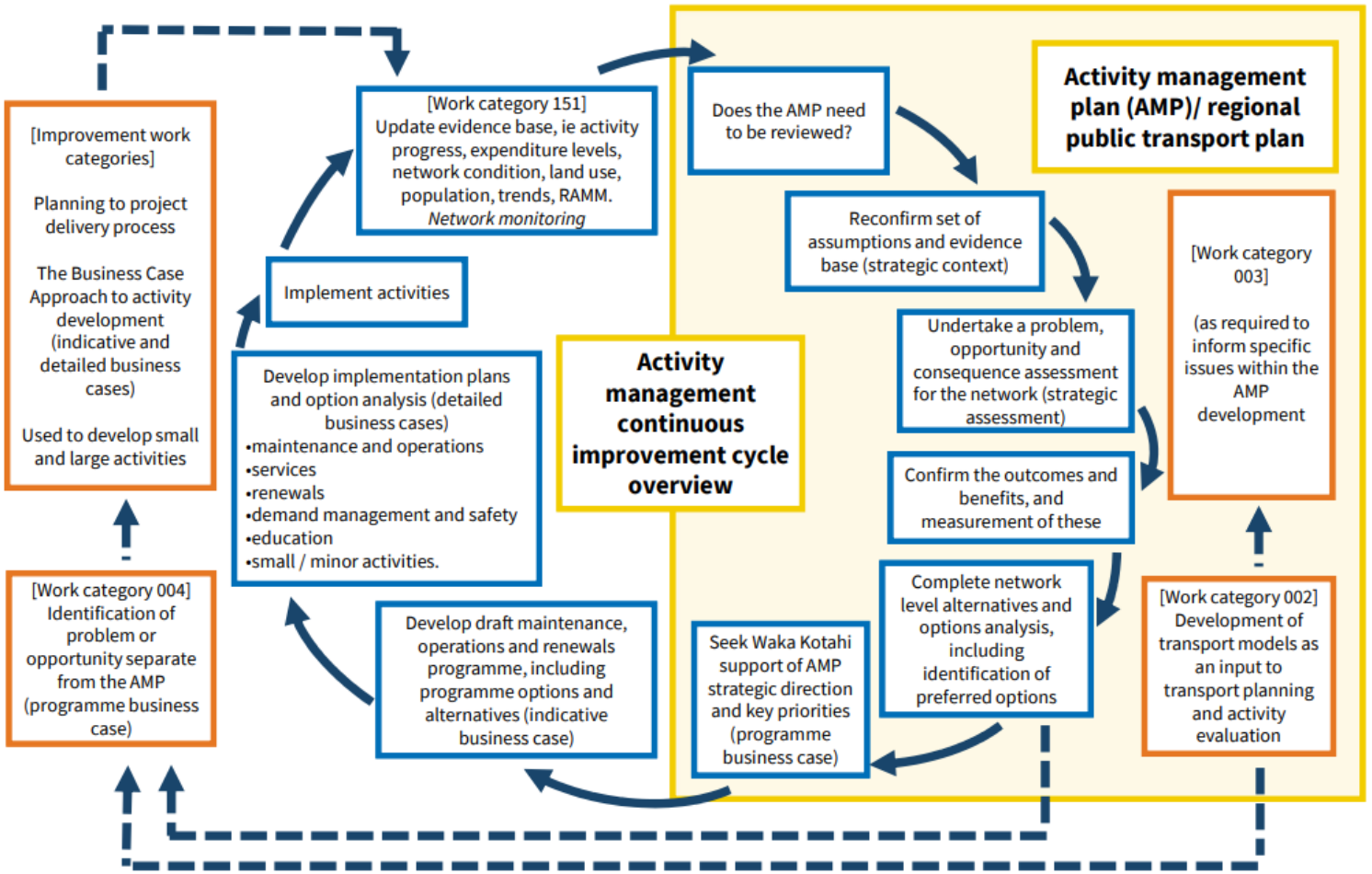
556023223786. WC 554 T&SW WC554 National Ticketing Solution	80,000	80,000	40,000	53,000	54,655	55,800	56,920	58,055	59,160	60,285
55602602. WC 525 Bank fees	12,000	12,264	13,330	13,637	13,937	15,903	16,222	16,546	16,861	17,181
556026083808. WC 514 CBD bus depot wifi	2,000	2,044	2,091	2,139	2,186	2,232	2,277	2,322	2,366	2,411
556026173808. WC 514: Bus depot power	6,000	6,132	6,273	6,418	6,559	6,696	6,830	6,967	7,099	7,234
556026203808. WC 514 CBD bus depot rental	35,000	45,990	47,048	48,132	49,190	50,220	51,228	52,250	53,244	54,256
556026333808. WC 514 CBD bus depot cleaning	35,000	51,100	52,275	53,480	54,655	55,800	56,920	58,055	59,160	60,285
55602637. WC 514 Insurance	653	667	683	698	714	729	743	758	772	787
556026373808. WC 514 CBD bus depot insurances	60,000	61,320	62,730	64,176	65,586	66,960	68,304	69,666	70,992	72,342
556026452321. WC 524 PT Info Supply	80,000	81,760	83,640	85,568	109,310	89,280	91,072	92,888	118,320	96,456
556026503808. WC 514 cctv security and cash	0	168,630	172,508	176,484	180,362	184,140	187,836	191,582	195,228	198,940
556026930391. WC 511: PT on board services	30,000	30,660	31,365	32,088	32,793	39,060	39,844	40,638	41,412	42,200
55602710. Legal	0	0	0	0	0	66,246	0	0	0	0
Unprogrammed Expenses	**3,000**	**3,066**	**3,136**	**3,209**	**3,279**	**3,348**	**3,415**	**3,483**	**3,549**	**3,616**
556030102321. WC514 PT Facilities reactive maintenance	3,000	3,066	3,136	3,209	3,279	3,348	3,415	3,483	3,549	3,616
Programmed Expenses	**161,000**	**142,038**	**145,273**	**224,996**	**151,834**	**155,005**	**239,202**	**161,269**	**164,349**	**253,533**
556040103808. WC 514 CBD bus depot programmed mtce	0	51,100	52,275	53,480	54,655	55,800	56,920	58,055	59,160	60,285
556043100391. WC 514 PT Leases	27,000	27,594	28,228	28,879	29,514	30,132	30,737	31,350	31,946	32,554
556043102321. WC 525 PT real time information	52,000	53,144	54,366	55,619	56,841	58,032	59,197	60,377	61,526	62,696
556043120391. WC 511: Grant Nelson North community service	10,000	10,200	10,404	10,612	10,824	11,041	11,262	11,487	11,717	11,951
556043222510. WC 524 PT services review	72,000	0	0	76,406	0	0	81,086	0	0	86,047
Finance Expenses	**58,414**	**107,109**	**131,170**	**146,933**	**165,264**	**185,132**	**209,296**	**227,589**	**228,946**	**237,734**
Depreciation	**148,736**	**176,282**	**212,127**	**225,509**	**232,105**	**247,186**	**279,594**	**302,810**	**311,992**	**338,773**
Sources of Funds	**(2,819,335)**	**(1,541,132)**	**(745,692)**	**(987,389)**	**(911,210)**	**(1,035,808)**	**(1,371,558)**	**(487,560)**	**(605,676)**	**(1,498,363)**
