Selwyn District Council Programme Business Case
to support the 2024/25 – 2026/27 National Land Transport Programme
and Selwyn District Council Long Term Plan 2024/25 – 2033/34

Programme Business Case:

Decision Making, Service Delivery and Benefit Delivery Continuous Programmes and Capital Programme

.

This page intentionally left blank

Quality Assurance & Plan Status

1. Plan Version and Control

Date	Version Number	Checked by
January 2012	Version 1	Grant Holland
March 2015	Version 2	Grant Holland
Dec 2017	Version 3	Ben Wong
October 2021	Version 4	Grant Holland
August 2023	Version 5	Yuwei Li

2. Overall Responsibility for the Co-Ordination of all Matters in this Plan

Date	Name	Designation
2011-12	Andrew Mazey v1	Asset Manager Transportation
2013-15	Andrew Mazey v2	Asset Manager Transportation
2015-18	Ben Wong v3	Transport Asset Planner
2018-21	Rebecca Tinga v4	Transport Asset Planner
2022-23	Yuwei Li	Transportation Asset Planning Manager

3. Prepared By

Date	Name	Designation
2011-12	Andrew Mazey v1	Asset Manager Transportation
2013-15	Andrew Mazey v2	Asset Manager Transportation
2015-17	Ben Wong v3	Transport Asset Planner
2018-21	Rebecca Tinga	Transport Asset Planner
2022-23	Yuwei Li	Transportation Asset Planning Manager

4.2022-23 version Input From

See 2021 version for prior co-authors

Name	Designation	Input
Yuwei Li	Transportation Asset Planning Manager	All sections
Julius Ndondo	Transportation Asset Planning Analyst	All sections
George Sariak	Senior Strategy Planner	Growth
Keith Tallentire	Sustainability Lead	Climate Change
Andrew Mazey	Strategic Transport Lead	Capital programme
Geoff Rhodes	Transportation Delivery Manager	Maintenance Operations and Renewals Programme
Phil Scales	Roading Maintenance Engineer	Maintenance Operations and Renewals Programme
Jenni Fraser, Katherine Hill, Grant Holland, Josephine Yeo	Infrastructure Management Advisors	All sections

Name	Designation	Input
	Waugh Infrastructure Management Ltd.	
Lucien Zhang	Senior Asset Engineer Beca	Pavement Management

5. AMP Council Adoption

Date	Record of Decision
March 2012	As part of 2012-22 Long Term Plan adoption
June 2015	As part of 2015-25 Long Term Plan adoption
June 2018	As part of 2018-28 LTP adoption
June 2021	As part of 2021-31 Long Term Plan adoption
August 2023	Pending

6. AMP Public Consultation

Date	Form Of
April 2012 (v1)	Selwyn District Council web site
April 2015 (v2)	Selwyn District Council web site
April 2018 (v3)	Selwyn District Council web site
May 2021 (v4)	Selwyn District Council web site
August 2023	Pending

7. Peer Review Record

Date	Reviewer	Designation
April 2015 (v2)	Grant Holland	Consultant, Waugh Infrastructure Management Ltd
April 2018 (v3)	Ross Waugh	Director, Waugh Infrastructure Management Ltd. (AM Policy Review and Maturity)
	Erik Barnes	For Road Efficiency Group
May 2021 (v4)	Grant Holland, Andy Bartlett	Consultants, Waugh Infrastructure Management Ltd
	Erik Barnes	For Te Ringa Maimoa
	Mark Gordon	Director IAM Consulting
August – October 2023		

This page intentionally left blank

1 PROGRAMME BUSINESS CASE OVERVIEW

1.1 Purpose

The purpose of this Programme Business Case (PBC) is to outline the actions that Council proposes in response to the strategic context outlined in Council's supporting Strategic Business Case (SBC).

Due to national and regional land transport programme requirements, the programme case is developed ahead of Council's Long-Term Plan. While this is not ideal, there is an interaction between the planning processes that is managed as it can be. It is important to note that while NZTA appreciate a level of certainty on the funding levels Council can provide, Council needs to know what levels of contribution will be provided by NZTA in order to strike rates at the appropriate figure. A degree of rework and refinement is unavoidable.

1.2 Mission Statement

Council's mission statement which is used to 'test' the programme is:

To maintain, operate, and improve the road network and other transport facilities to achieve a transport system that provides safe, efficient, and sustainable movement of people and goods.

This is considered alongside the priorities in the Government Policy Statement on Land Transport Funding, the objectives of the Canterbury Regional Land Transport Plan, and Selwyn District Council's vision, community outcomes, along with the four aspects of community wellbeing.

1.3 Alignment of Work categories and PBC Sections

The following table illustrates the alignment between Waka Kotahi 2024-27 Work Categories and the sections of this document.

Continuous Programmes

GPS Expenditure reporting line	W/C	Work Category description	Activity Breakdown	PBC Section
Maintain	111	Sealed pavement maintenance	Routine pavement repairs	3. Sealed Pavement Management
			Pre-seal repairs	
	112	Unsealed pavement maintenance		4. Unsealed Pavement Management
	113	Routine drainage maintenance	Street cleaning	5. Drainage Management
			Drainage maintenance	
	114	Structures maintenance	Bridge maintenance	9. Bridges and Structures Management
			Retaining wall maintenance	
			Vehicular ferries	
			Maintenance other structures	
	124	Cycle path maintenance		8. Footpaths and Cycleways Management
	125	Footpath maintenance		8. Footpaths and Cycleways Management

GPS Expenditure reporting line	W/C	Work Category description	Activity Breakdown	PBC Section
	140	Minor events	Minor Events and Emergency Works	12. Minor Events and Emergency Works
Operate	121	Environmental maintenance	Vegetation control	6. Environmental Management
			Winter maintenance activities	
			Other environmental maintenance	
	122	Network service maintenance	Traffic services power supply	7. Network Services Management
			Traffic services maintenance	
	123	Network operations	Maintenance of operational infrastructure	7. Network Services Management
			Management and operations of traffic systems	
	131	Rail level crossing warning devices maintenance		7. Rail Level Crossing Warning Devices Maintenance
(Investment management)	151	Network and asset management	Network management (incl inspections)	10. Network and asset management
			Network user information	
			Management of asset inventory systems	
	003	Activity management planning		11. Transport Planning
(promotion)	432		Safety promotion, education and advertising	13 Promotion of Road Safety
Renew	211	Unsealed road metalling	Total cost	4. Unsealed Pavement Management
	212	Sealed road resurfacing	Chip sealing	3. Sealed Pavement Management
			Thin asphaltic surfacing	
	213	Drainage renewals	Culvert renewals	5. Drainage Management
			Kerb and channel renewals	
	214	Sealed road pavement rehabilitation	Structural AC rehabilitation	3. Sealed Pavement Management
			Granular pavement rehabilitation	
	215	Structures component replacements	Bridge component replacement	9. Bridges and Structures Management
			Retaining wall component replacement	
			Other structure component replacements	
	216	Bridge and structures renewals	Bridge renewals	
			Retaining wall renewals	
			Other structures renewals	
	221	Environmental renewals		x

GPS Expenditure reporting line	W/C	Work Category description	Activity Breakdown	PBC Section
	222	Traffic services renewals		7. Network Services Management 7. Rail Level Crossing Warning Devices Maintenance
	224	Cycle path renewal		x
	225	Footpath renewal		8. Footpaths and Cycleways Management

Capital Programmes

PBC section 14 covers improvements to public transport infrastructure, including Lowe Cost/Low Risk. Local Road Improvements (including Road to Zero) and Walking and Cycling Improvements are covered in Section 15.

1.4 Key Improvements and variation from the previous version

- Some changes in structure,
- Simplification and removal of duplication (within the PBC and between the PBC and SBC, AMP or LTP) where document use is not affected,
- Addition of mapping chart in 1.4,
- New authors and analysis (internal staff changes)

1.5 Business Case Investment Summary

1.5.1 Challenges

This operating environment as described in the SBC, can be summarised as challenging, and includes:

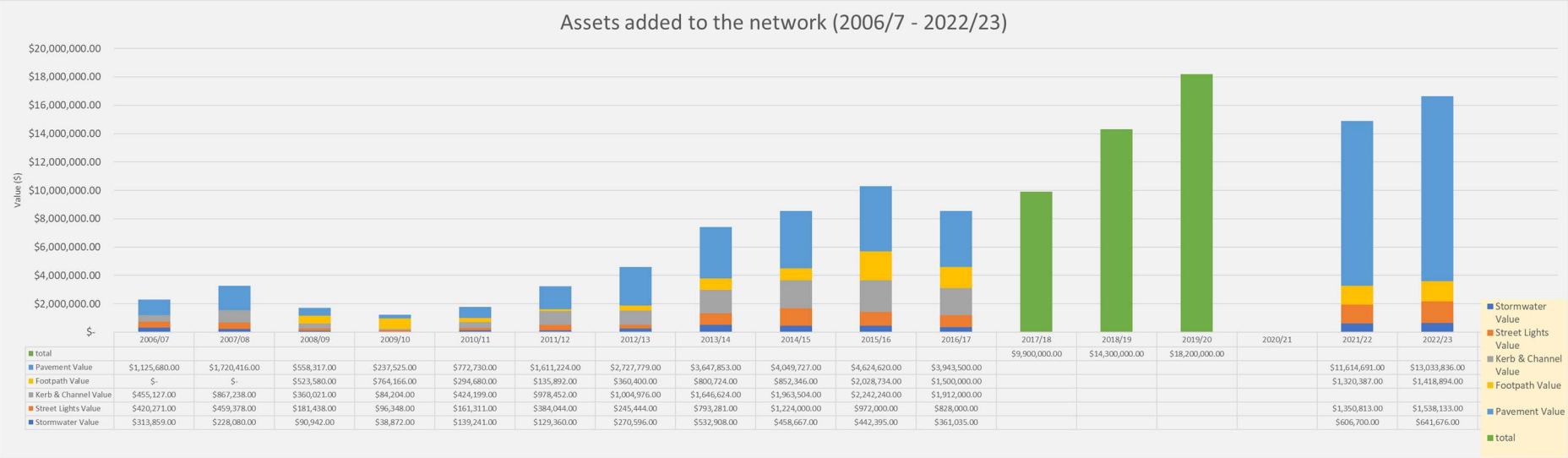
- Growth continuing at very high rates (Selwyn's growth amongst the highest in the country in both residential development and economic activity, with associated increases in traffic numbers, and changing vehicle movements (e.g., the completion of the Christchurch Southern Motorway Stage 2 bringing significant traffic movement onto local roads, and changing many travel patterns in Eastern Selwyn).
- COVID-19 and inflation resulting in costs increases across all activities.
- Climate change – increasing frequency and severity of extreme weather events and national commitments to VKT reductions and mode shift planning (including contribution to Greater Christchurch joint work programmes).
- While there was an increase in funding in 2018 and 20212, funding and work achieved fell short of modelled investment levels, this is evident in asset condition.

A summary of the challenges faced in this next period, with supporting narrative and context is provided against each of the activity components in Sections 3 – 15 of this PBC.

Growth

The Selwyn network is under considerable stress given the ongoing growth and development occurring. Travel patterns have changed and there is extensive heavy traffic on the network. This is evident in inspection; customer feedback and the level of reactive maintenance is consuming the budget allocation. Demand for alternative modes is also increasing, particularly as urban populations increase.

Figure



	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
total												$9,900,000.00	$14,300,000.00	$18,200,000.00			
Pavement Value	$1,125,680.00	$1,720,416.00	$558,317.00	$237,525.00	$772,730.00	$1,611,224.00	$2,727,779.00	$3,647,853.00	$4,049,727.00	$4,624,620.00	$3,943,500.00					$11,614,691.00	$13,033,836.00
Footpath Value	$-	$-	$523,580.00	$764,166.00	$294,680.00	$135,892.00	$360,400.00	$800,724.00	$852,346.00	$2,028,734.00	$1,500,000.00					$1,320,387.00	$1,418,894.00
Kerb & Channel Value	$455,127.00	$867,238.00	$360,021.00	$84,204.00	$424,199.00	$978,452.00	$1,004,976.00	$1,646,624.00	$1,963,504.00	$2,242,240.00	$1,912,000.00						
Street Lights Value	$420,271.00	$459,378.00	$181,438.00	$96,348.00	$161,311.00	$384,044.00	$245,444.00	$793,281.00	$1,224,000.00	$972,000.00	$828,000.00					$1,350,813.00	$1,538,133.00
Stormwater Value	$313,859.00	$228,080.00	$90,942.00	$38,872.00	$139,241.00	$129,360.00	$270,596.00	$532,908.00	$458,667.00	$442,395.00	$361,035.00					$606,700.00	$641,676.00

This page intentionally left blank

Cost Increases

Post Covid-19 recovery inflation has been running at higher levels than has been seen for some time, causing significant cost increases across the operating environment. Cost of living increases also impact on affordability which must be considered through Council setting of rates.

Cost increases on fuel and materials are particularly high, forcing contract cost fluctuations to significant levels.

A new maintenance contract commenced on 1/7/2021, and is expected to run until 30/6/2027.

Since commencement cost fluctuations on the maintenance contract (the largest expenditure item in the Transportation activity) are:

Year	Q1	Q2	Q3	Q4
2021/22	*6.2%*	*9%*	*19.5%*	*20%*
2022/23	*20.75%*	*21.2%*	*19.5%*	*19.1%*
2023/24 (expected)	*19.1%*	*20%*	*19%*	*18%*

Asset Condition

The road network is extensive and in general copes well with the demand and changes in traffic. The arterial/primary collector roads are showing stress from the increase in traffic, particularly heavy traffic. This is evident through roughness, rutting and cracking of these main road surfaces.

Climate Change

Climate change is already impacting our environment and disrupting the lives of our communities and our economy. The increasing frequency and severity of extreme weather events impacts on the operation and maintenance of transportation assets and may necessitate increased capacity of some assets (e.g., drainage),

Action is required to reduce our emissions (including VKT reduction and mode shift planning). We also need to change how we do things so we can be resilient to more frequent and extreme weather events and reduce our overall vulnerability to the impacts of climate change.

Council has an organisation wide approach across assets which will inform councils direction in climate change mitigation and adaptation.

1.5.2 Our response

While some continuous programme activities are manageable, others require a 'reset' to ensure there is an appropriate lifecycle management strategy in place that balances operations maintenance and

renewals, while continuing to respond to developer driven growth (increasing asset portfolio through vested assets).

The improvements programme is focussed on improving safety and managing demand.

In this environment of significant growth and increasing costs, Council is prioritising activities requiring increased expenditure, and/or activity. Changes across the sub activities are summarised in this section. Without adequate increases in investment, the amount or work that can be undertaken will decrease, along with the level of services provided. Renewals would also risk being delayed, resulting in subsequent higher cost replacement or repairs.

Council has opted to provide additional funding for continuous programmes over the past three years to ensure that necessary action can be taken. This investment of up to two million dollars per year does not attract financial assistance from Waka Kotahi, with the costs borne directly by the Selwyn community. Effectively this means a lower financial assistance rate (FAR) exists in the district.

Sealed Roads

Reviewing expenditure confirms the level of investment has struggled to keep pace with growth and the changing demands on the network. level of under-investment.

While there was a step up in the 2018/19 – 2020/21 Land Transport Programme, this fell short of the identified need. The impact of increasing demand on the network and this level of under-investment is now showing on the network.

Over the last three to six years the extent of pre-reseal work required has been extensive, being a factor of the delay in surfacing beyond the preferred timing, the increasing traffic impacts on the network and cost increases (particularly bitumen).

The required level of pavement maintenance and pre-reseal works has consumed the funding available under the pavement maintenance work category (111) and consumed a significant portion of the resurfacing budget (212) itself.

Similarly, there is a need to increase investment in pavement rehabilitation (work category 214). While this sits behind resurfacing as a priority, it is causing undue demands on the pavement maintenance needed to sustain a satisfactory level of service.

Unsealed Roads

Increases applied to unsealed roads are limited to cost fluctuation. There is a rigorous inspection programme in place and the level of service is deemed satisfactory. Council continue to monitor the condition of its unsealed road network, with no significant increase to maintenance required at this time.

Traffic Services

Change represents the increase in safety priority of signs maintenance and renewals, as well as responding to the level of damage and vandalism. Queries associated with this activity are now the highest customer request issue for Council.

Bridge Maintenance

Council has recently completed a six-year programme of thorough bridge inspections. This means a comprehensive programme can now be established comprising routine maintenance and structural works.

The highest priority work, when combined with critical assets, indicates the most important parts of the work programme. This has been compiled and less vital work delayed in line with budgets.

This requires a step up in investment to ensure bridges are fit for purpose and resilience objectives are actioned.

Road Safety

The increase reflects additional programmes developed in consultation with Waka Kotahi and Regional Partners.

Speed management is a key implementation item, with infrastructure changes needed to reinforce speed limits and behaviour change. School programmes have also increased considerably over the last year and this momentum is encouraged, aligned with national, regional and local directives and vision.

Intersection and corridor improvement will continue as recommended through the nationally moderated programme (see below).

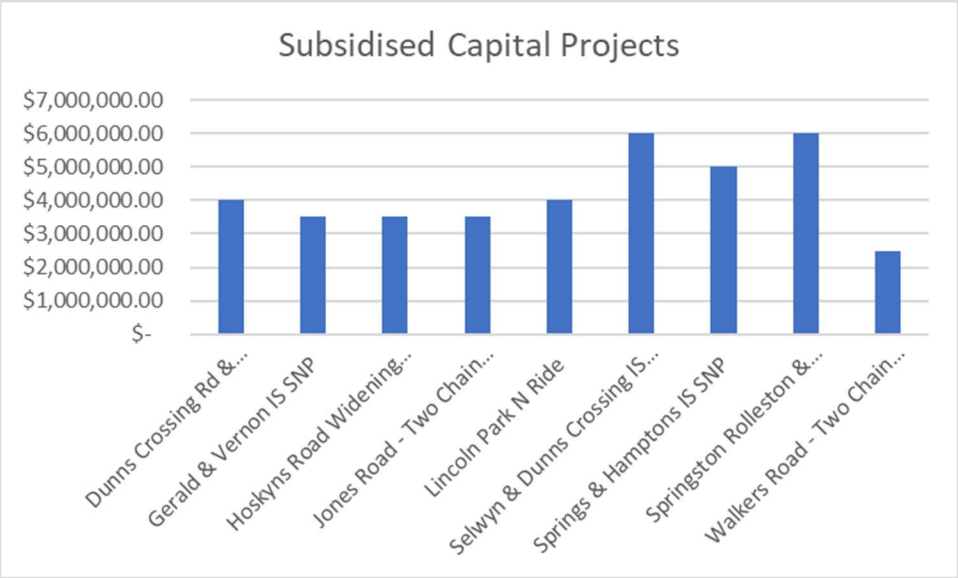
Low-Cost Low Risk Improvements

Council's comprehensive and wide-ranging Low Cost Low Risk (LCLR) improvement programme comprises of the following main activities:

- Public Transport Infrastructure Improvements - $0.54 million.
- Road to Zero NZTA pre-Approved Programme from the Safety Network Pipeline Tool - $8.045 million.
- Walking and Cycling projects from its 2018 Walking and Cycling Action Plan for urban extensions and off-road cycleways between townships - $3.9 million.
- Local Road Improvements including arterial route safety upgrades (coordinated seal widenings and intersection upgrades) identified in business cases; discretionary annual programmes for rural seal backs and rural intersection safety upgrades; school safety frontage upgrades; roading improvements to improve access to key industrial area - $8.075 million.

Each individual project in the LCLR category has a budget of $2 million or less.

Major Financially Assisted Capital Projects



Nine major capital projects, each with a budget exceeding $2 million, has been proposed for inclusion in the 24-27 NLTP. They cover Local Road Improvements, Local Road Improvements-RtZ, and Public Transport Infrastructure Improvements. The combined value is $38 million.