Non Cash Income	**(148,736)**	**(176,282)**	**(212,127)**	**(225,509)**	**(232,105)**	**(247,186)**	**(279,594)**	**(302,810)**	**(311,992)**	**(338,773)**
Non Operating Income	**(1,399,948)**	**(741,043)**	**(326,232)**	**(446,087)**	**(405,554)**	**(465,255)**	**(628,227)**	**(171,470)**	**(229,368)**	**(677,812)**
Loan Raised	**(1,270,651)**	**(623,807)**	**(207,333)**	**(315,793)**	**(273,551)**	**(323,367)**	**(463,737)**	**(13,280)**	**(64,316)**	**(481,778)**
Capital Expenditure	**2,744,997**	**1,453,026**	**639,671**	**874,680**	**795,204**	**912,264**	**1,231,817**	**336,216**	**449,742**	**1,329,044**
Capital Staff Cost	**134,997**	**137,712**	**140,490**	**143,941**	**146,835**	**149,787**	**152,785**	**155,838**	**158,948**	**162,113**
Renewals	**30,000**	**30,660**	**31,395**	**32,118**	**32,826**	**33,513**	**34,218**	**34,902**	**35,601**	**36,276**
55607390. Public Transport Infrastructure Renewals	30,000	30,660	31,395	32,118	32,826	33,513	34,218	34,902	35,601	36,276
Capital Growth	**2,700,000**	**1,124,200**	**209,300**	**565,694**	**578,164**	**590,264**	**24,107**	**49,178**	**50,163**	**51,114**
556075902217. WC 531 PT facilities new and renewed	0	0	0	0	0	0	24,107	49,178	50,163	51,114
556075902218. WC 531 Stoke interchange	0	0	0	565,694	578,164	590,264	0	0	0	0
556075902945. WC 531 Integrated Ticketing GRETS	0	204,400	209,300	0	0	0	0	0	0	0
556075902997. WC 532 CBD interchange	2,700,000	919,800	0	0	0	0	0	0	0	0
Capital Increased LOS	**(120,000)**	**160,454**	**258,486**	**132,927**	**37,379**	**138,700**	**1,020,707**	**96,298**	**205,030**	**1,079,541**
556077803855. WC 531: PT Signals priority	100,000	102,200	104,650	0	0	0	0	0	0	0
556079702335. WC 532 Bus Shelter Lighting	50,000	102,200	104,650	107,060	0	0	0	0	0	0
556079902335. WC532 PT Minor Improvements	20,000	102,200	104,650	107,060	109,420	111,710	114,060	116,340	118,670	120,920
556079903240. WC532 Bus stop improvements	0	0	0	0	0	111,710	1,026,540	0	118,670	1,088,280
55607996. Scope Adjustment	(290,000)	(146,146)	(55,464)	(81,193)	(72,041)	(84,720)	(119,893)	(20,042)	(32,310)	(129,659)
5570 Total Mobility	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Income	**(672,789)**	**(683,957)**	**(699,633)**	**(829,852)**	**(892,066)**	**(946,292)**	**(1,009,310)**	**(1,076,372)**	**(1,147,704)**	**(1,223,181)**
Rates Income	**(131,055)**	**(134,112)**	**(136,719)**	**(159,986)**	**(170,592)**	**(180,183)**	**(190,781)**	**(202,294)**	**(214,788)**	**(227,412)**