Capital Works Outside of the National Land Transport Programme

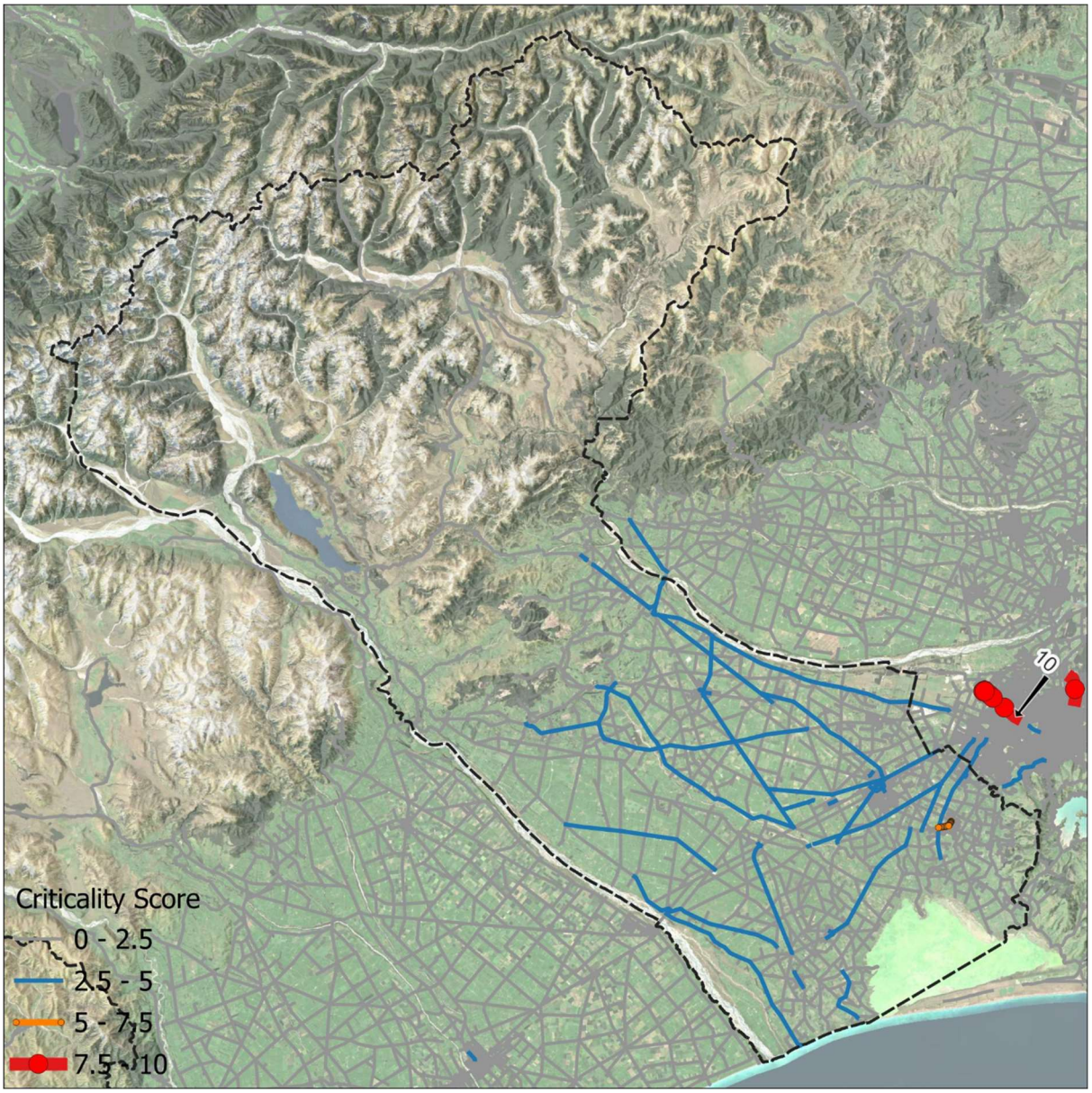
Program	OpCap Nonsub	24/25	25/26	26/27
Lincoln South Public Car Parks	Capex	$ 1,600,000		
Gerald Street Eastern End Upgrade	Capex	$ 7,350,000		
East Maddisons Road Upgrade	Capex	$ 300,000		
Ellesmere Road Seal Widening	Capex	$ 3,000,000		
Birchs Road Kakaha Park Safety Upgrades	Capex	$ 300,000		
PT Futures Selwyn Infrastructure Business Case	Opex	$ 75,000		
Rolleston Access Local Road Upgrades Business Case	Capex	$ 75,000		
Lincoln North Public Car Parks	Capex		$ 1,550,000	
Meijer Drive Extension	Capex		$ 3,500,000	
Rolleston Public Carpark 4 & Service Lane	Capex		$ 1,100,000	
Public Carpark and Walkways Light Renewal to LED	Capex		$ 250,000	
Castle Hill Dark Sky Street Lighting Controls	Capex		$ 50,000	
Asset Management Data Standard Implementation	Opex		$ 150,000	
District and Township Signage Implementation	Capex			$ 700,000
Tennyson & Moore Street Roundabout	Capex			$ 2,500,000
Moore Street Extension	Capex			$ 1,800,000
Gerald Street Transitional Section Upgrade	Capex			$ 7,500,000
Coes Ford Upgrade Feasibility Study	Capex			$ 50,000
Coleridge Tail Race Bridge Replacement Contribution	Capex			$ 500,000

Total		**$ 12,700,000**	**$ 6,600,000**	**$ 13,050,000**

1.6 Criticality

An assessment of network criticality has been undertaken which includes access to services, utilities, state highway detours and ONRC classification. The process is detailed in the AMP with the results shown below.

Figure 1-1: Critical Roads in the District



This page intentionally left blank

Criteria	Address	Area in District	Type of Asset	Score	Score Weight	Adj Score	Category	Category Weight	Adj Category	Criticality Score
Hall - Ladbrooks Community Hall	13 Barnes Road	Halswell	Welfare	0.25	1	0.25	1.5	1	1.5	1.75
School - Ladbrooks School	9 Barnes Road	Halswell	Welfare	0.25	1	0.25	1.5	1	1.5	1.75
Hororata Volunteer Fire Brigade	2540 Bealey Road	Hororata	Fire	2	1	2	2	1	2	4
School - Hororata School	2548 Bealey Road	Hororata	Welfare	0.25	1	0.25	2	1	2	2.25
SH Detour	Blakes Road						2	1	3	3
School - Prebbleton School	Blakes Rd	Prebbleton	Welfare	0.25	1	0.25	2	1	2	2.25
School - Lincoln High School	25 Boundary Road	Lincoln	Welfare	0.25	1	0.25	1.5	1	1.5	1.75
Coalgate Volunteer Fire Brigade	67 Bridge Street	Coalgate	Fire	2	1	2	1.5	1	1.5	3.5
SH Detour	Bridge St (Coalgate)						2	1	3	3
School - Clearview Primary	20 Broadlands Drive	Rolleston	Welfare	0.25	1	0.25	1.5	1	1.5	1.75
SH Detour	Brookside Rd						3	1	4	4
Dunsandel Volunteer Fire Brigade	10 Browns Road	Dunsandel	Fire	2	1	2	2	1	2	4
Burwood Hospital	300 Burwood Road, Christchurch	Christchurch	Hospital	3	1	3	0	0	0	3
Burwood Hosptal Heliport	Burwood Rd	Christchurch	Flight	10	1	10	0	0	0	10
SH Detour	Byron St						2	1	3	3
The Princess Margaret Hospital	95 Cashmere Avenue	Christchurch	Hospital	3	1	3	0	0	0	3
Hall - Castle Hill Village Community Centre	Castle Hill Drive	Castle Hill	Welfare	0.25	1	0.25	1	1	1	1.25
Rolleston Volunteer Fire Brigade	4 Chaucer Street	Rolleston	Fire	2	1	2	1	1	1	3
SH Detour	Coaltrack Rd						1.5	1	2.5	2.5
Police Station - Leeston	2 Cunningham St	Leeston	Security	2	1	2	1.5	1	1.5	3.5
SH Detour	Curve Rd						1.5	1	2.5	2.5
SH Detour	Downs Rd						1.5	1	2.5	2.5
Hall - Doyleston	479 Drain Rd,	Doyleston	Welfare	0.25	1	0.25	0	1	0	0.25

Criteria	Address	Area in District	Type of Asset	Score	Score Weight	Adj Score	Category	Category Weight	Adj Category	Criticality Score
School - West Rolleston Primary School	327 Dunns Crossing Road	Rolleston	Welfare	0.25	1	0.25	1.5	1	1.5	1.75
Christchurch International Airport	Durey Rd. Christchurch	Christchurch	Flight	10	1	10	0	0	0	10
SH Detour	Edward St (Lincoln)						3	1	4	4
Ashburton Hospital	Elizabeth Street, Ashburton	Ashburton	Hospital	3	1	3	0	0	0	3
Police Station - Lincoln	30 Gerald St	Lincoln	Security	2	1	2	3	1	3	5
SH Detour	Gerald St						3	1	4	4
School - Burnham School - Te Kura o Tiori	56 Godley Road	Burnham	Welfare	0.25	1	0.25	1.5	1	1.5	1.75
SH Detour	Grange Rd						1.5	1	2.5	2.5
School - Greendale School	187 Greendale Road	Greendale	Welfare	0.25	1	0.25	1.5	1	1.5	1.75
Hall - Greendale	Greendale	Greendale	Welfare	0.25	1	0.25	1.5	1	1.5	1.75
Hall - Greenpark Community Centre	Greenpark Memorial Park, Greenpark Road	Greenpark	Welfare	0.25	1	0.25	1.5	1	1.5	1.75
Hall - Halkett Community Centre	832 Halkett Rd	West Melton	Welfare	0.25	1	0.25	2	1	2	2.25
Hall - Lake Coleridge Community Hall	Hart Place	Lake Coleridge	Welfare	0.25	1	0.25	1	1	1	1.25
School - Southbridge School	25 Hastings Street	Southbridge	Welfare	0.25	1	0.25	1.5	1	1.5	1.75
Southbridge Volunteer Fire Brigade	High Street	Southbridge	Fire	2	1	2	1.5	1	1.5	3.5
Hall - Southbridge Hall	High Street	Southbridge	Welfare	0.25	1	0.25	1.5	1	1.5	1.75
Hall - Glentunnel Community Centre	2652 Homebush Rd	Glentunnel	Welfare	0.25	1	0.25	1	1	1	1.25
School - Glentunnel School	85 Homebush Road	Glentunnel	Welfare	0.25	1	0.25	1	1	1	1.25
Hall - Hororata Community Hall	61 Hororata Rd	Hororata	Welfare	0.25	1	0.25	1.5	1	1.5	1.75
SH Detour	Hororata Rd						2	1	3	3
SH Detour	Hoskyns Rd						3	1	4	4
Canterbury High Country Volunteer Fire Brigade	25 Illinois Drive	Rolleston	Fire	2	1	2	1	1	1	3
School - Dunsandel School	Irvines Road	Leeston	Welfare	0.25	1	0.25	0	1	0	0.25

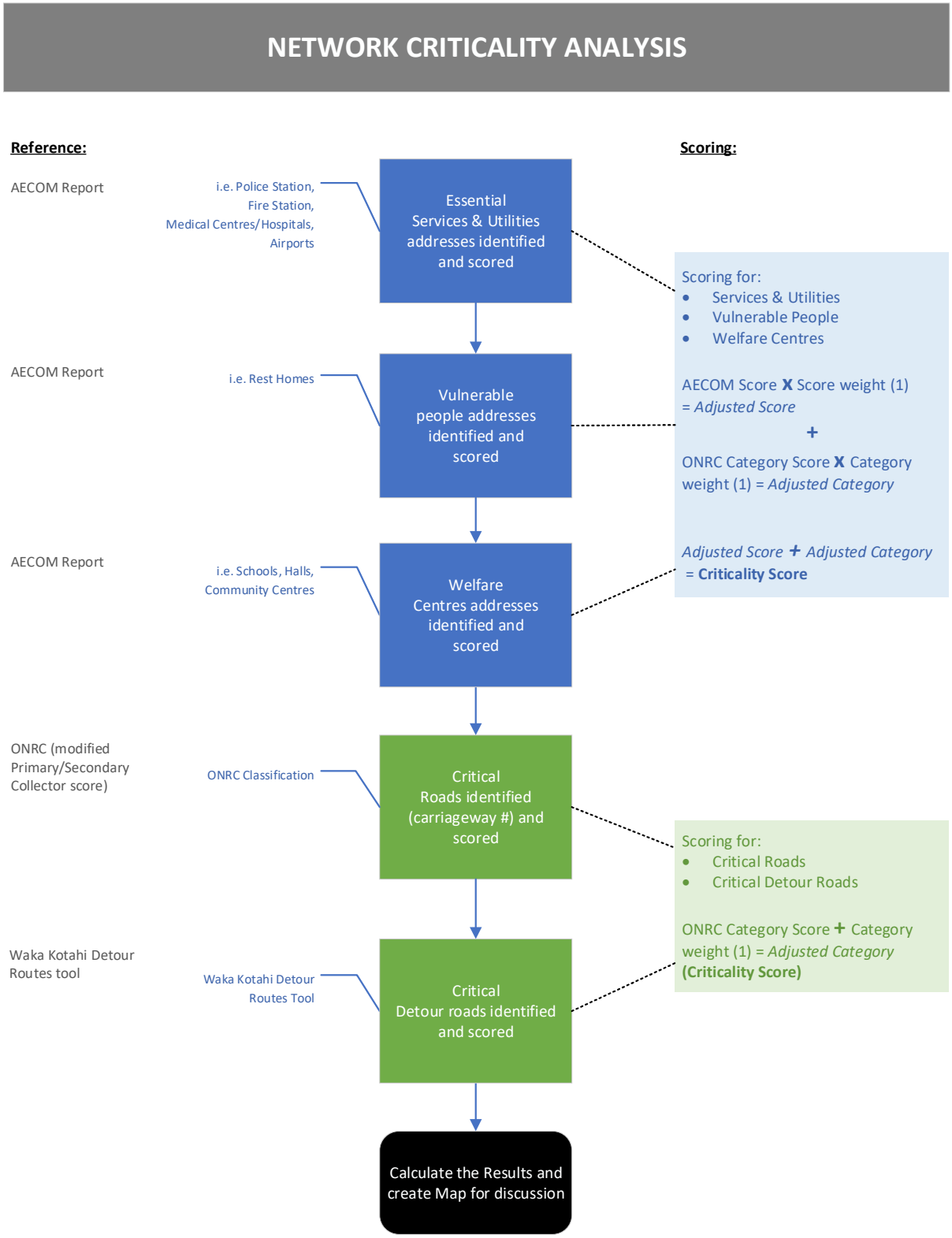
Criteria	Address	Area in District	Type of Asset	Score	Score Weight	Adj Score	Category	Category Weight	Adj Category	Criticality Score
Lincoln Volunteer Fire Brigade	1 James Street	Lincoln	Fire	2	1	2	3	1	3	5
SH Detour	Jones Rd						3	1	4	4
School - Te Rōhutu Whio	85 Kate Sheppard Drive	Rolleston	Welfare	0.25	1	0.25	1	1	1	1.25
Westmar Senior Care	12 Kimberley Road	Darfield	Aged Care	3	1	3	1.5	1	1.5	4.5
Hall - Lakeside Soldier's Memorial Hall	Lakeside Road	Lakeside	Welfare	0.25	1	0.25	1	1	1	1.25
Hall - Killinchy Community Hall	658 Leeston Dunsandel Road	Dunsandel	Welfare	0.25	1	0.25	1.5	1	1.5	1.75
School - Ellesmere College	Leeston Dunsandel Road	Leeston	Welfare	0.25	1	0.25	1.5	1	1.5	1.75
Hall - Springston Community Hall	12 Leeston Rd	Springston	Welfare	0.25	1	0.25	3	1	3	3.25
School - Springston School	Leeston Road	Springston	Welfare	0.25	1	0.25	2	1	2	2.25
School - Waitaha School	12 Lemonwood Drive	Rolleston	Welfare	0.25	1	0.25	1	1	1	1.25
School - Lemonwood Grove School	14 Lemonwood Drive	Rolleston	Welfare	0.25	1	0.25	1	1	1	1.25
SH Detour	Lincoln Taitapu Rd						2	1	3	3
Hall - Weedons Community Pavilion	Maddisons Rd	Rolleston	Welfare	0.25	1	0.25	2	1	2	2.25
SH Detour	Main Rakaia Rd						2	1	3	3
School - Darfield High School	Mclaughlins Road	Darfield	Welfare	0.25	1	0.25	1	1	1	1.25
Hall - Lincoln Event Centre	15 Meijer Drive	Lincoln	Welfare	0.25	1	0.25	1	1	1	1.25
Garden City Helicopters	515 Memorial Ave Christchurch	Christchurch	Flight	10	1	10	0	0	0	10
School - Lincoln Primary School	130 North Belt	Lincoln	Welfare	0.25	1	0.25	2	1	2	2.25
SH Detour	North Rakaia Rd						1.5	1	2.5	2.5
Police Station - Darfield	14 North Tce	Darfield	Security	2	1	2	2	1	2	4
Darfield Volunteer Fire Brigade	21 North Terrace	Darfield	Fire	2	1	2	1.5	1	1.5	3.5
Hall - Darfield Recreation and Community Centre	North Terrace	Darfield	Welfare	0.25	1	0.25	1.5	1	1.5	1.75
Hall - Tai Tapu Community Centre	722 Old Tai Tapu Road	Tai Tapu	Welfare	0.25	1	0.25	2	1	2	2.25

Criteria	Address	Area in District	Type of Asset	Score	Score Weight	Adj Score	Category	Category Weight	Adj Category	Criticality Score
SH Detour	Old West Coast Rd						3	1	4	4
Army - Burnham Military Camp	1 Powells Road	Burnham	Security	2	1	2	1.5	1	1.5	3.5
Sheffield Volunteer Fire Brigade	9 Railway Terrace	Sheffield	Fire	2	1	2	1	1	1	3
Hall - Sheffield Community Hall	14 Railway Terrace E	Sheffield	Welfare	0.25	1	0.25	1	1	1	1.25
Christchurch Womens Hospital	2 Riccarton Avenue, Christchurch	Christchurch	Hospital	3	1	3	0	0	0	3
Christchuch Hospital	Riccarton, Christchurch	Christchurch	Hospital	3	1	3	0	0	0	3
Hall - Broadfield	562 Robinsons Rd	Rolleston	Welfare	0.25	1	0.25	2	1	2	2.25
Hall - Rolleston Community Centre	94 Rolleston Drive	Rolleston	Welfare	0.25	1	0.25	3	1	3	3.25
School - Darfield School	16 Ross Street	Darfield	Welfare	0.25	1	0.25	1.5	1	1.5	1.75
School - Ararira Springs Primary- Te Puna o Ararira	18 Russ Drive	Lincoln	Welfare	0.25	1	0.25	1	1	1	1.25
School - Kirwee Model School	School Lane	Kirwee	Welfare	0.25	1	0.25	1.5	1	1.5	1.75
School - Tai Tapu School	1 School Road	Tai Tapu	Welfare	0.25	1	0.25	1.5	1	1.5	1.75
SH Detour	Selwyn Rd						3	1	4	4
School - Leeston School	Selwyn Street	Leeston	Welfare	0.25	1	0.25	2	1	2	2.25
Arthur's Pass Volunteer Fire Brigade	109 West Coast Road	Arthur's Pass	Fire	2	1	2	0	1	0	2
Hall - Arthur's Pass Community Centre	83 W Coast Rd, Arthur's Pass 8175	Arthur's Pass	Welfare	0.25	1	0.25	0	1	0	0.25
Police Station - Arthur's Pass	State Highway 73	Arthur's Pass	Security	2	1	2	0	1	0	2
Hall - Tawera Memorial Hall	State Highway 73	Springfield	Welfare	0.25	1	0.25	0	1	0	0.25
Hall - West Melton Community Centre	State Highway 73	West Melton	Welfare	0.25	1	0.25	0	1	0	0.25
School - Windwhistle School	19 Rakaia Gorge Road	Darfield	Welfare	0.25	1	0.25	0	1	0	0.25
School - Broadfield School	Cnr Shands & Robinsons Roads	Rolleston	Welfare	0.25	1	0.25	3	1	3	3.25
SH Detour	Sharlands Rd						1.5	1	2.5	2.5
Hall - Prebbleton Hall	617 Springs Rd, Prebbleton	Prebbleton	Welfare	0.25	1	0.25	3	1	3	3.25

Criteria	Address	Area in District	Type of Asset	Score	Score Weight	Adj Score	Category	Category Weight	Adj Category	Criticality Score
Hall - Prebbleton Community Cottage	Cnr Blakes & Springs Road	Prebbleton	Welfare	0.25	1	0.25	3	1	3	3.25
SH Detour	Springs Rd						3	1	4	4
School - Rolleston Christian School	571-575 Springston Rolleston Road	Rolleston	Welfare	0.25	1	0.25	2	1	2	2.25
School - Rolleston College	631 Springston Rolleston Road	Rolleston	Welfare	0.25	1	0.25	2	1	2	2.25
Leeston Volunteer Fire Brigade	33 Station street	Leeston	Fire	2	1	2	1	1	1	3
School - Springfield School	2 Tawera Lane	Springfield	Welfare	0.25	1	0.25	1	1	1	1.25
SH Detour	Telegraph Rd						2	1	3	3
School - Rolleston School	11 Tennyson Street	Rolleston	Welfare	0.25	1	0.25	3	1	3	3.25
Police Station - Rolleston	69 Tennyson St	Rolleston	Security	2	1	2	2	1	2	4
SH Detour	Tennyson St						3	1	4	4
Springfield Volunteer Fire Brigade	55 Tramway Road	Springfield	Fire	2	1	2	2	1	2	4
Hall - Dunsandel Community Centre	1456 Tramway Rd	Dunsandel	Welfare	0.25	1	0.25	1.5	1	1.5	1.75
Kirwee Volunteer Fire Brigade	11 Tramway Road	Kirwee	Fire	2	1	2	1.5	1	1.5	3.5
SH Detour	Two Chain Rd						2	1	3	3
SH Detour	Waimakariri Gorge Rd						2	1	3	3
School - Weedons School	135 Weedons Ross Road	Christchurch	Welfare	0.25	1	0.25	2	1	2	2.25
West Melton Volunteer Fire Brigade	729 Weedons Ross Road	West Melton	Fire	2	1	2	2	1	2	4
West Melton Airfield	Weedons Ross Road	West Melton	Flight	9	1	9	2	1	2	11
School - West Melton School	Weedons Ross Road	West Melton	Welfare	0.25	1	0.25	2	1	2	2.25
SH Detour	Weedons Ross Road						2	1	3	3
Hall - Glenroy Community Hall	Windwhistle Road	Glenroy	Welfare	0.25	1	0.25	1	1	1	1.25
School - Sheffield Contributing School	Wrights Road	Sheffield	Welfare	0.25	1	0.25	2	1	2	2.25

This page intentionally left blank

Figure 1-2: Criticality Analysis Criteria



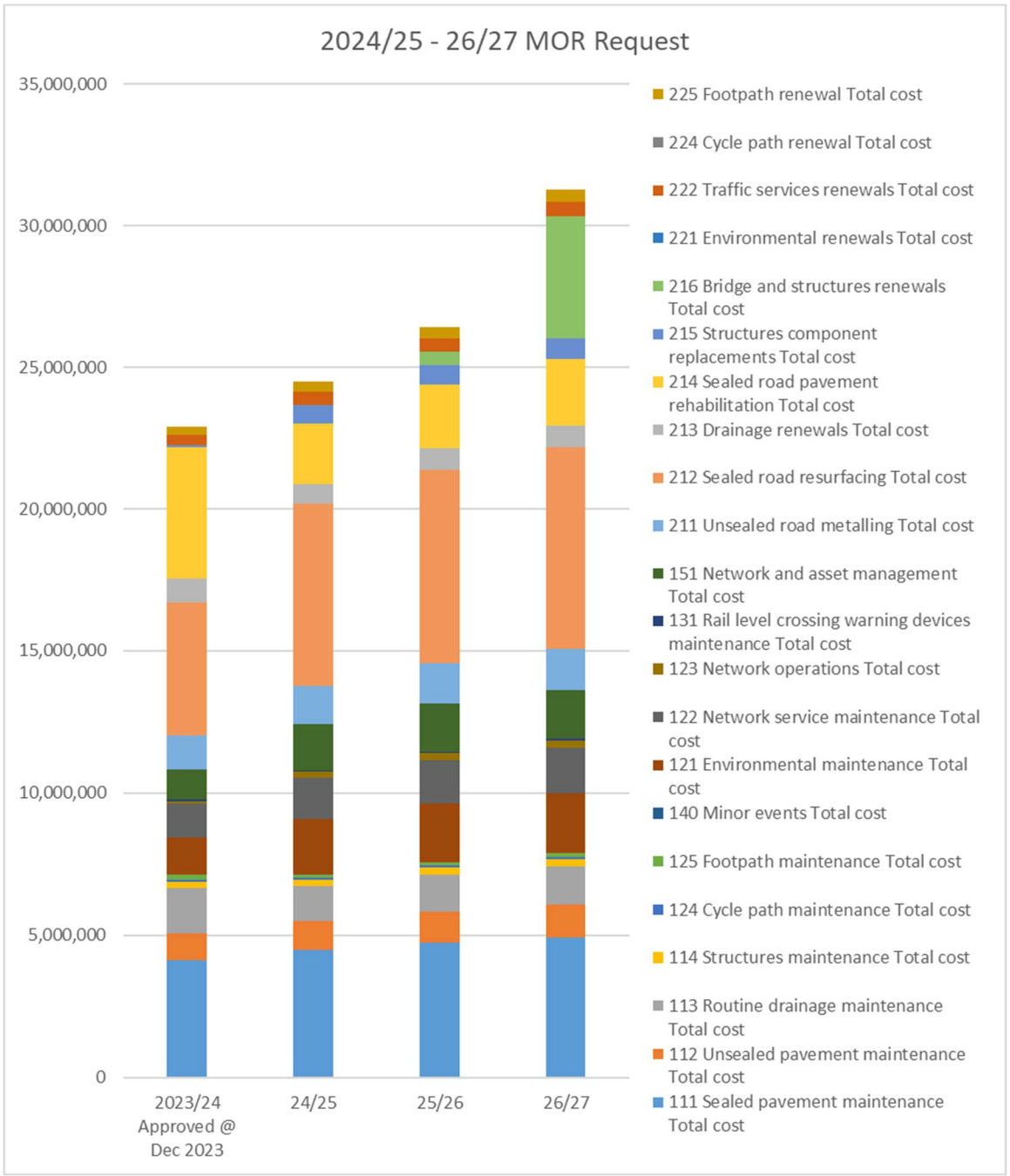
References:
AECOM Report *"Review of methods to determine criticality of roading networks" September 2016*
Waka Kotahi Detour Routes Tool https://detours.myworksites.co.nz/

2 DRAFT PROGRAMME

2.1 Financial Summary – Continuous Programme

Following is the version as submitted by 8 Dec 2023.

Figure 2024-27 Maintenance, Operations and Renewals Programme Summary (as at 7/12/2023)



Consolidated Overview of Changes to Continuous Programmes Proposed

Work Category	Proposal	Risk
111 Sealed pavement maintenance	This budget has been increased to allow a ring-fenced quantity for pre-reseal work and keep the resealing budget for its intended purpose. There is also an increase to allow for edge break, which is becoming more prevalent. The increase proposed is significant at 40% over the 2023/24 level.	Selwyn District Council consistently overspends in this area. The network continues to deteriorate as insufficient funds are directed to resealing. The target resurfacing length has not been achieved for the past four years and this is pushing up the amount of reactive maintenance. In order to achieve a portion of resealing, pre-reseal work has been funded from the resurfacing budget. A deterioration spiral has been caused by increasing maintenance due to demand on the network and insufficient renewals (reseal and rehabilitation) Overall, an increase is needed to ensure the asset is maintained for the long term. Insufficient investment will result in deterioration continuing, with deferred renewals at a greater cost in the long term
113 Routine drainage maintenance	Increase by 20% allowing for ongoing performance issues with drainage systems. Following from the extend of emergency works over past years, there is a need for culvert improvement programme. A small increase (10%) is proposed to commence this work.	Unmaintained drains contribute to damage to the road pavement, potential impacts on adjoining land and impacts to access during events. Increasing frequency and severity of extreme weather events requires increased management of draining networks.
121 Environmental maintenance	Observed changes and fees have put this work category under significant pressure. Many of the costs involved are beyond Council's control (Fly tipping, Ecan fees, abandoned vehicles, traffic management requirements). Cost of living increases may contribute to additional incidents of this. The increase in damage from smaller storms should be funded from this category to ensure sufficient funding remains available for routine maintenance. Vegetation control is also required to manage sight lines and CSM2 agreements. In total the allocation for this work category has been doubled.	Number of and costs associated with events are greater than expected, and the category is overspent. This puts pressure on other budgets. Vegetation is not managed and safety (sightlines) are impacted.
123 Network operations	Through the 2024-27 period the number of sets of traffic signals will double, compared with 2021 levels. The associated budget is therefore doubled. Inflation increases also apply to the operations.	These costs are quite predicable and if not funded appropriately puts pressure on other budgets
140 Minor Events	It is proposed there is an allocation for such events in line with the need for Council to be more 'self sufficient'	Insufficient funds for minor events or local share of emergencies
151 Network and Asset Management	Increase for CCDC ($290k over three years) and 10% increase for additional support.	Insufficient support for planning and programming

Work Category	Proposal	Risk
212 Sealed road resurfacing	A small increase in the quantity of chipsealing is proposed (target proposed 82km), the main change is for observed and anticipated changes in the rate for this work (30%). A programme to renew asphalt concrete surfacing has previously been delayed as long as possible but this needs to start within this period. This has been kept at a minimal target (3km) at this stage, but increases are expected as part of future NLTPs.	Without sufficient sealing the asset will not be preserved requiring greater maintenance in the short term or renewal in the long term and potential decreases to level of service.
213 Drainage renewals	The aging network and condition of drainage systems is not adequate for the storms occurring. Renewal of culverts in the past has been minimal, and a long-term programme is now proposed to progressively replace/upgrade these assets. The level of kerb and channel renewal remains the same. The culvert programme is expensive as indicated by the costs of those replaced over the last three years. An allowance of $440k for culvert renewals and surface water channels (water tabling) means the work category budget is tripled.	Insufficient drains contribute to damage to the road pavement, potential impacts on adjoining land and impacts to access during events. Increasing frequency and severity of extreme weather events requires consideration of the current state and appropriateness of draining networks. During events, the drainage system will be overloaded and subsequent damage will occur.
214 Pavement rehabilitation	No change is proposed to the circa $2 million allocation made in 2023.	-
215 Structures component replacements	A full structural inspection has now been undertaken across the network and a programme of work is in development. It is proposed that the high priority repairs identified be undertaken along with other repairs on those assets being worked on. This is a significant change with the previous allocation of $100k needing to be increased to $600k.	Issues may remain unresolved and bridges become not ‘fit for purpose’ impacting on access, resilience of the network and reducing level of service.
216 Bridge and structures renewals	Repairs are under way to keep the Whitecliffs Bridge in service; however, a full replacement is proposed to address the substructure failing and the deck which is not suitable for all users. An allowance is made the year prior to construction for design. (Estimated cost $4 million)	Access is lost, impacting resilience of the network and local communities, as well as social and economic wellbeing. Levels of service would decrease and conflict between users would continue.
222 Traffic services renewals	An increase to cover higher level of damage, vandalism and TTM requirement has been made (+20%)	Safety is compromised.

Detailed Programme

W/C	W/C description	2024/25	2025/26	2026/27	3-year request
	Local Road Maintenance & Operation				
111	Sealed pavement maintenance	4,470,012	$4,738,213	4,927,741	14,135,966
112	Unsealed road pavement maintenance	1,037,880	$1,100,153	1,144,159	3,282,192
113	Routine drainage maintenance	1,222,452	$1,295,799	1,347,631	3,865,882
114	Structures maintenance	233,280	$247,277	257,168	737,725
124	Cycle path maintenance	57,240	$60,674	63,101	181,016
125	Footpath maintenance	125,280	$132,797	138,109	396,185
121	Environmental maintenance	1,928,880	2,044,613	2,126,397	6,099,890
122	Network services maintenance	1,446,105	1,532,871	1,594,186	4,573,162
123	Network operations	224,640	238,118	247,643	710,402
131	Rail level crossing warning devices maintenance	57,240	60,674	63,101	181,016
151	Network and asset management	1,598,904	1,690,238	1,690,238	4,979,380

	Local Road Renewals				
211	Unsealed road metalling	1,334,880	1,414,973	1,471,572	4,221,425
212	Sealed road resurfacing	6,448,723	6,835,647	7,109,072	20,393,442
213	Drainage renewals	704,710	746,992	776,872	2,228,574
214	Sealed road pavement rehabilitation	2,134,080	2,262,125	2,352,610	6,748,815
215	Structures component replacements	648,000	686,880	714,355	2,049,235
216	Bridge and structures renewals	0	461,858	4,322,992	4,784,850
221	Environmental renewals	0	0	0	0
222	Traffic services renewals	463,968	491,806	511,478	1,467,252
225	Footpath renewal	374,760	397,246	413,135	1,185,141
	SUM for MOR	**24,511,034**	**26,438,954**	**31,343,172**	**82,293,156**
	Other continuous programme				
432	**Road safety promotion**	**395,000**	**423,000**	**452,000**	**1,270,000**

The approve MOR budget for 21-24 (as of 09/02/2023) is $55,174,572. The 24-27 MOR request of $82,293,156 represents a 49% increase.

2.2 Financial Summary – Capital Programme

The summary is shown in the table below.

		2024/25	2025/26	2026/27	Total
Low cost / low risk improvements 2024-27	Road to Zero	0	0	0	0
Low cost / low risk improvements 2024-27	Local road improvements	3,850,000	8,210,000	4,060,000	16,120,000
Low cost / low risk improvements 2024-27	Walking and cycling improvements	300,000	300,000	3,300,000	3,900,000
Low cost / low risk improvements 2024-27	Public transport infrastructure	180,000	180,000	180,000	540,000
Dunns Crossing Rd & Burnham School Rd IS SNP	Implementation	4,000,000	0	0	4,000,000
Gerald & Vernon IS SNP	Implementation	0	0	3,500,000	3,500,000
Hoskyns Road Widening Stage 1	Implementation	0	3,500,000	0	3,500,000
Jones Road - Two Chain Road Realignment	Implementation	0	0	3,500,000	3,500,000
Lincoln Park N Ride	Implementation	0	0	4,000,000	4,000,000
Selwyn & Dunns Crossing IS SNP	Implementation	0	0	6,000,000	6,000,000
Springs & Hamptons IS SNP	Implementation	0	5,000,000	0	5,000,000
Springston Rolleston & Selwyn IS SNP	Implementation	0	6,000,000	0	6,000,000
Walkers Road - Two Chain Road Roundabout	Implementation	0	2,500,000	0	2,500,000
SUM of Capital Program		**8,330,000**	**25,690,000**	**24,540,000**	**58,560,000**

This page intentionally left blank

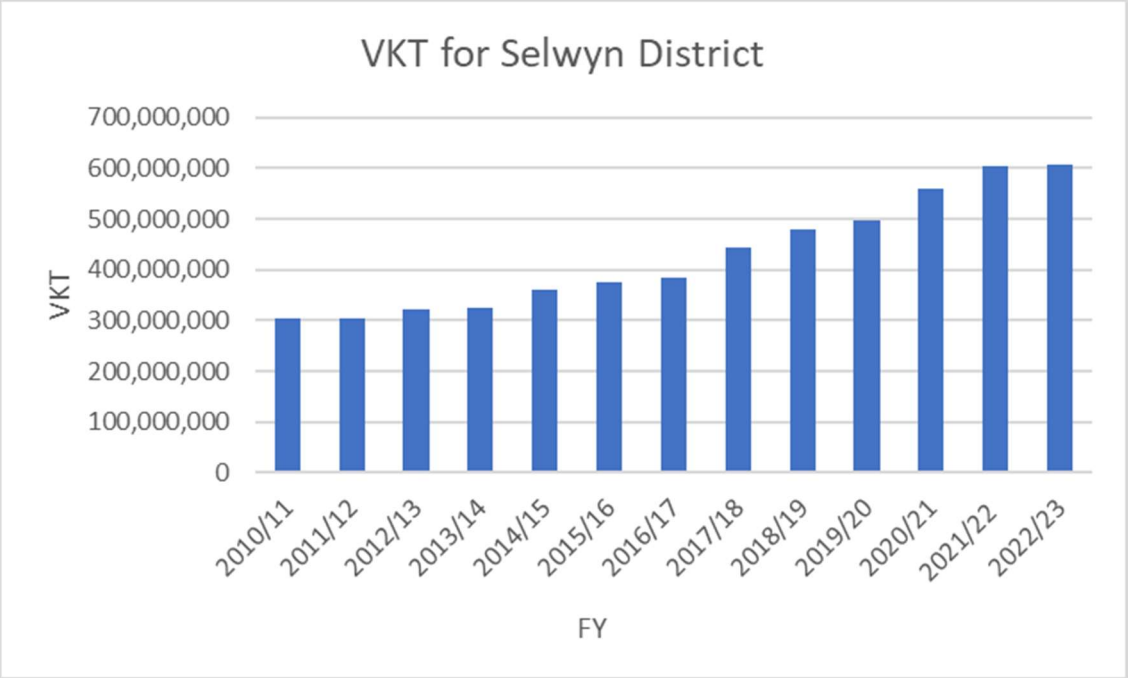
3 Sealed Pavement Management - Maintenance and Renewals

Includes:	***Work Category 111*** ***Sealed pavement maintenance***	*The routine care of sealed pavements to maintain their structural integrity and serviceability.*
	Work Category 212 ***Sealed road resurfacing***	*The planned periodic resurfacing of sealed roads.*
	Work Category 214 ***Sealed road pavement rehabilitation***	*The replacement of, or restoration of strength to, sealed pavements where other forms of maintenance and renewal are no longer economic.*

Sealed pavement management include maintenance, renewals, and upgrades. This chapter covers maintenance and renewals. Road upgrades, principally sealed road widening and seal extension projects, form a significant part of Low-Cost Low Risk projects, subsidised major capital improvements, and Selwyn District Council's unsubsidised capital improvement programmes. They are covered in separate chapters.

3.1 Historic investment

Investment levels have historically tracked up in line with network growth, which has seen unprecedented increases in the last decade in response to significant growth. Selwyn District Council's road network carried an estimated 300 million Vehicle Kilometres Travelled (VKTs) in 2010/11. Traffic levels have risen to VKT's of just more than 600 million in 2022/23, of which 585 million (97.5%) was on sealed roads. Over the last ten years demand on both the urban and rural sealed network, especially from Heavy Commercial Vehicles, has meant a need for greater investment.



Prior to 2015, combined annual investment in Work Categories 111, 212 and 214 was approximately $3.7 million with $2.5 million targeted for reseals. In 2014 the reseal target was reviewed and confirmed at 75km of chipsealing and 3.2km of AC. This reflected the deteriorating condition of aging urban development in the district as traffic volumes rapidly increased.

While the target for resurfacing (at 75 centre line km) remained the same through 2021-24, this has not been achieved due to increases in rates and the extent of pavement maintenance and pre-reseal works required.

In 2014/15, Council introduced a $60 targeted rate to enable sealed road reconstruction work that Waka Kotahi NZTA was unwilling to provide funding assistance for. The $60 targeted rate equated to $1 million spend per annum, in addition to a small co-funded budget, supporting around 2 km of rehabilitation works. This has continued in line with an identified need for our district, with up to two million dollars without matching financial assistance from Waka Kotahi funded through the 2021-24 period.

In 2023/24 Waka Kotahi acknowledged the funding challenges and funds available in the 2021-24 NLTP were reallocated to match the funding Council had. This has bought the funding level for sealed roads closer to the level of investment needed.

3.1.1 What did we propose in 2018 and 2021?

A significant increase in maintenance, alongside the resealing and rehabilitation programme, was proposed as a result of observations of the network. These were reviewed in conjunction with detailed IDS/dTIMS analysis completed in 2017/18. The modelling suggested that historic investment levels would not meet the requirements for preserving the existing sealed pavement assets or support the future response to rapidly increasing growth. The optimal dTIMS forward works and budget scenarios, supported by the necessary investment in pre-reseals was only partially achieved due to funding restraints and rapid cost increases.

Renewals funding to deliver the optimised reseal programme, modelled at 90 km a year, was included in previous requests. However, funding of sealed road maintenance, asphalt renewal and pavement rehabilitation was not approved at the levels sought by the Council. Lack of subsidised support has impacted on the ability to complete necessary reseal works.

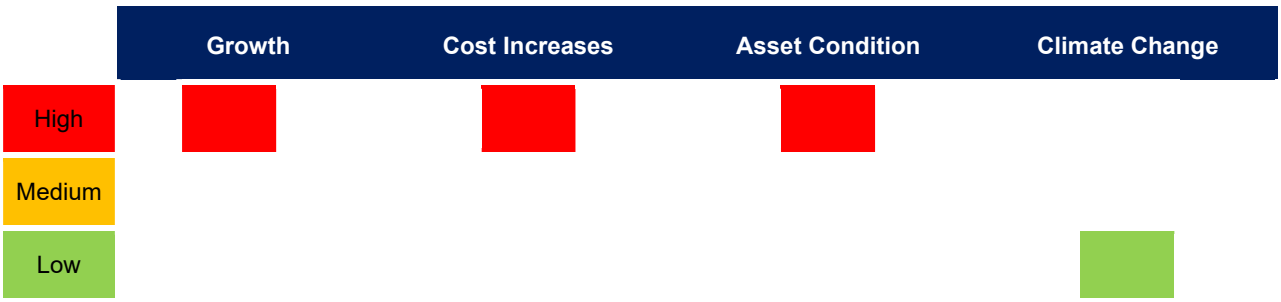
The targeted rate to support unsubsidised pavement rehabilitations was retained by the council, allowing planned works to be completed.

Sealed road budgets for the 2021-24 period were prepared in 2020 when prices were stable. Since that point inflation has increased to much higher levels and petroleum price have been quite variable.

The programme was stepped up and over the three-year period the following was requested and approved.