Other Income	**(541,734)**	**(549,845)**	**(562,914)**	**(669,866)**	**(721,474)**	**(766,109)**	**(818,529)**	**(874,078)**	**(932,916)**	**(995,769)**
Expenses	**672,789**	**683,957**	**699,633**	**829,852**	**892,066**	**946,292**	**1,009,310**	**1,076,372**	**1,147,704**	**1,223,181**
Staff Operating Expenditure	**27,131**	**28,782**	**28,953**	**28,703**	**29,130**	**29,948**	**30,234**	**30,790**	**31,712**	**31,942**
Base Expenditure	**630,658**	**644,955**	**660,225**	**787,757**	**849,249**	**902,371**	**964,822**	**1,031,044**	**1,101,177**	**1,176,142**
557023100460. WC 517 Total Mobility Operations	600,000	613,200	627,300	742,917	797,201	854,597	915,570	980,270	1,048,875	1,122,262
557023220455. WC 519 Wheelchair replacement	10,000	10,220	10,455	21,392	21,862	22,320	22,768	23,222	23,664	24,114
557023220801. WC 521 Wheelchair hoist use	20,658	21,535	22,470	23,448	24,442	25,454	26,484	27,552	28,638	29,766
55702649. Engagement	0	0	0	0	5,744	0	0	0	0	0
Programmed Expenses	**15,000**	**10,220**	**10,455**	**13,392**	**13,687**	**13,973**	**14,254**	**14,538**	**14,815**	**15,097**
557043102219. Total mobility RIDEWISE implementation	15,000	10,220	10,455	13,392	13,687	13,973	14,254	14,538	14,815	15,097