Work Category	Work Description	Model recommendation	Model Qty	Request	Target Qty	Funded	Qty
111	Routine pavement repairs						
	Pre-seal repairs						
	TOTAL			~~$ 8,339,140 (initial)~~ $7,139,140 (revised)		*7,957,000*	
212	Resurfacing - Chipseal	$10,429,200	271.38				
	Resurfacing - Thin asphaltic surfacing	$2,396,700.00	8.91				
	TOTAL	$12,855,900		$ 14,295,000		*13,771,800*	
214	Sealed road pavement rehabilitation -Structural AC rehabilitation						
	Sealed road pavement rehabilitation -Granular pavement rehabilitation						
	TOTAL	4,240,500	**17.88**	$ 5,950,000		*5,508,700*	
	Sealed Pavement						
	TOTAL			$27,384,140			

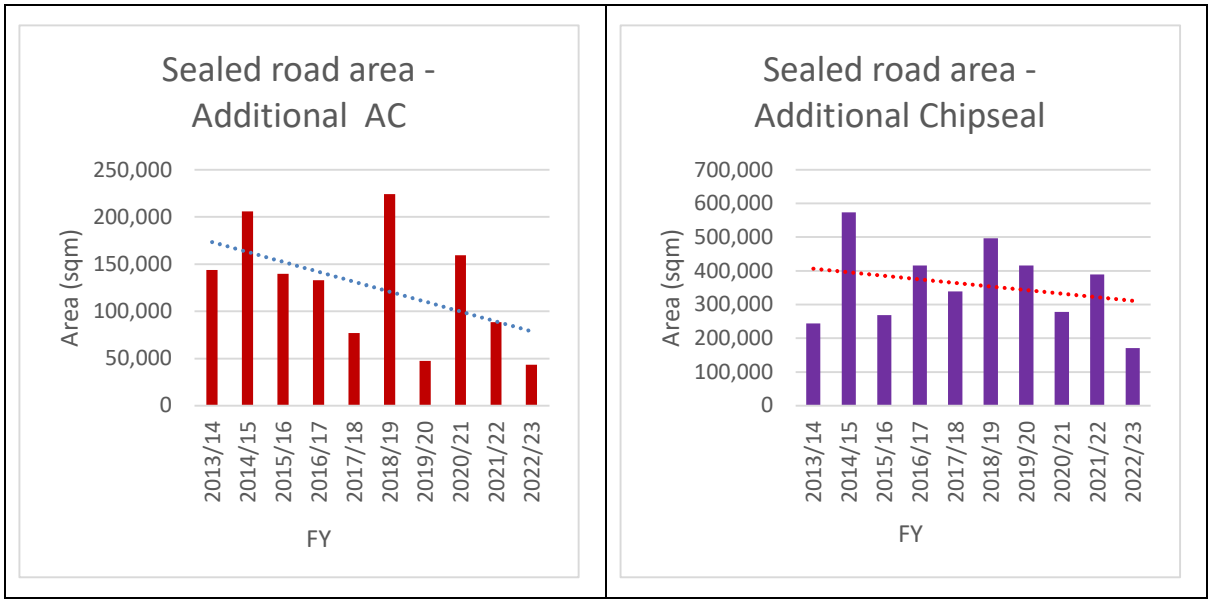
3.2 Issues faced



Growth

While the rate of increase per year has slowed, development continues to add sealed roads to the network. Projected development anticipates further increases over this term. The extent of sealed network continues to increase with the high rate of development in the district.

Figure 3-1: Chart of Assets Added to the network for each financial year from 06/07 to 22/23 (SDC).



This high growth has also seen sealed urban roads as a proportion of our network increase from around 13.5% to 14.7%. This increase is largely made up of high specification vested assets constructed by developers – then transferred to the Council's ownership – is around 20km per annum. Asphaltic Concrete (AC) is an issue for Council being the preferred surface for many developments. While this provides an excellent ride and longer life than chipseal, the long-term costs are higher, becoming the responsibility for Council upon vesting.

Council is developing a surfacing policy to inform what is the best long-term approach. Once quantified, funding approaches could be considered for incorporation in future land development commitments.

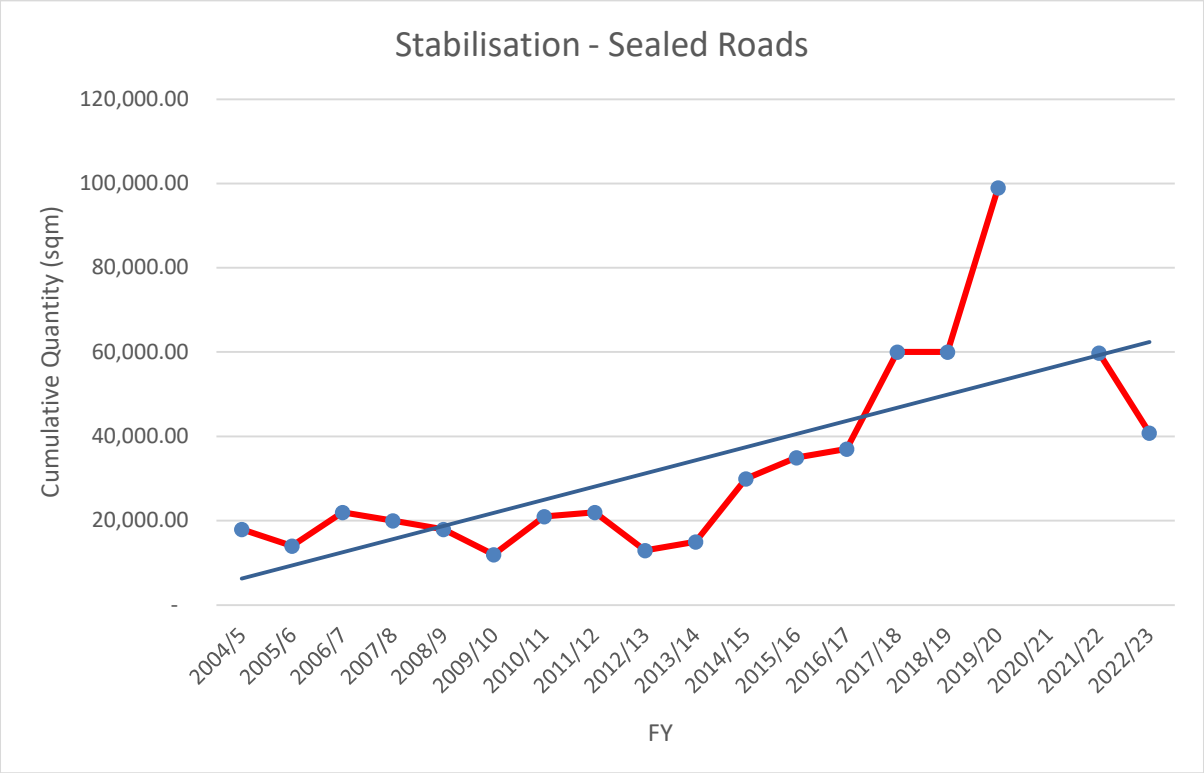
Asset Condition

Review of sealed road treatment length sections and condition rating show the network is under considerable stress, particularly the arterial and collector routes. This is due to increasing traffic numbers, especially heavy traffic. Some traffic patterns have changed during - and as a result of – the Christchurch Southern Motorway extension (CSM2) construction. Roads that were previously adequate have deteriorated rapidly with these changes, in addition to the expanding industrial and commercial developments being serviced.

Significant investment is being made in response to the need for pavement stabilisation repairs (where cement, or a combination of clay and lime, is worked into areas of the pavement) to strengthen the basecourse against further deterioration.

Stabilisation is the most common methodology for the required pre-reseal work and represents a significant share of pavement maintenance as well as pre-reseal work reseal each year, with required stabilisation works following an increasing trend.

The amount of stabilisation undertaken peaked in 2019, before budget limited the quantity of work that could be funded. Unfortunately, the network is showing the result of this underinvestment.



All sealed roads maintenance investment has been required to manage the planned repairs, with routine maintenance needing to be deferred or funded from other sources. Unfortunately, this has significant impacts – both now and going forward – for customer safety, optimal asset management and road user comfort.

Selwyn District Council uses customer feedback data to respond to the majority of requests for service. The total number of Roading and Transportation requests received for "Maintenance - Sealed" and "Pot Holes – Sealed" has been increasing since 2020 as demonstrated in the following table.

	2018 - 2020	2020 - 2021	2021 - 2022	2022 - 2023
Maintenance - sealed	322	169	189	221
Pot holes - sealed	818	249	465	780
Total	1140	418	654	1001
Total Service Requests - Transportation	6984	3002	3539	4250
%	16.3	13.9	18.5	23.6

3.3 The Case for Change and Strategic Response

Continuous maintenance programmes to deliver the Council's levels of service are associated with all the problem statements as indicated below:

The case for change identified in 2020 for the 2021-24 period remains the same, with the problem statement more evident in 2023. This requires that the investment level be increased to halt further decline of the road network and level of service. It is crucial that this action be taken now to manage the risks identified and minimise future or ongoing expenditure.

Problem Statement	Sealed Pavement Considerations
The existing network and driver behaviour contribute to an unacceptable number of fatalities and serious injuries.	If the network is not maintained to an adequate standard, road users may need to take evasive action to avoid hazards (e.g. potholes, edge break, loose gravel). Damage could also impact on traction and control of vehicles, particularly in high speed environments.
Development and land use change across a diverse range of urban and rural areas is prompting changes in travel patterns which challenge the transport system suitability and user choice.	Roads need to be fit for purpose, the ONRC takes a hierarchical approach to management, and the management regime is in line with those priorities. Developer choice favouring in higher value sealed assets is impacting on future maintenance costs.
Growth and changes in travel patterns is impacting the network condition and efficiency.	The network is deteriorating at a quicker rate than expected due to changes in demand. Where the condition is poor and frequent repairs are required, this affects the efficiency of network use. The significant change in rural sealed roads now reclassified as urban roads (a 45% increase) requires a different asset preservation strategy and investment programme.

3.4 Options considered

Maintenance work keeps the sealed roads in an operable condition, while renewals return them to a 'near new' condition based on a like-for-like replacement strategy. The amount of maintenance required relates to both the demand – both traffic numbers and the type of traffic - and the planned reseal programme that requires routine work prior to chip sealing or asphalt surface construction.

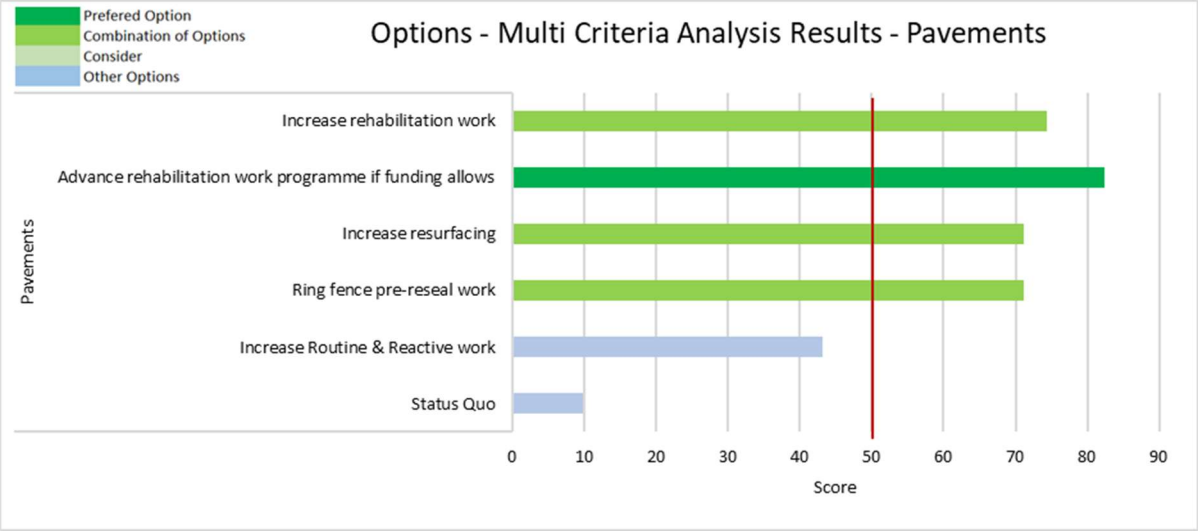
The options considered for management of the sealed network are focused on undertaking renewals where this is the most cost-effective option in the long term and preventing further deterioration of the network elsewhere.

Pre-reseal repairs have been a real change for the past decade with reseal work being limited by the cost of pre-reseal work. Without locking in the necessary budget for pre-reseal work a 'spiral of deterioration' is unavoidable.

3.4.1 Multi-criteria Analysis

	Options
1	Advance rehabilitation work programme if funding allows
2	Increase rehabilitation work
3	Increase resurfacing
4	Ring fence pre-reseal work
5	Increase routine & reactive work
6	Status Quo

Identified options have been assessed in line a multi-criteria analysis approach as summarised in the following figure.



3.4.2 Deterioration Modelling Methodology

dTIMS modelling was undertaken in mid-2023 using both trigger and optimal models. This modelling relies on robust data, so a programme was established early in the 2021-24 period to ensure it was available to support decision making.

Data collected and evaluated included:

- Roughness
- HSD (surface scanning)
- MSD (strength testing)
- Processing of previous survey texture data (now in the CSA calculation)

Trigger Model

The trigger model considered the following parameters.

Rutting	Arterial	Primary Collector	Secondary Collector	Access	Low Volume
Very Good	<=3	<=4	<=4	<=8	<=8
Good	<=5	<=7	<=7	<=12	<=12
Fair	<=8	<=10	<=10	<=15	<=15
Poor	<=10	<=12	<=12	<=17	<=17
Very Poor	<=99	<=99	<=99	<=99	<=99

IRI Urban	Arterial	Primary Collector	Secondary Collector	Access	Low Volume
Very Good	<=2.5	<=3	<=3	<=5	<=5
Good	<=3	<=4	<=4	<=6	<=6
Fair	<=5	<=6	<=6	<=8	<=8
Poor	<=6	<=7	<=7	<=10	<=10
Very Poor	<=99	<=99	<=99	<=99	<=99
IRI Rural	Arterial	Primary Collector	Secondary Collector	Access	Low Volume
Very Good	<=2.5	<=2.5	<=2.5	<=3.5	<=3.5
Good	<=3	<=3	<=3	<=4	<=4
Fair	<=4	<=4	<=4	<=5	<=5
Poor	<=5	<=5	<=5	<=6	<=6
Very Poor	<=99	<=99	<=99	<=99	<=99

Cracking is the key driver for surfacing, and roughness for rehabilitation works.

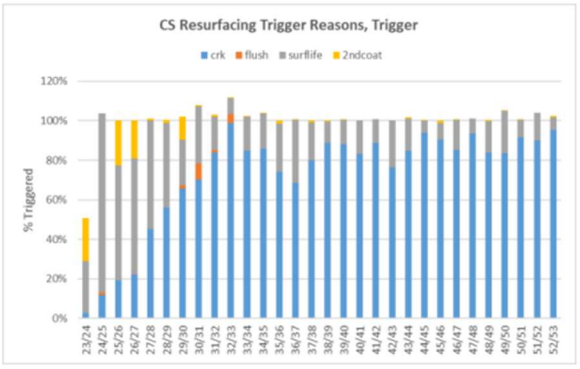


Figure 4-1 Trigger reasons for CS, trigger analysis

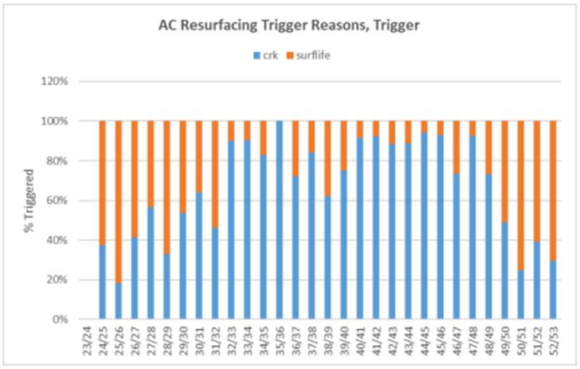


Figure 4-2 Trigger reasons for AC, trigger analysis

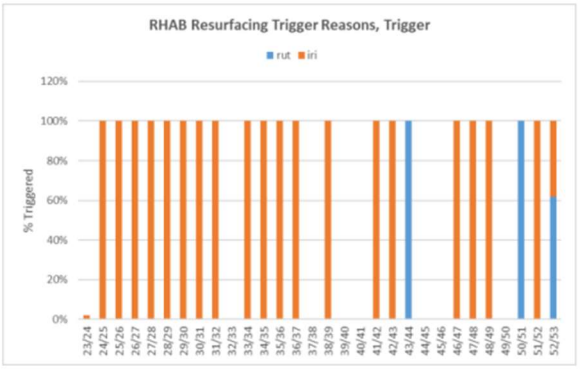


Figure 4-3 Trigger reasons for RHAB, trigger analysis

"The trigger analysis suggests approximately 82km (6.3% CS network) and 12km (5.5% AC network) for annual CS and AC surfacing respectively under the assumption that all the network backlogs will be addressed in year 2024/25 to maintain the network and to treat the network with poor and very poor condition timely during the analysis period."

(Beca, August 2023, Quarterly Meeting Summary re Condition Deterioration & dTIMS Modelling)

Considering chip sealing alone, which made up the majority of surfacing programmed, this represents a small increase from 75 to 85 centre line km. The model also highlights the need to commence AC resurfacing at a greater rate than in the past.

Optimal Model

Renewals work can also be programmed alongside targeted routine drainage maintenance, funded from Work Category 113, to achieve best-value.

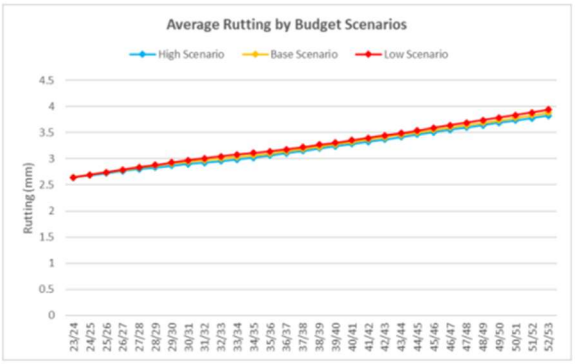


Figure 5-26 Average rutting by budget scenarios

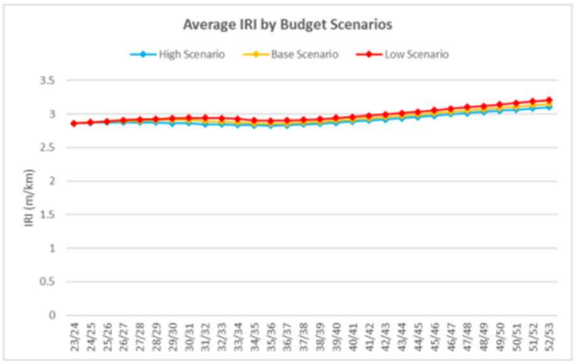


Figure 5-27 Average IRI by budget scenarios

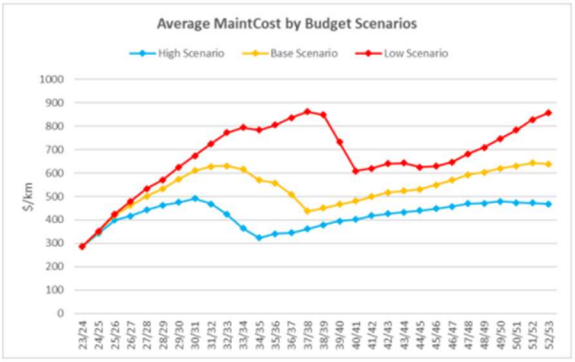
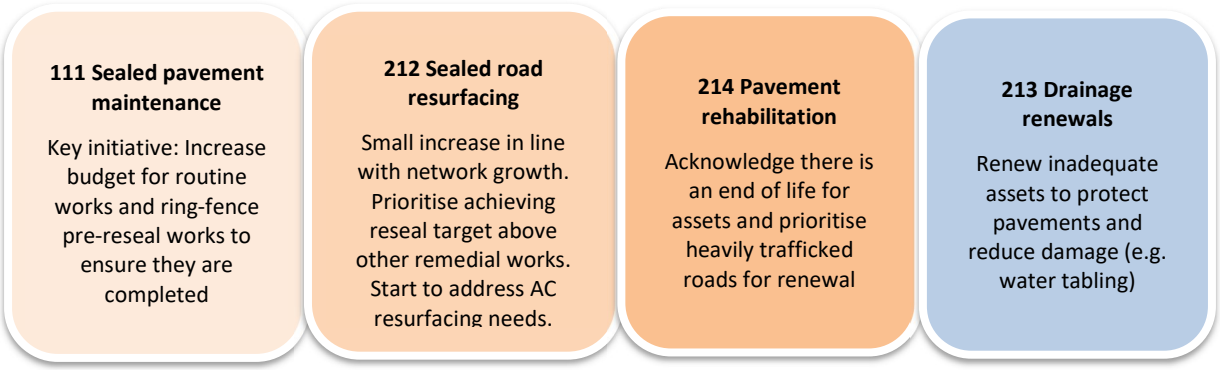


Figure 5-28 Average MaintCost by budget scenarios

3.5 Preferred Programme

	Option
1	Advance rehabilitation work programme if funding allows

From the combination of modelling, site surveys and observation, there needs to be a step change in investment and implementation. It is acknowledged that this has been the case for the last two trienniums, but the combined investment level has been inadequate to curb the growing issue. Between growth demands, cost fluctuations and emergency works, the required level of renewal has not been carried out, requiring increased investment now.



Pavement Management Strategy

It is vital to establish a regime where resurfacing is completed every year and the deterioration spiral is halted. Key to this is the need to ensure that:

1. Sufficient investment and prioritisation of routine and reactive maintenance; with work to a standard that rework is avoided
2. Drainage renewal (water tabling) is programmed and undertaken, focussing on higher level roads and those subject to failure due to poor management addressed first.
3. Pre-reseal work is 'ring-fencing' to ensure it is all completed prior to the next surfacing season
4. Chip seal resurfacing works using 'best for network designs' are completed every year
5. Asphalt surfacing renewal commences with the three-yearly programme doubling in size over the next nine years, and then again for the following three years.

Appropriate levels of investment will ensure the network is fit for purpose and remains cost-effective in the longer-term. There is a minimum level of sealing required to protect the pavement structure from failure (shown in the dTIMS cracking/fatigue modelling).

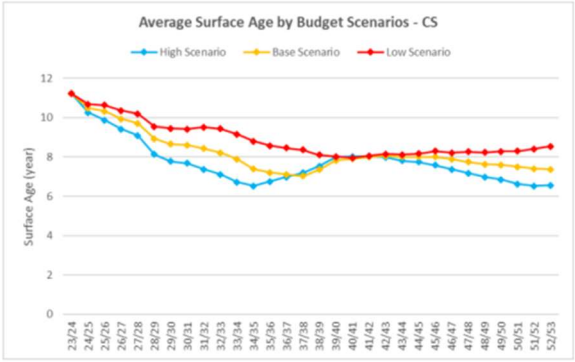


Figure 5-20 Average CS age by budget scenarios

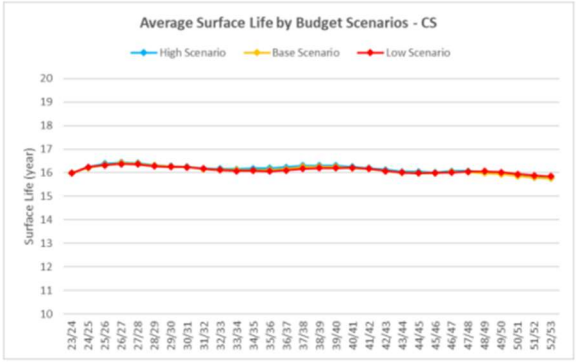


Figure 5-21 Average CS life by budget scenarios

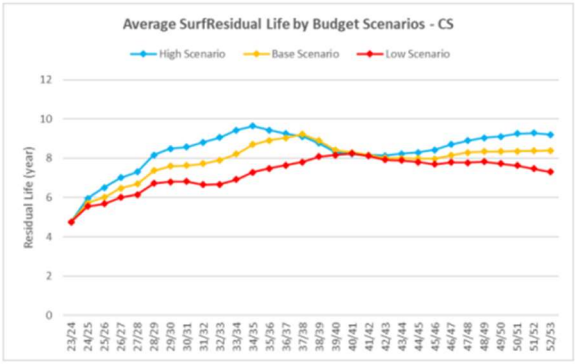


Figure 5-22 Average CS residual life by budget scenarios

There are considerable risks if the preferred programme does not proceed.

The alternative scenario of maintaining the current level of investment is unpalatable, as it would require a reduction in the repair and reseal capacity around the district and exacerbate the deterioration of pavements (with greater impacts seen on the highest classification roads). The long-term implication of the lower investment level represents a larger overall spend on resurfacing and rehabilitation work, and risks subjecting stakeholders to an unacceptable reduction in level of surface across the sealed road network as asset performance continues to decline.

If there is insufficient investment in maintenance, the network cannot be kept in a safe and serviceable condition. This will affect the safety and efficiency experienced by road users. This also undermines the economic support role of Transportation.

If the network is allowed to deteriorate significantly through very constrained investment, costs will be subject to a huge increase in the long term. The opportunity to invest at the optimal time is lost, and the financial burden placed on future ratepayers and taxpayers will be significant.

More roads will deteriorate to a condition where rehabilitation – or even reconstruction – will become the only economically viable option if action is not taken now. It is vital that appropriate investment is made now to ensure that the deterioration spiral is halted and sealed road assets are maintained to a suitable and sustainable level.

The proposal for seal road management is shown below, along with drainage works given the importance to the performance of pavements.

Work Category	Proposal	Risk
111 Sealed pavement maintenance	Selwyn District Council consistently overspends in this area. The network continues to deteriorate as insufficient funds are directed to resealing. The target resurfacing length has not been achieved for the past four years and this is pushing up the amount of reactive maintenance. In order to achieve a portion of resealing, pre-reseal work has been funded from the resurfacing budget. This budget has been increased to allow a ring-fenced quantity for pre-reseal work and keep the resealing budget for its intended purpose. There is also an increase to allow for edge break, which is becoming more prevalent. The increase proposed is significant at 40% over the 2023/24 level.	A deterioration spiral has been caused by increasing maintenance due to demand on the network and insufficient renewals (reseal and rehabilitation) Overall, an increase is needed to ensure the asset is maintained for the long term. Insufficient investment will allow deterioration to continue at a greater cost in the long term
212 Sealed road resurfacing	A small increase in the quantity of chipsealing is proposed (target proposed 82km), the main change is for observed and anticipated changes in the rate for this work (30%). A programme to renew asphalt concrete surfacing has been delayed as long as possible but this needs to start. This has been kept at a minimal target (3km) at this stage, but increases are expected as part of future NLTPs.	Without sufficient sealing the asset will not be preserved requiring greater maintenance in the short term or renewal in the long term
214 Pavement rehabilitation	No change is proposed to the circa $2 million allocation made in 2023.	-

3.6 Investment proposed

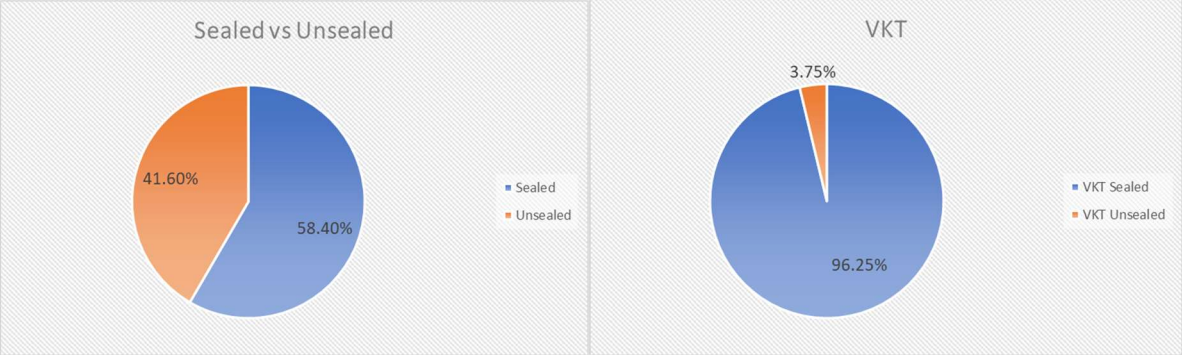
WC	WC Description	Activity Breakdown	2024/25	2025/26	2026/27		2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34
111	Sealed pavement maintenance	Routine pavement repairs	2,040,012	2,162,413	2,248,909		**2,401,835**	**2,565,160**	**2,739,591**	**2,925,883**	**3,124,843**	**3,337,332**	**3,564,271**
		Pre-seal repairs	2,430,000	2,575,800	2,678,832		**2,860,993**	**3,055,540**	**3,263,317**	**3,485,222**	**3,722,217**	**3,975,328**	**4,245,651**
		TOTAL	4,470,012	4,738,213	4,927,741		5,262,828	5,620,700	6,002,908	6,411,105	6,847,060	7,312,660	7,809,921
212	Sealed road resurfacing	Chip sealing	4,598,035	4,873,917	5,068,874		**5,413,557**	**5,781,679**	**6,174,834**	**6,594,722**	**7,043,163**	**7,522,098**	**8,033,601**
		Thin asphaltic surfacing	1,850,688	1,961,729	2,040,198		**4,243,613**	**4,413,357**	**4,589,892**	**7,160,231**	**7,446,640**	**7,744,506**	**10,739,048**
		TOTAL	6,448,723	6,835,647	7,109,072		9,657,170	10,195,037	10,764,725	13,754,953	14,489,803	15,266,604	18,772,649
214	Sealed road pavement rehabilitation	Structural AC rehabilitation	0	0	0		**0**	**0**	**0**	**0**	**0**	**0**	**0**
		Granular pavement rehabilitation	2,134,080	2,262,125	2,352,610		**2,512,587**	**2,683,443**	**2,865,917**	**3,060,800**	**3,268,934**	**3,491,222**	**3,728,625**
		TOTAL	2,134,080	2,262,125	2,352,610		2,512,587	2,683,443	2,865,917	3,060,800	3,268,934	3,491,222	3,728,625

4 Unsealed Pavement Management

Includes:	***Work Category 112*** ***Unsealed pavement maintenance***	*The routine care of unsealed pavements to maintain their structural integrity and serviceability.*
	Work Category 211 ***Unsealed road metalling***	*The planned periodic renewal of pavement layers, including top surface metal, on unsealed roads.*

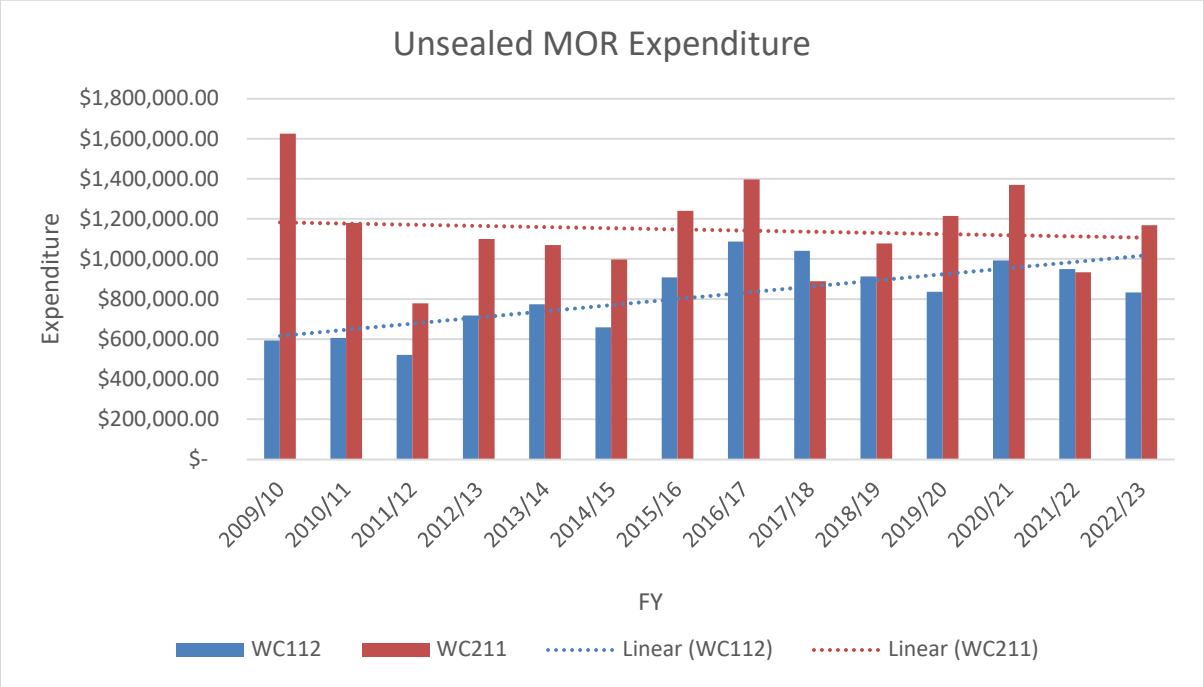
4.1 Overview

Unsealed roads consist of 41.6% of the network, and these contribute to less than 3.8 % of the use of the network by VKT.



4.2 Historic investment

Investment levels prior to 2018 had been maintained at around $640,000 p.a. for unsealed roads maintenance and $1,020,000 p.a. for unsealed roads re-metalling. Between 2018/19 and 2020/21, an average of $1,245,000 p.a. was invested in unsealed pavement maintenance, and an average of $949,400 p.a. in 2021/22 to 2023/24. In the same periods an average of $1,401,000 p.a. and $1,221,000 p.a. was invested in unsealed road metalling.



4.2.1 What did we propose in 2018 and 2021?

An increase in unsealed road maintenance and re-metalling was proposed as a result of observations of the network. The budget increases were based on the actual spent to deliver:

- A reviewed grading programme (2021).
- Continuation of pothole repairs, removal of high shoulders and rutting/corrugations.
- more isolated gravelling (spot metalling) to address surface deficiencies or correct the road shape; (this has proven to be cost effective).
- programmed maintenance metalling to renew longer sections of unsealed pavement.

A significant increase in funding for unsealed road maintenance - from $645,000 to $1,220,000 p.a. - was requested in the council's 2018-2021 NLTP investment bid. The funding requested for re-metalling was increased by 34% ($347,600 p.a.) to $1,371,000 p.a.

In 2021-24 the increase was reduced to 10% for maintenance and re-metalling. With a focussed re-metalling programme this has proved sufficient.

4.3 Issues faced

Growth

Growth is focussed on East Selwyn and urban/peri-urban areas. There are very few unsealed roads with high traffic numbers/a significant increase in traffic. Isolated areas are affected by changes in land use (e.g. dry stock to dairy) and these are monitored so maintenance can be altered as required.

Asset Condition

Routine grading quantities delivered on the Selwyn District Council network has steadily decreased over the past ten years, with a focus on maintenance re-metalling. A backlog of metalling programmes has been largely addressed through work programmes.

This approach has generally been appropriate including response to damage from weather events performance which has been satisfactory.

A programme of condition inspections has now been in place for five years so the impacts of works programmes, weather and changes in use are now well understood.

The scoring system converts the visual assessments to a quantitative score, allowing condition to be ranked easily and to allow maintenance actions to be deployed more effectively based on the assessment scores.

4.4 The Case for Change and Strategic Response

There is no proposal to change the current approach. The establishment of inspection assessment means performance is monitored and understood, along with a priority to keeping metalling up to date.

Continuous maintenance programmes to deliver the Council's levels of service are associated with all the problem statements as indicated below:

Selwyn Problem Statement	Unsealed Pavement Considerations
The existing network and driver behaviour contribute to an unacceptable number of fatalities and serious injuries.	If the unsealed network is not maintained to an adequate standard, road users may take evasive action to avoid hazards (e.g. potholes, narrow carriageway widths, ponding water and loose surfaces). Damage could also impact on traction and control of vehicles, particularly in high-speed environments.
Development and land use change across a diverse range of urban and rural areas is prompting changes in travel patterns which challenge the transport system suitability and user choice.	Roads need to be fit for purpose, to match agreed Level of Service and address customer expectations. The ONRC assists this by taking a hierarchical approach to network

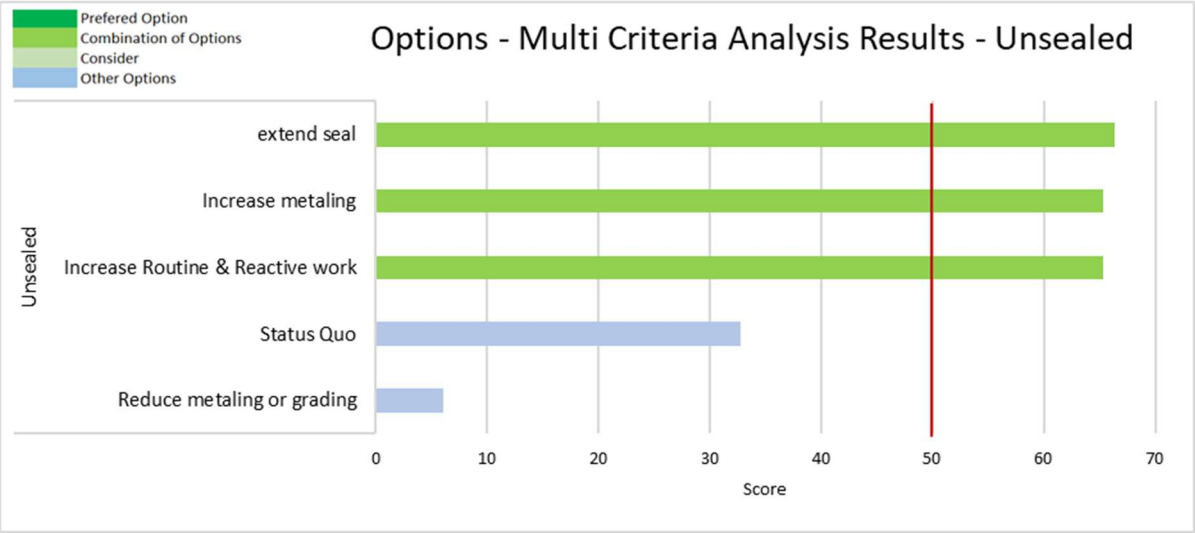
Selwyn Problem Statement	Unsealed Pavement Considerations
	management which ensures service delivery in-line with those priorities. The Selwyn District Council "Gravel Roads Strategy", and the adoption of network analysis which informs this strategy, can support a more responsive unsealed roads works programme which adapts to the impacts of development.
Growth and changes in travel patterns is impacting the network condition and efficiency.	Changes to the volume and types of traffic generated on unsealed network can impact on the condition of unsealed roads, particularly overweight vehicles. Visual condition assessments of the unsealed network, undertaken since the summer of 2017, allow maintenance decisions to be responsive to the effects of changes in demand. Moving from an operational to tactical model of unsealed road management enables work to be prioritised on certain routes, where the customer experience and network efficiency for the majority of journeys on unsealed roads are improved.

4.5 Options considered

Options identified for consideration include:

	Options
1	Extend seal
2	Increase metalling
3	Increase routine and reactive work
4	Status quo
5	Reduce metaling or grading

These options have assessed using the multi-criteria analysis detailed in the AMP.



There is no clear recommendation from the multi-criteria analysis. Given the dynamic nature of unsealed roads each option has merit but is not applicable across the network. As many of the

problem statements and community outcomes relate to growth, these are less applicable to unsealed roads where these demands are less relevant.

Increases in maintenance or metalling are not regarded as value for money across the network

While seal extensions appear to be an attractive option, this is very costly and cannot be considered beyond isolated locations.

4.6 Preferred Programme

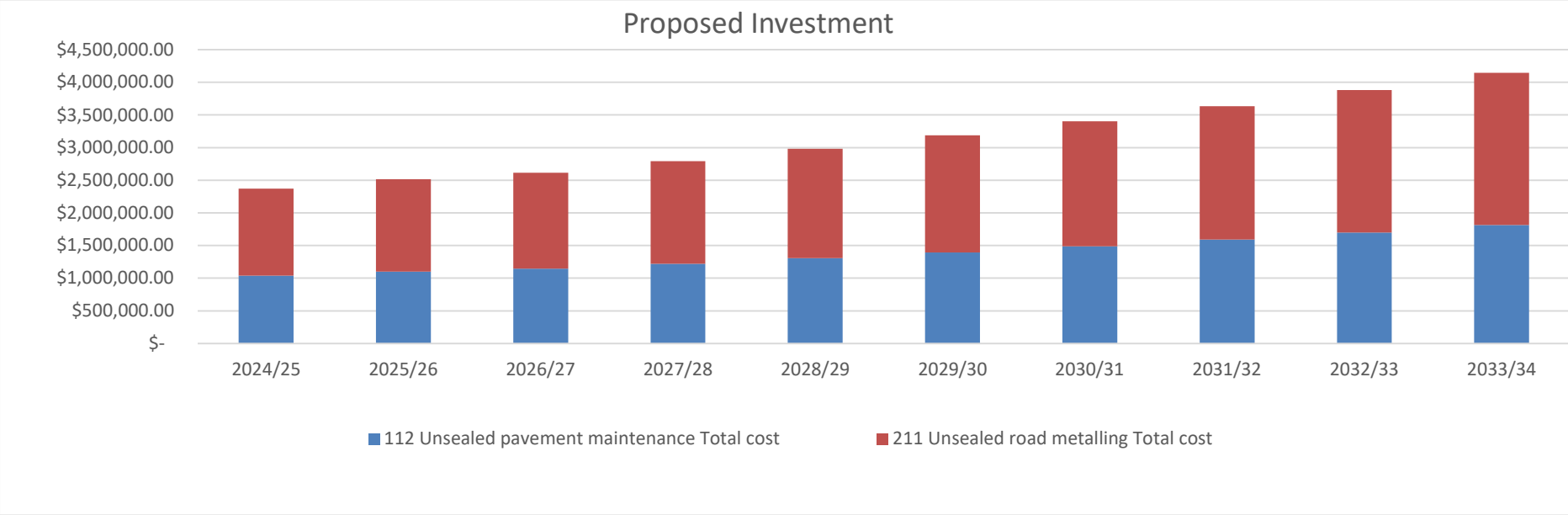
	Option
	Status quo

Council intends to build on the learnings of the past three years and continue with the approach in place. This will mean there is a greater range of conditions experienced, and the suitability of the programme will be further tested. Accordingly, no options beyond the status quo have been considered further, the proposed programme is based on no change.

The preferred programme is to continue with the current approach, with cost fluctuations to enable the same qualities or work to be completed being the only increasing factor.

4.7 Investment proposed

WC	WC Description	Activity Breakdown	2024/25	2025/26	2026/27		2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34
112	Unsealed pavement maintenance	TOTAL	1,037,880	1,100,153	1,144,159		1,221,962	1,305,055	1,393,799	1,488,577	1,589,800	1,697,907	1,813,365
211	Unsealed road metalling	TOTAL	1,334,880	1,414,973	1,471,572		1,571,639	1,678,510	1,792,649	1,914,549	2,044,738	2,183,780	2,332,277



This page intentionally left blank

5 Drainage Management

Includes:	***Work Category 113*** ***Routine drainage maintenance***	*The routine care of drainage facilities to maintain their function.*
	Work Category 213 ***Drainage renewals***	*The renewal of drainage facilities that is not routine in nature but will reduce future maintenance costs.*

5.1 Overview

Drainage facilities include formed kerb and channel, culverts, earthen surface water channels on sealed and unsealed roads, grassed channels (swales), sumps and soakpits. Drainage assets account for 4% of the total transportation asset group, based on replacement cost.