Appendix I: Pavement and Surfacing Modelling Report

Modelling report is available on request.

Appendix J: AMP and Programme Development



Activity Management Calendar	Y3		Y1				Y2				Y3			
	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Local Government elections														
Central government elections														
GPS draft														
GPS final														
AM improvement planning and delivery														
AMP Planning Draft														
AMP final														
LTP development														
LTP consultation														
RLTP and RPTP														
Annual performance monitoring														
Annual renewal programmes finalised														
Resurfacing programme														
footpath and LCLR programmes														
drainage programmes														

Appendix K: Smart Buyer Assessment Form 2023

REG THE ROAD EFFICIENCY GROUP — We are. LGNZ. — WAKA KOTAHI NZ TRANSPORT AGENCY

Smart Buyer Principles Assessment Tool

2020
✓2023

This assessment is based on the Smart Buyer Principles identified in the Road Maintenance Task Force Report. That statement of principles is included at the end of this document. Score the following by ticking the appropriate box - (1) Disagree to (5) Strongly Agree

Whenever you score yourself "4 or 5" think of an example you can use to justify your score to an independent auditor

Assessment statement Our Organisation	Score 1	2	3	4	5
1. Fully understands the different contracting models available				✓	
2. Holds meetings that updates the contracting industry on the forward works programme and any changes it is taking in approach and proactively engages with the contracting industry to ensure that gains optimal value out of any changes being implemented ongoing regular meets but need to be earlier when setting LTP				✓	
3. Has sufficient robust data (or is in the process of gathering robust data) on our networks that enables optimal integrated decision-making				✓	
4. Has access to expertise that fully enables best use of the data available Need staff resource					✓
5. Is open to alternative solutions to those proposed in the contract documents yes permit & consider alternatives & promote early contractor engagement					✓
6. Understands risk and how to allocate and manage it lack of willingness to budget enough contingencies.			✓		
7. Has a Council that is prepared to pay more now to achieve a lower whole of life cost good awareness of whole of life costs				✓	
8. Actively pursues value for money & does not always award contracts to the lowest price Pqm is normal.					✓
9. Is able to manage supplier relationships / contracts to ensure that expenditure is optimal and sustains infrastructural assets at appropriate levels of service need to improve awareness through delivery cycles & VFM decisions			✓		
10. Supports ongoing skill and competency training and development for its staff yes					✓
11. Actively participates in gatherings to share and gain knowledge within the sector Reg, ISK, TOTS,					✓
12. Is effective in keeping up with best practice in procurement including best practice RFP / contract documentation yes				✓	
13. Regularly seeks and receives candid feedback from suppliers on its own performance as a client and consistently looks to improve its performance yes but getting system changes as a result less effective			✓		
14. Explores opportunities for collaboration by either sharing in-house resources with neighbours, or by procuring together or tendering together. That exploration could be through an LGA s17A evaluation of transport function delivery options. yes					✓
Number of ticks in each column			3	5	6
Multiplying factor	x1	x2	x3	x4	x5
Total Score in Column			9	20	30
Total Score				59	

Score:	Interpretation
65 to 70:	A smart buyer: Our organisation is a smart buyer. We help to minimise rate increases by maximising the value created for our community
55 to 64:	Developing: Our organisation has embraced the principles of being a smart buyer but can still create further improved value for our communities
30 to 54:	Limited: Our organisation currently has limited capability to maximise the value created from being a smart buyer
0 to 29:	Basic Our organisation is focused on tender process and compliance. We have not developed the capability to realise any of the value created for our community from being a smart buyer

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Smart Buyer Principles Assessment Tool

If you were to repeat this assessment in say one- or two-years' time, how do you expect it will have changed, which questions will show the greatest change (up or down) and what action / inaction on the part of your organisation will have been the driver of that change?

The need for 'smarter buyers'

A theme that underpins a number of the conclusions of this review is that RCAs must be both efficient and effective managers of their road assets and smart buyers of the services they require. These issues strongly relate to the concept of 'smart procurement' with a balanced focus across 'the three Es':

1. economy – through securing (or supporting) the provision of products, materials and expertise at the quality, in the volumes and at the times and locations required, at the lowest price
2. efficiency – through the processes used, including standard documentation and contracting forms selected for achieving best cost / quality and outcomes; and knowledge of the product / materials and supplier market applied
3. effectiveness – taking opportunities for changing from traditional products and materials by maintaining support for innovation in the nature and characteristics of products and materials, and for a strong supplier market

The impact of raising the capability of RCAs would include reduced supplier selection process costs, better management of risk and more objective assessment of performance for use in future supplier selection processes.

The contracting industry has provided the following useful analysis of the characteristics of a smart buyer: Some RCAs are smart buyers, but this is believed to be the exception.

Smart buyers have:

- An improved understanding of costs that better inform their decision-making process
- An understanding of the impact delivery models and supplier selection criteria can have on the value of contracts
- Robust forward work programmes that are communicated to the industry and supported by budgets that allows the work to be completed
- Knowledge of the network to determine treatments required based on physical evidence and supported by knowledge of the costs involved
- In house expertise that aids the decision-making process and allows acceptance of innovative solutions possibly with or without the involvement of consultants
- A clear understanding of risk and how it is allocated and managed
- An understanding that lowest price will not always deliver desirable outcomes
- An understanding that being prepared to pay more may result in enhanced whole of life value for money.

Not so smart buyers:

- Award contracts predominately based on price – with little appreciation of any risk to best value for money
- Outsource work to the detriment of asset knowledge
- Choose contract forms that are fashionable, not well understood and poorly managed
- Lack technical and contractual management skills
- Lack asset management skills that prevent the development of robust forward work programmes
- Do not support forward work programmes with appropriate budgets.

Task Force members debated the nuances around individual items in these lists but believe that they provide a platform on which to build a list of the characteristics that would be exhibited by an RCA that has the capability and the capacity to be a smart buyer.

One Task Force member described a smart buyer in the following terms:

A 'smart buyer' RCA ensures its staff are up-to-date, regularly shares best practice experiences with colleagues from other agencies and supports and resources their teams appropriately in the recognition that getting the strategic direction right is a very small cost compared to the consequence of getting it wrong. This requires staff to be involved in regular training, attendance and participation in sector gatherings, and involvement in NZTA investigating teams and the like. Ironically in the interests of 'cost-saving' many agencies are limiting staff involvement in these activities. A smart buyer does not ask the question – what if I train my staff and they leave? – but rather asks the question – what if I don't train my staff and they stay?

Appendix L: AMP Maturity Assessment