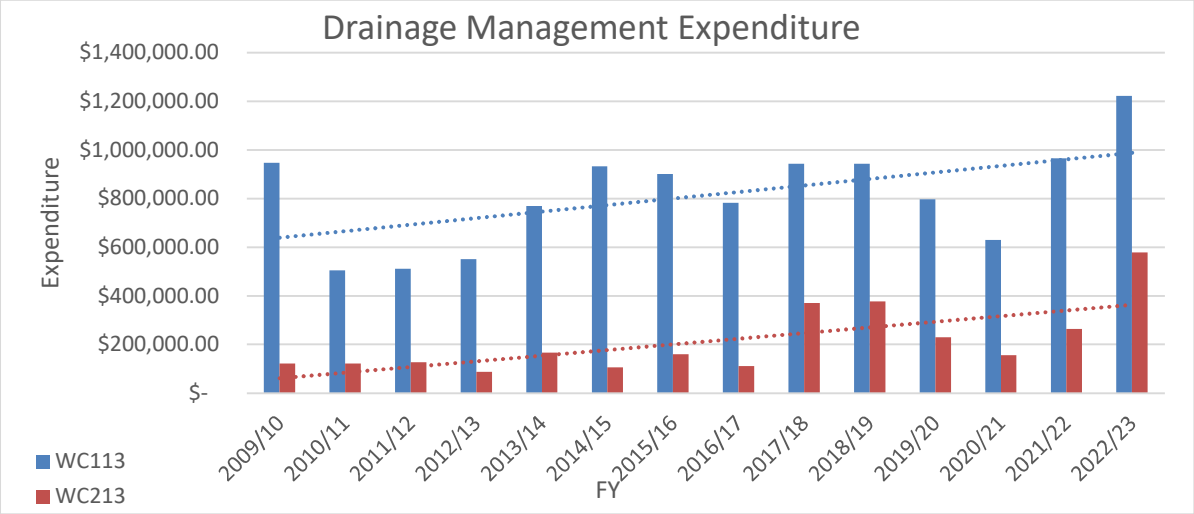
Drainage	Catchpit type 3	Culvert	Dam	Deep well shaft	Double sump	Drop chamber	Side culvert	Single sump	Soak pit	Soak pit modified	Stock underpass	Sump	Water race
# Assets	11	2546	1	4	1308	99	68	4638	2581	1043	31	11	23

Current Waka Kotahi NZTA rules for the funding of street cleaning mean that only 30% of the total cost is subsidised. The remaining 70% is required to be fully funded by the Council.

5.2 Historic investment

From 2006 to 2017, an average of 23 km of new kerb and channel per annum was added to the Council's roading network. In 2015/16 this number peaked to over 40km of new asset. This includes new kerb and channel vested by private developers. Between 2017 and 2022, an average of 26km of new kerb and channel p.a. was added to the council's network. Increasing drainage facilities is largely driven by private development with assets vesting to Council upon completion of land development and resource consenting processes.

Investment levels prior to 2018 had been maintained at around $800,000 p.a. for routine drainage maintenance and $130,000 p.a. for renewals. Additional funding to start addressing a backlog of cyclic cleaning and maintenance deficiencies was requested through the Council's subsidised Land Transport Programme. This need was identified following the growth in development across the district between 2005 and 2008 but was declined by Waka Kotahi NZTA at that stage.



5.2.1 What did we propose in 2018 and 2021?

A modest increase in funding for drainage maintenance - from $818,600 to $965,000 p.a. - was requested in the Council's 2018-2021 NLTP investment bid. The funding requested for drainage renewals was increased from $133,100 p.a. to $152,400 p.a. The approved subsidised funding for routine drainage maintenance for 2019/20 was $986,000
In 2021 the preferred, affordable programme planned under Work Category 113 for the 2021-2024 NLTP is $1,105,000 in 2021-22 – a 10% increase on the approved funding for 2020-21.

The investment in drainage renewals was $206,000 in 2021-22 rising to $210,000 in 2023-24. This level of investment supports the planned asset management and work prioritization strategy described in the Activity Management Plan.

Funding allocated was sufficient should 'normal weather patterns' have been experienced. There have been several large events in recent time and Emergency Works have become a significant funding factor and works priority. It is expected that the frequency and severity of these events (and therefore impacts on drainage networks) will continue to increase.

5.3 Issues faced

Growth

The growth in high-value amenity urban drainage is a key feature of the changing nature of Selwyn District. These can be illustrated by the increase in the number of sump and soakpit assets vested over the last twenty years.

This growth in urban roads and the associated drainage assets places an immediate burden on routine drainage maintenance budgets. Where budgets and resources are constrained, work in urban areas is likely to be prioritised over roadside drainage maintenance of rural sites. Work is required for:

- High shoulder removal, where material and vegetation build-up adjacent to roads prevents surface water from draining effectively;
- Urban channel, sump, and soakpit cleaning;
- Surface water channel maintenance;
- Culvert maintenance;
- Reactive response to surface water ponding on all roads.

The greater adoption of Stormwater Drainage Management measures by developers to manage run-off from roads and footpaths also have a big impact on the maintenance programmes.

Stormwater management which follows the NZ4044:2010 standards for “low impact” urban design and green infrastructure is a significant change for the roading team and contractors to include in their activity management planning. In addition to this, lengths of new kerb and channel constructed on Selwyn District Council roads have averaged 29 km per annum in the same period. The majority of these assets have been vested in the Council as a result of development. They require cleaning – and routine maintenance - in line with the Council’s level of service. This, in conjunction with the overall growth in road assets over the last ten years, places considerable extra demands on a constrained routine maintenance budget. Street cleaning costs are part-funded from routine drainage maintenance budgets.

Asset Condition

Backlogs of work are evident on both the sealed and unsealed road network. This becomes quite apparent after rainfall when areas of standing water form on roads that could be easily eliminated by the removal of a high shoulder or localised improvements to the surface water channels.

Expenditure for surface water channel can be associated with other works at the time, meaning it is underrepresented in the drainage work categories. It is also noted that re-cutting water tables may be funded as renewal works.

Current Waka Kotahi NZTA rules for the funding of street cleaning mean that only 30% of the total cost is subsidised. The remaining 70% is required to be fully funded by the Council.

Based on the Council’s knowledge of the drainage assets from assessments of their age and lifecycle urban drainage is considered to be in generally good condition. There are no known recurring problems caused by inadequate maintenance for culverts, sumps and soakpits. Rural drainage is reliant on water tables, and culverts which require regular attention. Removing vegetation and high shoulder build up along sealed roads is needed to ensure road carriageways shed water, and culverts need to be sound and clear of debris to convey water alongside or under the road. Damaged culverts need to be replaced, and this should include consideration of upsizing to meet the weather conditions at that location.

Climate Change

Rural drainage has been tested seriously over the last three years. Culverts and surface water channels have struggled with the intensity and frequency of storms experienced. This is a reminder of the importance of cyclic routine programmes to ensure that existing drainage assets capacity is maintained.

The impact of climate change will result in increased frequency and severity of extreme weather events. This highlights the need for proactive maintenance of drainage systems to minimise the effects of these events on the transport system, communities and the economy.

5.4 The Case for Change and Strategic Response

The case for change identified in 2020 for the 2021-24 period remains the same, with the problem statement more evident in 2023.

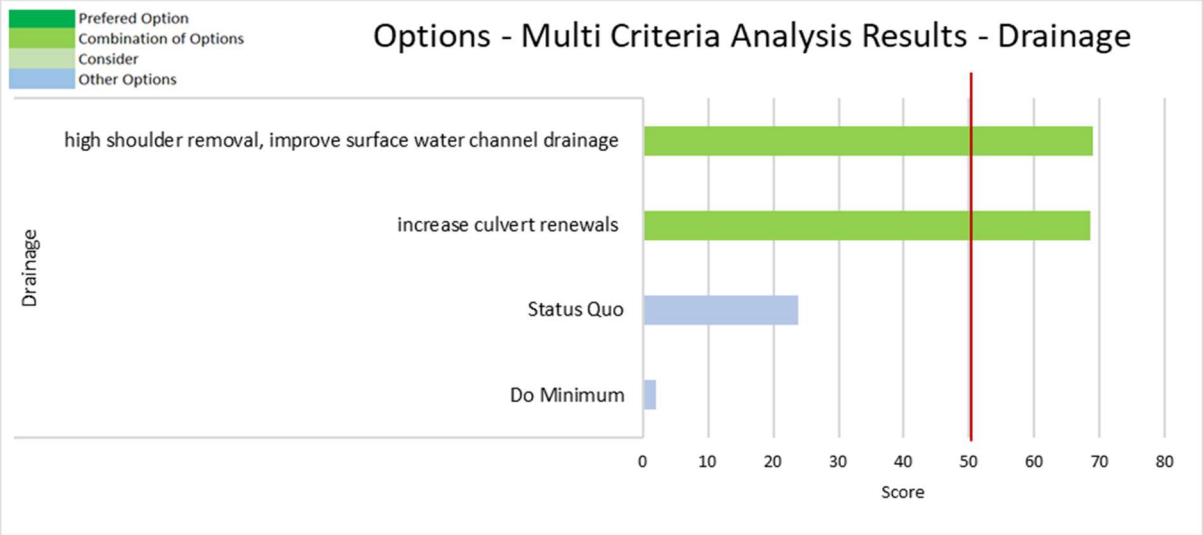
Selwyn Problem Statement	Drainage Management Considerations
The existing network and driver behaviour contribute to an unacceptable number of fatalities and serious injuries.	The condition and management of the both the sealed and unsealed network is linked to the delivery of required drainage maintenance. Poor drainage can create hazards for vehicles, cyclists and pedestrians. Inadequate drainage could also impact on traction and control of vehicles, particularly in high-speed environments.
Development and land use change across a diverse range of urban and rural areas is prompting changes in travel patterns which challenge the transport system suitability and user choice.	Roads need to be fit for purpose, to match Level of Service and customer expectations. The ONRC/ONF assists this by taking a hierarchical approach to network management which ensures service delivery in-line with those priorities. Development needs to occur in a manner which does not negatively impact on drainage within the road environment. Network prioritisation helps ensure works are focussed where the greatest impact on levels of service is. The growth in urban roads places increased Level of Service expectations on the management of roading drainage.
Growth and changes in travel patterns is impacting the network condition and efficiency	The condition and management of both the sealed and unsealed network is linked to the delivery of required drainage maintenance.

5.5 Options considered

Options identified for consideration include:

	Options
1	Improve water channel drainage
2	Increase culvert renewals
3	Status Quo
4	Do Minimum

These options have assessed using the multi-criteria analysis detailed in the AMP.



In general, the funding bid presented for routine drainage maintenance and drainage renewals is considered as the 'do minimum' approach with an increase to support cost fluctuations. Previously this has been satisfactory but there is now a need to ensure the network is more resilient which means there is a need to address renewals more quickly as well as have sufficient maintenance funds for response and restoration.

Planned improvements through drainage upgrades only form a small element of the programme, recently the cost of culvert renewal has proved greater than the available budget.

Historically, no specific culvert renewals were scheduled to occur. Some may be identified from time to time by maintenance inspections, as it is likely that some of the existing 2,900 culverts will fail prematurely over this time. There is some evidence that this is already occurring, especially those older culverts that were installed to a lower specification that would normally occur now. This is combined with an increase in traffic and heavy vehicle numbers in places on the network (e.g. dairy tanker access), which are contributing to an increase in failures. Indicative renewals programmes are only based on the recorded ages of the assets.

In the past Council has been undertaking some culvert replacements without financial assistance, which does not represent the actual needs of the network appropriately.,

5.6 Preferred Programme

	Options
	Combination of high shoulder removal and culvert renewals

Work to address the build-up of high shoulders, inadequate surface water channel drainage or under-performing kerb and channel sections will be managed across the urban and rural network in conjunction with the increased sealed and unsealed road maintenance and renewal programmes. Ensuring that sufficient resourcing of cyclic cleaning and routine maintenance is funded will support efforts to ensure best value can be achieved across the maintenance activities. Works that protect the pavement (such as high shoulder removal) will be given a higher priority in the new maintenance contract.

A renewal programme for aging kerb and channel has been developed as part of an Improvement Plan task in the previous LTP cycle. This programme has sought to maximise any potential to fund renewals through the subsidised Land Transport Programme using NZTA Work Category 213. Under current Waka Kotahi NZTA criteria, renewals can only generally be considered for funding if the condition of the kerb and channel is contributing to the deterioration of the adjoining pavement formations, and where the work will reduce future maintenance costs. Whilst a backlog of kerb and channel renewals has been identified, these can be prioritised alongside other pavement maintenance.

Based on an assessment of culvert materials and condition, a new programme has been developed; which results in the three-fold increase in the funding required.

There are risks if the preferred programme does not proceed.

The impact of deferred maintenance is accelerated deterioration of unlined surface water channels and the adjacent pavements, with a corresponding lower level of service with respect to ride and surface water control.

Along with the need to replace and improve culverts, a more resilient approach is needed to ensure access is provided to road users and that pavements are protected from damage.

It can also be a safety issue if water is sufficiently widespread and deep to cause vehicles and pedestrians:

- to take evasive action to avoid areas of ponding by moving towards the path of other vehicles;
- to slip or skid in icy conditions;
- to lose control travelling through surface water (aquaplaning).

5.7 Investment proposed

Increases have been applied to the two drainage Work Categories to further reduce the on-going burden of wear on the district's sealed pavement surfaces. Drainage repairs and renewals help reduce the demand of reseal works by preventing accelerated deterioration of pavements and surfaces due to the ingress of water. Well-targeted work can represent a more sustainable investment in terms of customer satisfaction and improved asset condition and life cycle benefits.

Work Category	Proposal	Risk
113 Routine drainage maintenance	Increase by 20% allowing for ongoing performance issues with drainage systems. Following from the extend of emergency works over past years, there is a need for culvert improvement programme. A small increase (10%) is proposed to commence this work.	Drains are significantly damaged in minor events, affecting access and pavements
213 Drainage renewals	The aging network and condition of drainage systems is not adequate for the storms occurring. Renewal of culverts in the past has been minimal, and a long-term programme is now proposed to progressively replace/upgrade these assets. The level of kerb and channel renewal remains the same. The culvert programme is expensive as indicated by the costs of those replaced over the last three years. An allowance of $440k for culvert renewals and surface water channels (water tabling) means the work category budget is tripled.	The drainage system will be overloaded and subsequent damage occur.

WC	WC Description	Activity Breakdown	24/25	25/26	26/27		27/28	28/29	29/30	30/31	31/32	32/33	33/34
113	Routine drainage maintenance	Street cleaning	603,559	639,773	665,364		710,608	758,930	810,537	865,653	924,518	987,385	1,054,527
		Drainage maintenance	618,893	656,026	682,268		728,662	778,211	831,129	887,646	948,006	1,012,470	1,081,318
		TOTAL	1,222,452	1,295,799	1,347,631		1,439,270	1,537,140	1,641,666	1,753,299	1,872,524	1,999,855	2,135,845
213	Drainage renewals	Culvert renewals	477,910	506,584	526,848		562,673	600,935	641,799	685,441	732,051	781,830	834,995
		Kerb and channel renewals	226,800	240,408	250,024		267,026	285,184	304,576	325,287	347,407	371,031	396,261
		TOTAL	704,710	746,992	776,872		829,699	886,119	946,375	1,010,728	1,079,458	1,152,861	1,231,256

6 Environmental Management

Includes:	***Work Category 121*** ***Environmental maintenance***	*The routine care and attention of the road corridor to maintain safety, aesthetic and environmental standards.*

Selwyn District Council does not currently put forward a programme of environmental renewals (Work Category 221) as part of Council's NLTP funding bid.

6.1 Overview

Environmental maintenance programmes are typically reactive in nature. Selwyn District Council uses customer feedback data to respond to the majority of requests for service. Current response timeframes being delivered by the Council meet the performance measure targets.

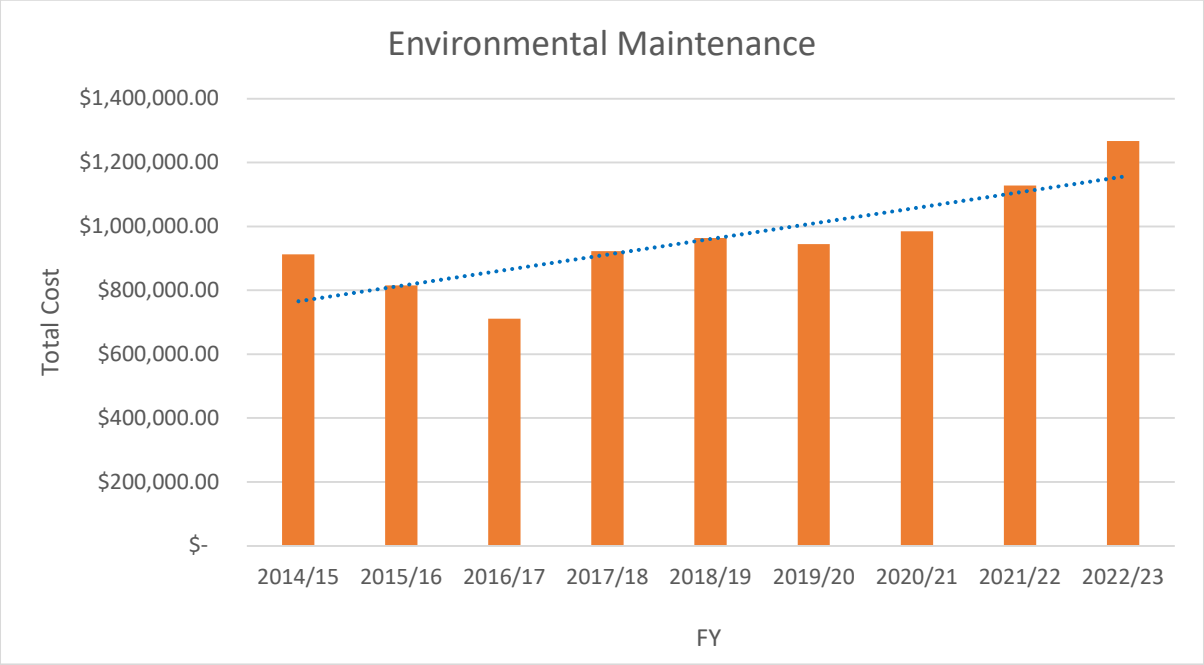
The Council's Service Request System records sites where there are observed problems, and if not remedied by request, or if clearance is more of a major undertaking, the site is then prioritised for remedy.

OBJ

Selwyn District Council has not currently incorporated the Road Efficiency Group "Aesthetic Faults" Customer Outcome Measure into transportation activity management. This whole-of-network faults inspection is currently completed under the contract inspection programme.

6.2 Historic investment

Investment levels prior to 2018 had been maintained at around $750,000 average p.a. for environmental maintenance, increasing through to 2021-2023.



6.2.1 What did we propose in 2018 and 2021?

In 2018 a moderate increase in funding for environmental maintenance - from $750,500 to $1,015,800 p.a. - was requested in the council's 2018-2021 NLTP investment bid.

This was only partially achieved and the approved subsidised funding for environmental maintenance was $872,000 for 2019/20. This was for:

- Vegetation control programmed under Waka Kotahi NZTA Work Category 121 – environmental maintenance
- Snow clearing and ice control on council-maintained roads and paths
- Litter collection and graffiti removal on council-maintained rural roads and paths
- Sweeping loose chip and detritus from council-maintained road intersections
- Removal of rocks and minor slip material from council-maintained roads and paths
- Clearing damaged or abandoned vehicles, crash debris and spillages from council-maintained roads and paths where needed.

In 2021, Council decided to maintain the existing levels of service for this activity. However, larger vegetation clearance projects were to be undertaken as part of Low-Cost Low Risk projects. Safety improvements were project-based. It was acknowledged that an increase in customer service requests should be expected as prudent management prevailed.

This has proved to be sufficient but the 2021-24 period was dominated by emergency works so vegetation removal work has been a lower priority.

6.3 Issues faced

Growth

The growth in the roading network, including the extents of council-maintained paths and other assets within the road corridor, places an immediate burden on environmental maintenance budgets. Where budgets and resources are constrained, the increase in both the extent of the network and the volume of traffic have a considerable impact on delivery of expected Levels of Service.

Costs increases

Abandoned vehicles are increasingly common and the costs involved in safe retrieval and disposal add up. Current economic pressures and the cost of living situation may result in increased occurrences of abandoned vehicles.

Climate change

Climate change is expected to impact on weather patterns and growing cycles. Vegetation and litter control programmes are carried-out on a cyclic basis. Changes in weather patterns affecting the growth of roadside vegetation can place extra pressures on established planned levels of work to deliver expected service levels and network safety outcomes.

6.4 The Case for Change and Strategic Response

The growth in the roading network, including the extents of council-maintained paths and other assets within the road corridor, places an immediate burden on environmental maintenance budgets. Where budgets and resources are constrained, the increase in both the extent of the network and the volume of traffic have a considerable impact on delivery of expected Levels of Service.

The strategic response case is consistent with the problem statements raised in 2020 for the 2021-2024 period, with increasing pressure being experienced.

Selwyn Problem Statement	Environmental Management Considerations
The existing network and driver behaviour contribute to an unacceptable number of fatalities and serious injuries.	The management of roading services are linked to the delivery of required environmental maintenance activities. Issues caused by vegetation, debris and other

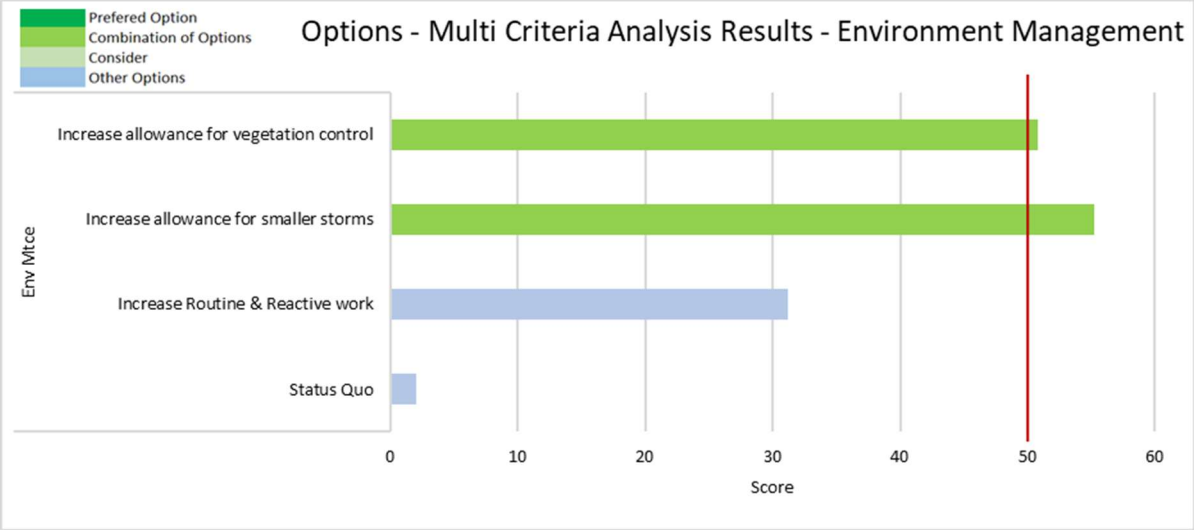
	events within road corridors can create hazards for vehicles, cyclists and pedestrians. Clearance of vegetation and obstructions from sight lines is linked to improved safety outcomes. Abandoned vehicles and litter can also be a distraction to motorists.
Development and land use change across a diverse range of urban and rural areas is prompting changes in travel patterns which challenge the transport system suitability and user choice	Roads need to be fit for purpose, to match Level of Service and customer expectations. The ONRC assists this by taking a hierarchical approach to network management which ensures service delivery in-line with those priorities. Footpaths and cycleways need to be fit for purpose to encourage customers to increase their use of alternative modes of transport. The growth in Selwyn District Council roads and footpaths places increased Level of Service expectations on the management of the roading environment.
Growth and changes in travel patterns is impacting the network condition and efficiency.	The traffic volumes, condition and management of both the sealed and unsealed network is linked to the delivery of required environmental maintenance. Demographic change and the development of Selwyn District Council's urban areas places increased Level of Service expectations on the management of the roading environment.

6.5 Options considered

Options identified for consideration include:

	Options
1	Increase allowance for smaller storms
2	Increase allowance for vegetation control
3	Increase routine & reactive work
4	Status Quo

These options have assessed using the multi-criteria analysis detailed in the AMP.



With an increase in the lengths of maintained network, the quantities of some operational type works are increased proportionally. The majority of these increases are resulting from roads which have been vested in the Council as a result of development. These have been built to appropriate design standards and specifications aiming to minimise additional maintenance burdens in line with the Council's level of service.

Planned improvements on the network also provide an opportunity to address potential environmental maintenance issues through appropriate design and construction.

6.6 Preferred Programme

	Options
	Allow for increase in vegetation control and smaller storms. Also ensure there is sufficient budget to address issues beyond council control (e.g. fly tipping, graffiti, waste management fees)

Council intends to maintain the current levels of service for this activity. The reactive nature of this work category is affected by factors beyond council's control – particularly weather and human behaviour.

Larger vegetation clearance projects are to be undertaken as part of Low-Cost Low Risk projects. Safety improvements will be project-based.

There are risks if the preferred programme does not proceed.

The impact of deferred environmental maintenance and management is a reduction in network condition and efficiency, with a corresponding lower level of service with respect to road user safety.

Customer service requests are also likely to continue to increase for environmental maintenance activities, placing additional pressures on constrained resources.

6.7 Investment proposed

The preferred, affordable programme planned under Work Category 121 for the 2021-2024 NLTP is $872,000 in 2021-22 – with no increase on the approved funding for 2020-21. The total requested for the three year 2021-2024 NLTP period is $2,647,000.

Work Category	Proposal	Risk
121 Environmental maintenance	Observed changes and fees have put this work category under significant pressure. Many of the costs involved are beyond Council's control (Fly tipping, Ecan fees, abandoned vehicles, traffic management requirements). The increase in damage from smaller storms should be funded from this category to ensure sufficient funding remains available for routine maintenance. Vegetation control is also required to manage sight lines and CSM2 agreements. In total the allocation for this work category has been doubled.	Number of and costs associated with events are greater than expected, and the category is overspent. This puts pressure on other budgets. Vegetation is not managed and safety (sightlines) are impacted.

WC	WC Description	Activity Breakdown	24/25	25/26	26/27		27/28	28/29	29/30	30/31	31/32	32/33	33/34
121	Environmental maintenance	Vegetation control	1,723,432	1,826,837	1,899,911		2,029,105	2,167,084	2,314,446	2,471,828	2,639,912	2,819,426	3,011,147
		Winter maintenance activities	205,448	217,775	226,486		241,887	258,336	275,903	294,664	314,701	336,101	358,956
		Other environmental maintenance	0	0	0		0	0	0	0	0	0	0
		TOTAL	1,928,880	2,044,613	2,126,397		2,270,992	2,425,420	2,590,348	2,766,492	2,954,614	3,155,527	3,370,103
221	Environmental renewals	TOTAL	0	0	0		0	0	0	0	0	0	0

This page intentionally left blank

7 Network Services Management

Includes:		
	Work Category 122 ***Network services maintenance***	*The routine care and attention of road furniture (maintaining traffic signs, marker posts and other delineation/demarcation traffic controls), pavement markings, carriageway lighting (streetlighting) and pedestrian crossing lighting.*
	Work Category 123 ***Network operations***	*The operation, maintenance, and power costs of: streetlighting, crossing facilities, traffic signals and other traffic management equipment and facilities that support transport network operations.*
	Work Category 131: ***Level crossing warning devices***	*For costs associated with the maintenance and renewal of rail level crossing warning devices carried out by the relevant rail track authority where the crossing is part of the road controlling authority's road, cycle or footpath network. This includes public access links to rail stations and interchanges.*
	Work Category 222 ***Traffic services renewals***	*The renewal of existing: road furniture, traffic signs, pavement markings, streetlighting, crossing facilities, traffic signals and traffic management equipment and facilities.*

Network services and operations Financial Assistance supported through Waka Kotahi NZTA 2021-2024 NLTP programmes has introduced some minor changes at a Work Category level.

7.1 Overview

Selwyn District Council's own management strategies for the asset groups which account for the majority of the network and traffic services expenditure (streetlighting, road signs, pavement markings, and traffic signals) are each described separately below. Funding also supports the electricity and systems support costs for operating these assets, which include new technologies such as Central Management Systems for streetlighting and traffic signals networks, Variable Message Signs, vehicle-actuated speed warning signs and Rural Intersection Activated Warning Signs.

Maintenance and management of other road delineation assets (such as Edge Marker Posts, Retro-Reflective Pavement Markings and Audible Tactile Profiled markings) are funded from this allocation. Increasingly, maintenance and replacement of traffic separation assets – vehicle, pedestrian, and cyclist protection provided by traffic islands, contrasting coloured pavement surfacing, High-Friction Surfacing, 'resting' rails, etc. - are also included under these Work Categories.

7.2 Street Lighting

7.2.1 Overview

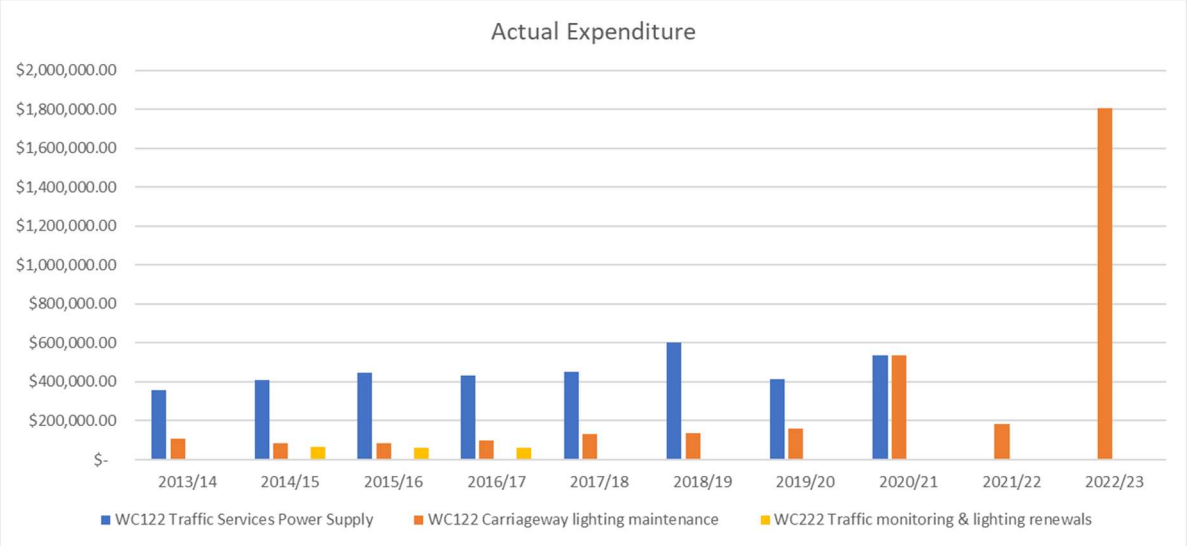
The investment assessment and decision-making related to network services assets activities was changed by Waka Kotahi NZTA for the 2021-2024 NLTP. Traffic services maintenance overall had historically been maintained at around $1 million p.a.

This section separates the discussion for each activity group and provides a combined investment proposal.

Selwyn District Council streetlighting assets (including lights, mounting brackets and poles) account for 3% of the total transportation asset group, based on replacement cost.

Owner	Number of Lights
Parks & Reserves	159
Pedestrian Access Ways	188
Pedestrian Crossings - Streets	18
Public Toilets	11
Selwyn District Council	
State Highways	*419*
Streets	8038
Telephone Boxes	3
Transit New Zealand	*6*
Unknown	14
Grand Total	**8857**

7.2.2 Historic investment



7.1.1.1 *What did we propose in 2018 and 2021?*

Investment in traffic services maintenance generally tracked in-line with network growth.

Maintenance has increased significantly with the high level of urbanisation, however renewals have been relatively low due to the LED replacement programme and the vesting of new assets.

The investment assessment and decision-making related to network services assets activities was changed by Waka Kotahi NZTA for the 2021-2024 NLTP, so there isa now more granularity around investment and actual costs.

7.2.3 Issues faced

Growth

The growth in and increasing urbanisation of the roading network, including the extents of council-maintained paths and other assets within the road corridor, places an immediate burden on traffic services budgets. Where budgets and resources are constrained, the increase in both the extent of the network and the volume of traffic have a considerable impact on delivery of expected Levels of Service.

Streetlight asset quantities (indicated by the number of lights recorded in the Council's asset data between 2016/17 and 2019/20) increased by approximately 16%. Selwyn District Council currently has responsibility for over 8,400 streetlights on district roads and council-managed paths (from RAMM). A further 425 streetlights located on State Highways are included, which are owned and administered by Waka Kotahi NZTA. Council is reimbursed for the cost of maintaining and operating these lights - for reasons of both economy and efficiency - on Waka Kotahi NZTA's behalf, given they are all essentially on the one network.

Based on the Council's knowledge of the streetlighting assets from assessments of their age and lifecycle they are generally in good condition. There are no known recurring problems caused by inadequate maintenance for these asset classes. No significant renewal requirements are currently anticipated for the next ten years, on completion of the LED upgrades in 2021.

Selwyn District Council is having to increase the provision of network and traffic services assets in-line with the growth being experienced in the district. Improvement projects are included within the 2021-2024 NLTP for installing streetlighting asset upgrades as a result of road safety, speed management, urban growth, footpath, cycleway and streetscape improvements.

Asset Condition

Network services maintenance and operations programmes are typically reactive in nature – dealing with customer reports of streetlight and streetlight pole damage, streetlight faults and requests for new streetlights. Council seeks to recover the cost of accident damage from those responsible, usually following Police advice. On average eight street light poles are hit each year by vehicles.

All lights, brackets and poles are maintained and managed under Selwyn District Council's Street Light Management Contract. The Contractor has responsibility for:

- Receiving and actioning Requests for Service, either directly or via the Council's Service Request System.
- Maintaining the Street Lighting Inventory Manager (SLIM) Database in RAMM.
- Carrying out inspections and actioning faults and failures identified.
- Carrying out replacement programmes e.g. bulk changes of fluorescent lights.
- Installing new lights.
- Recycling and disposing of old lights – including hazardous substances found in some lights and fittings.
- Checking the design and installation of streetlights for compliance (e.g. new urban subdivision street light installations).

The Street Light Maintenance Contractor is not responsible for the supply or purchase of the electricity necessary to run the lights. This is supplied under an agreement between the Council and the electricity retailer. All electricity costs are paid directly by Council, based on the rated consumption of each light in the network and the hours the lights are operating. Electricity costs receive Waka Kotahi NZTA Financial Assistance.

Selwyn District Council uses customer feedback data to respond to the majority of requests for service. Current response timeframes being delivered by the Council meet the performance measure targets.

Based on the Council's knowledge of the streetlighting assets from assessments of their age and lifecycle they are generally in good condition. There are no known recurring problems caused by inadequate maintenance for these asset classes. No significant renewal requirements are currently anticipated for the next ten years, on completion of the LED upgrades in 2021.

Climate Change

The operation of streetlighting is an area where reductions in electricity requirement can be achieved while maintaining Levels of Service. Programmes including LED replacement can contribute towards Council's commitment to climate change mitigation actions.

7.2.4 The Case for Change and Strategic Response

There is no proposal to change the current strategic response identified in the 2021-2024 PBC.

Selwyn Problem Statement	Streetlighting Management Considerations
The existing network and driver behaviour contribute to an unacceptable number of fatalities and serious injuries	If the network is not maintained and managed to an adequate standard, road users may be exposed to hazards without appropriate warning or demarcation at night. The growth in population, driven by arrivals from outside of the Selwyn District, may have expectations of higher Levels of Service experienced elsewhere. This can create an increased risk where road users are not provided with the same standard of streetlighting. Appropriate streetlighting networks for growing urban areas support a safer road environment for all road users.
Development and land use change across a diverse range of urban and rural areas is prompting changes in travel patterns which challenge the transport system suitability and user choice	Roads need to be fit for purpose, to match Level of Service and customer expectations. The ONRC assists this by taking a hierarchical approach to network management which ensures service delivery in-line with those priorities. The growth places increased Level of Service expectations on the management of the roading environment. This requires improvement projects to deliver upgrades in network services provisions that deliver increased Level of Service expectations and safety benefits for the Council's roading environment
Growth and changes in travel patterns is impacting the network condition and efficiency	The traffic volumes, condition and management of both the sealed road and footpath network is linked to the delivery of required streetlighting maintenance. The significant change in urban areas of Selwyn due to growth requires a different network asset management strategy and investment programme for the future.

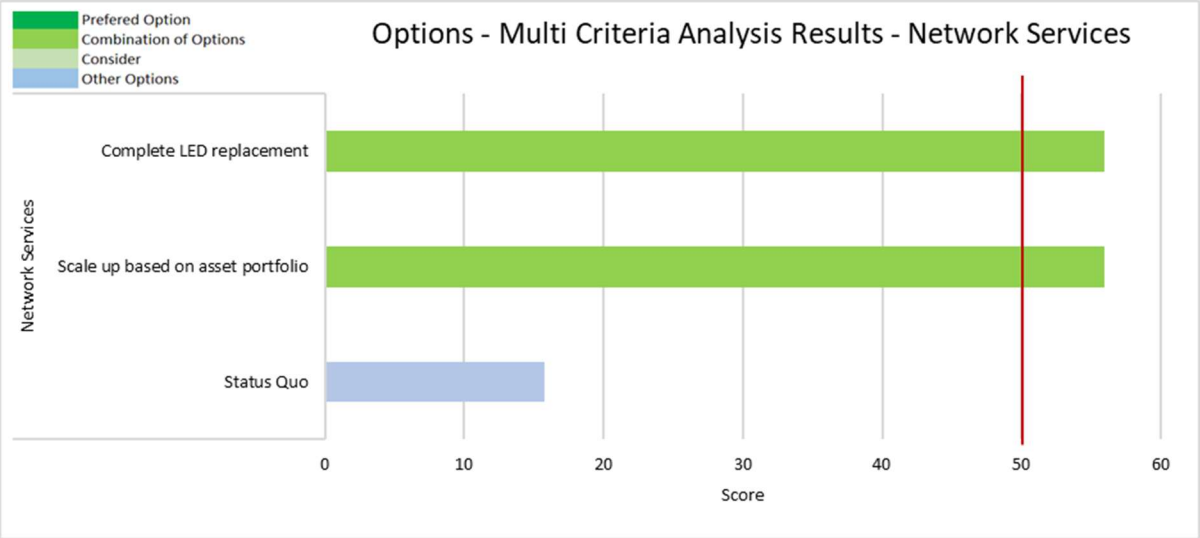
The growth in and increasing urbanisation of the roading network, including the extents of council-maintained paths and other assets within the road corridor, places an immediate burden on traffic services budgets. Where budgets and resources are constrained, the increase in both the extent of the network and the volume of traffic have a considerable impact on delivery of expected Levels of Service.

7.2.5 Options considered

Options identified for consideration include:

	Options
1	Scale up based on asset portfolio
2	Complete LED replacement
3	Status Quo

These options have assessed using the multi-criteria analysis detailed in the AMP.



With an increase in the lengths of maintained network, complexity of urban roads, and increase in traffic numbers, the quantities of some operational type works are increased proportionally. The majority of these increases are resulting from the additional streetlighting required to service significant growth in traffic, the change in network composition urban road networks and managing the growth in assets which have been vested in the Council as a result of development. These have been built to appropriate design standards and specifications aiming to minimise additional maintenance burdens in line with the Council's level of service.

Planned improvements on the network will result in an increase in resources supporting the future operational strategies for streetlighting. LED lighting should reduce both the cyclic maintenance and renewals required, on completion of the LED Upgrade programme. This will be offset against the large increases in the asset base (around 20% in the last five years) and the nature of some streetlighting installations supporting safe operation of large intersections and streetscape environments. These projects also provide an opportunity to address potential traffic services maintenance issues through appropriate design and construction.

Planned improvements for lighting upgrades on Selwyn District Council's urban roads, footpaths, cycleways and other streetscape works that are intended to deliver safety and network operational benefits will be funded through subsidised improvement programmes, where funding and investment prioritisation conditions are met. Selwyn District Council may choose to fund improvements from unsubsidised capital investment where co-funding support criteria are not met.

7.2.6 Preferred Programme

	Options
	Scale up based on asset portfolio

Council has made a strategic decision to improve the current levels of service for this activity. This requires ongoing investment to maintain and renew a rapidly growing asset base and ensure a consistent and self-explaining road environment for urban streets as traffic volumes increase.

Traffic services upgrades form a very significant part of Low-Cost Low Risk projects, Local Road Improvements and Selwyn District Council's unsubsidised capital improvement programmes. A

number of the improvements deliver assessed safety benefits under the Road to Zero strategy goals. Safety improvements which are prioritised and programmed for delivery through the Safe Network Programme.

Other traffic services improvement projects which have not met the safety benefit criteria but support complementary benefit delivery for the Selwyn District Council, have been targeted through unsubsidised investment.

Investment proposed – see 7.5

A proposed funding bid (based on maintenance needs to support both planned and reactive repairs) under Work Category 122 was presented in the 2021-2024 NLTP of $1,106,600 in 2021-22 – a 10% annual increase - rising to $1,339,000 in 2023-24.

There are considerable risks if the preferred programme does not proceed.

The impact of deferred or reduced network services maintenance, operations and management is a reduction in road user safety, with a corresponding lower level of service with respect to network condition and efficiency.

7.3 Road Signs and Pavement Markings

7.3.1 Overview

This section separates the discussion for each activity group and provides a combined investment proposal.

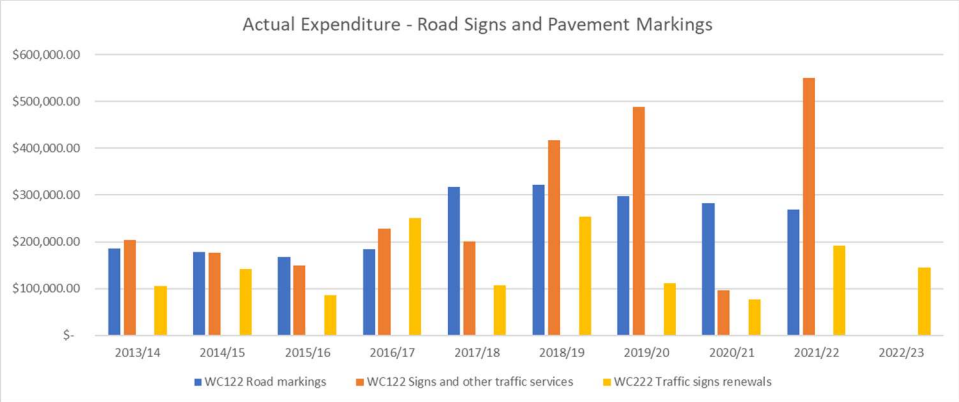
Item	Quantity
Total Signs	19,969
Pavement marking – linear	1,444km
Pavement marking – feature	3,732 items
Raised Reflectorised Pavement Marking (RRPM)	1,902

The most common signs are:

Item	Quantity
Culvert Position Marker	2,333
Curve/Curve Advisory Speed	884
Finger Board	884
Give Way	1,099
Road/Street Name Plate	3,750
Speed Limit	1,268

7.3.2 Historic investment

The investment assessment and decision-making related to network services assets activities was changed by Waka Kotahi NZTA for the 2021-2024 NLTP. Traffic services maintenance overall had historically been maintained at around $1 million p.a.



7.1.1.2 *What did we propose in 2018 and 2021?*

Investment in traffic services maintenance tracked in-line with network growth, the workload has increased and regular increases to investment were required.

7.3.3 Issues faced

Asset Condition

Network services maintenance and operations programmes are typically reactive in nature – dealing with customer reports of traffic signal damage and faults. Selwyn District Council uses customer feedback data to respond to the majority of requests for service. Current response timeframes being delivered by the Council meet the performance measure targets.

Growth

The growth in and increasing urbanisation of the roading network, including the extents of council-maintained paths and other assets within the road corridor, places an immediate burden on traffic services budgets. Where budgets and resources are constrained, the increase in both the extent of the network and the volume of traffic have a considerable impact on delivery of expected Levels of Service.

The growth in urban roads and the associated traffic control assets – principally traffic signal upgrades at key intersections - places an immediate burden on network services maintenance budgets. Where budgets and resource are constrained, work in urban areas is likely to be prioritised.

As the traffic signals located on Selwyn District Council roads are all new assets, they are generally in good condition. There are no known recurring problems caused by inadequate maintenance for these asset classes. Reactive maintenance to repair damage or faults at traffic signals require urgent response, placing additional pressures on already constrained resources. No significant renewal requirements are currently anticipated for the next ten years.

Selwyn District Council is having to increase the provision of network and traffic services assets in-line with the growth being experienced in the district. Improvement projects include installing traffic signals at key intersections and traffic services asset upgrades as a result of road safety, speed management, footpath, cycleway and streetscape improvements.

7.3.4 The Case for Change and Strategic Response

There is no proposal to change the current strategic response identified in the 2021-2024 PBC.

Selwyn Problem Statement	Traffic Services Management Considerations
The existing network and driver behaviour contribute to an unacceptable number of fatalities and serious injuries	If the network is not maintained and managed to an adequate standard, road users may be exposed to hazards without appropriate warning or demarcation. The growth in population, driven by arrivals from outside of the Selwyn District, may have expectations of higher Levels of Service experienced elsewhere. This can create an increased risk where road users are not provided with the same standard of traffic services assets
Development and land use change across a diverse range of urban and rural areas is prompting changes in travel patterns which challenge the transport system suitability and user choice	Roads need to be fit for purpose, to match Level of Service and customer expectations. The ONRC assists this by taking a hierarchical approach to network management which ensures service delivery in-line with those priorities. The growth in Selwyn District Council requires improvement projects to deliver upgrades in network services provisions that deliver increased Level of Service expectations and safety benefits for the Council's roading environment.
Growth and changes in travel patterns is impacting the network condition and efficiency	The traffic volumes, condition and management of both the sealed road, unsealed road and footpath network is linked to the delivery of required traffic services maintenance.

7.3.5 Options considered

No significant change is proposed in this area which is a smaller investment area for Council. No multi-criteria analysis has been undertaken.

With an increase in the lengths of maintained network, complexity of urban roads, and increase in traffic numbers, the quantities of some operational type works are increased proportionally. The majority of these increases are a result of additional infrastructure required to service significant growth in traffic, the change in network composition on urban road networks and managing the growth in assets which have been vested in the Council as a result of development. These have been built to appropriate design standards and specifications aiming to minimise additional maintenance burdens in line with the Council's level of service.

Planned improvements on the network will result in an increase in the future maintenance required for traffic control devices. These projects also provide an opportunity to address potential traffic services maintenance issues through appropriate design and construction.

Planned improvements for signalised intersections, speed management and other streetscape works that are intended to deliver safety and network operational benefits will be funded through subsidised improvement programmes, where funding and investment prioritisation conditions are met. Selwyn District Council may choose to fund improvements from unsubsidised capital investment where co-funding support criteria are not met.

Council has made a strategic decision to improve the current levels of service for this activity, much of this is to improve safety outcomes. This requires additional investment to maintain and renew a rapidly growing asset base and ensure a consistent and self-explaining road environment as traffic volumes increase.

Traffic services upgrades form a very significant part of Low-Cost Low Risk projects, Local Road Improvements and Selwyn District Council's unsubsidised capital improvement programmes. A number of the improvements deliver assessed safety benefits under the Road to Zero strategy goals. Safety improvements which are prioritised and programmed for delivery through the Safe Network Programme.

Other traffic services improvement projects which have not met the safety benefit criteria but support complementary benefit delivery for the Selwyn District Council, have been targeted through unsubsidised investment.

Investment proposed – see 7.7

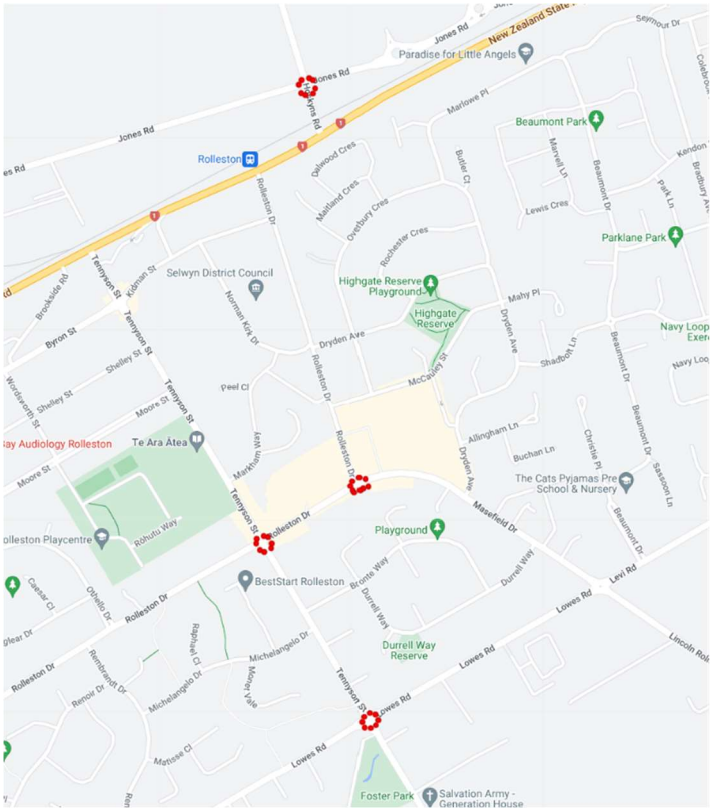
There are considerable risks if the preferred programme does not proceed.

The impact of deferred or reduced network services maintenance, operations and management is a reduction in road user safety, with a corresponding lower level of service with respect to network condition and efficiency.

7.4 Traffic Signals

7.4.1 Overview

There are 33 poles with signals across four locations. Another four are under construction/proposed in the next three years.



7.4.2 Historic investment

This work category is a relatively recent addition for Selwyn District Council. The first traffic signals on a local road were installed at the Rolleston Drive/Masefield Drive intersection in 2019.

7.4.3 What did we propose in 2018 and 2021?

Investment in traffic signals was relatively limited as signalisation was only commencing. Doubling of the number of signalised intersections could be the trend every three years for some time.

7.4.4 Issues faced

Growth

The growth in and increasing urbanisation of the roading network, bring the need for signalisation. This is an improvement item and the cost associated with operations, maintenance and renewal are relatively minor.

7.4.5 The Case for Change and Strategic Response

There is no proposal to change the current strategic response identified in the 2021-2024 PBC.

Selwyn Problem Statement	Traffic Services Management Considerations
The existing network and driver behaviour contribute to an unacceptable number of fatalities and serious injuries	If the network is not maintained and managed to an adequate standard, road users may be exposed to hazards without appropriate warning or demarcation. The growth in population, driven by arrivals from outside of the Selwyn District, may have expectations of higher Levels of Service experienced elsewhere. This can create an increased risk where road users are not provided with the same standard of traffic services assets
Development and land use change across a diverse range of urban and rural areas is prompting changes in travel patterns which challenge the transport system suitability and user choice	Roads need to be fit for purpose, to match Level of Service and customer expectations. The ONRC assists this by taking a hierarchical approach to network management which ensures service delivery in-line with those priorities. The growth in Selwyn District Council requires improvement projects to deliver upgrades in network services provisions that deliver increased Level of Service expectations and safety benefits for the Council's roading environment.
Growth and changes in travel patterns is impacting the network condition and efficiency	The traffic volumes, condition and management of both the sealed road, unsealed road and footpath network is linked to the delivery of required traffic services maintenance.

7.4.6 Options considered

No significant change is proposed in this area which is a smaller investment area for Council. No multi-criteria analysis has been undertaken.

Planned improvements on the network will result in an increase in the future maintenance required for traffic control devices. These projects also provide an opportunity to address potential traffic services maintenance issues through appropriate design and construction.

Planned improvements for signalised intersections, speed management and other streetscape works that are intended to deliver safety and network operational benefits will be funded through subsidised improvement programmes, where funding and investment prioritisation conditions are met. Selwyn District Council may choose to fund improvements from unsubsidised capital investment where co-funding support criteria are not met.

Council has made a strategic decision to improve the current levels of service for this activity. This requires additional investment to maintain and renew a rapidly growing asset base and ensure a consistent and self-explaining road environment as traffic volumes increase.

Traffic services upgrades form a very significant part of Low-Cost Low Risk projects, Local Road Improvements and Selwyn District Council's unsubsidised capital improvement programmes.

Investment proposed – see 7.7

There are considerable risks if the preferred programme does not proceed.

The impact of deferred or reduced network services maintenance, operations and management is a reduction in road user safety, with a corresponding lower level of service with respect to network condition and efficiency.

7.5 Roundabouts

7.5.1 Overview

With the increasing urban network, roundabouts are becoming more common. Rural roundabouts are also a favoured option for safety improvements where there is a poor record.

While not recorded as a separate group of assets, it is worth noting that at 2023 there were some 39 roundabouts in the district.

Council is working on creating better information on these assets and any particular maintenance requirements. Otherwise they are managed as part of other activities.

7.6 Rail Level Crossing Warning Devices Maintenance

7.6.1 Overview

Selwyn District Council supports works to all rail level crossing warning devices - including signs, markings, barrier arms, warning devices, pedestrian facilities and crossing surfaces – on district roads.

These are delivered as part of shared-cost arrangements between Selwyn District Council, Waka Kotahi NZTA and KiwiRail.

Selwyn District Council has 48 rail level crossings:

Road asset cross the rail corridor (parcel) 47

Rail asset cross the road corridor (parcel) 1

Selwyn has had 7 train/vehicle collisions at level rail crossings since 2011 to date, which have resulted in both serious injuries and fatalities. Safety provisions at rail level crossings, including separated facilities for pedestrians and other vulnerable road users, are progressively being improved across New Zealand. The level of service provided by rail crossings is also reviewed, and crossings can be restricted or closed where the safety dis-benefits outweigh network efficiency and connectivity considerations.

Crash numbers are not the only factor in deciding to improve safety at a crossing. Other factors include near misses, the location of the crossing relative to the state highway network, sites where a long vehicle may be forced to stop over the tracks, proximity to corners and intersections, and speed limits on the section of road and nearby roads.

Selwyn District Council closed one rail crossing in the 2018-2021 period, in conjunction with upgrading nearby crossings to improve safety. No other crossings have been closed since nor are any identified for closure.

7.6.2 Historic investment

Investment levels in rail level crossing maintenance had been typically $45,000 - $50,000p.a.

7.6.3 What did we propose in 2018 and 2021?

Council had also approved the three-year program to include upgrades at railway crossings in the 2018-2021 NLTP period. The programme has delivered significant warning devices and facilities upgrades providing assessed road safety benefits. Otherwise, investment has been budgeted at around $50,000 per year.

7.6.4 Issues faced

Growth

As growth increases traffic movements on our network, there is increased risk of mode conflicts at rail crossings. The role and significance of rail level crossing infrastructure is increasingly important.

7.6.5 The Case for Change and Strategic Response

The case for change identified in 2020 for the 2021-24 period remains the same, with the problem statement more evident in 2023.

Selwyn Problem Statement	Rail Level Crossings Management Considerations
The existing network and driver behaviour contribute to an unacceptable number of fatalities and serious injuries	If the network is not maintained and managed to an adequate standard, road users may be exposed to hazards without appropriate warning or demarcation. The growth in population, driven by arrivals from outside of the Selwyn District, may have expectations of higher Levels of Service experienced elsewhere. This can create an increased risk where road users are not provided with the same standard of traffic services assets.
Development and land use change across a diverse range of urban and rural areas is prompting changes in travel patterns which challenge the transport system suitability and user choice	Roads need to be fit for purpose, to match Level of Service and customer expectations. The ONRC assists this by taking a hierarchical approach to network management which ensures service delivery in-line with those priorities. Pedestrian and cycle facilities need to be fit for purpose to encourage customers to increase their use of alternative modes of transport. The growth in Selwyn District Council requires improvement projects to deliver upgrades in network services provisions that deliver increased Level of Service expectations and safety benefits for the Council's roading environment.

7.6.6 Options considered

The majority of cost increases associated with rail level crossings are resulting from the additional infrastructure required to service significant changes in the Level of Service required to improve road user safety. The risks to the public at existing rail crossing facilities are assessed against appropriate design standards and specifications, aiming to minimise additional maintenance burdens in line with the Council's level of service.

The overall programme is developed by KiwiRail in consultation with road controlling authorities. Council is not generally the initiator of works but, would advocate on behalf of the community where appropriate.

No significant change is proposed in this area which is a smaller investment area for Council. No multi-criteria analysis has been undertaken.

Planned improvements on the network may result in an increase in the future maintenance required for rail level crossing warning devices and other traffic control devices at level crossings. These projects also provide an opportunity to address potential maintenance issues through appropriate design and construction.

Planned improvements rail level crossings delivering safety and network operational benefits will be funded through subsidised improvement programmes, where funding and investment prioritisation conditions are met.

Council has made a strategic decision to improve the current levels of service for this activity, in-line with long-term national safety programmes at rail level crossings. This requires continued investment to maintain, renew and upgrade level crossings to current best practice standards. Work planned for rail level crossings ensure a consistent and self-explaining road environment as traffic volumes increase.

Rail level crossing upgrades form a part of Low-Cost Low Risk projects, which are prioritised and programmed for delivery in years 4-10 of the 2021-2031 LTP. A total investment of $1,500,000 is targeting safety and network efficiency benefits through future NLTP Low-Cost Low Risk programmes, with an additional $165,000 for pedestrian rail crossing facilities.

There are considerable risks if the preferred programme does not proceed.

The impact of deferred or reduced rail level crossing maintenance, renewal and upgrade works is a reduction in road user safety, with a corresponding lower level of service with respect to network efficiency.

7.7 Investment proposed

A proposed funding bid (based on energy supply, and maintenance needs to support both planned and reactive repairs) under Work Category 122 is $1,446,105, a small increase from 2021-24

A larger increase in funding for renewals under Work Category 222 is proposed. Investment requested is for $464,000 in 2024/25.

Funding for network operations is to be increased in direct response to the costs associated with supporting the growth in traffic services systems and facilities in the last six years (primarily traffic signals). This is to be doubled based on the change in the number of sets of signals from 2021-24 to 2024-27.

This page intentionally left blank

Work Category	Proposal	Risk
123 Network operations	Since 2021 and through the 2024-27 period the number of sets of traffic signals will double. The budget is therefore doubled.	These costs are quite predicable and if not funded appropriately puts pressure on other budgets
222 Traffic services renewals	An increase to cover higher level of damage, vandalism and TTM requirement has been made (+20%)	Safety is compromised.

WC	WC Description	Activity Breakdown	24/25	25/26	26/27		27/28	28/29	29/30	30/31	31/32	32/33	33/34
122	Network service maintenance	Traffic services power supply	0	0	0		0	0	0	0	0	0	0
		Traffic services maintenance	1,446,105	1,532,871	1,594,186		1,702,591	1,818,367	1,942,016	2,074,073	2,215,110	2,365,737	2,526,607
		TOTAL	1,446,105	1,532,871	1,594,186		1,702,591	1,818,367	1,942,016	2,074,073	2,215,110	2,365,737	2,526,607
123	Network operations	Maintenance of operational infrastructure	224,640	238,118	247,643		264,483	282,468	301,676	322,189	344,098	367,497	392,487
		Management and operations of traffic systems	0	0	0		0	0	0	0	0	0	0
		TOTAL	224,640	238,118	247,643		264,483	282,468	301,676	322,189	344,098	367,497	392,487
131	Rail level crossing warning devices maintenance	TOTAL	57,240	60,674	63,101		67,392	71,975	76,869	82,096	87,679	93,641	100,009
222	Traffic services renewals	TOTAL	463,968	491,806	511,478		546,259	583,404	623,076	665,445	710,695	759,023	810,636

This page intentionally left blank

8 Footpaths and Cycleways Maintenance and Renewals

Includes:	***Maintenance Work Category 124*** ***Cycle path Maintenance***	*The operation, maintenance and renewal of cycleway and shared path facilities, including the operation of associated lighting.*
	Maintenance Work Category 125 ***Footpath Maintenance***	*The maintenance of public footpaths and facilities associated with public footpaths, such as pedestrian network connections, including stairs, alleyways and off-road connections.*
	Renewals ***Work Category 225 Footpath Renewals***	*The renewal of public footpaths and facilities associated with public footpaths, such as pedestrian network connections, including stairs, alleyways and off-road connections.*

Selwyn District Council does not currently put forward a programme of cycle path renewals (Work Category 224) as part of Council's NLTP funding bid.

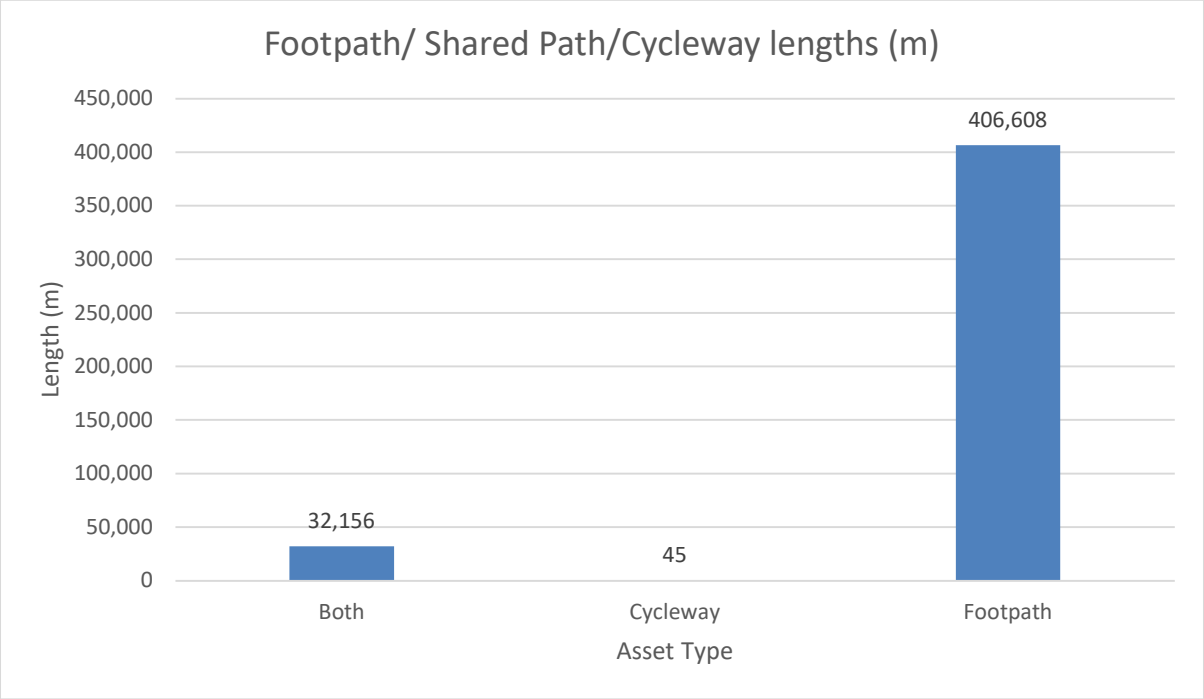
Walking and cycling improvements (major capital works and low/cost/low risk projects) are discussed in Chapter 15.

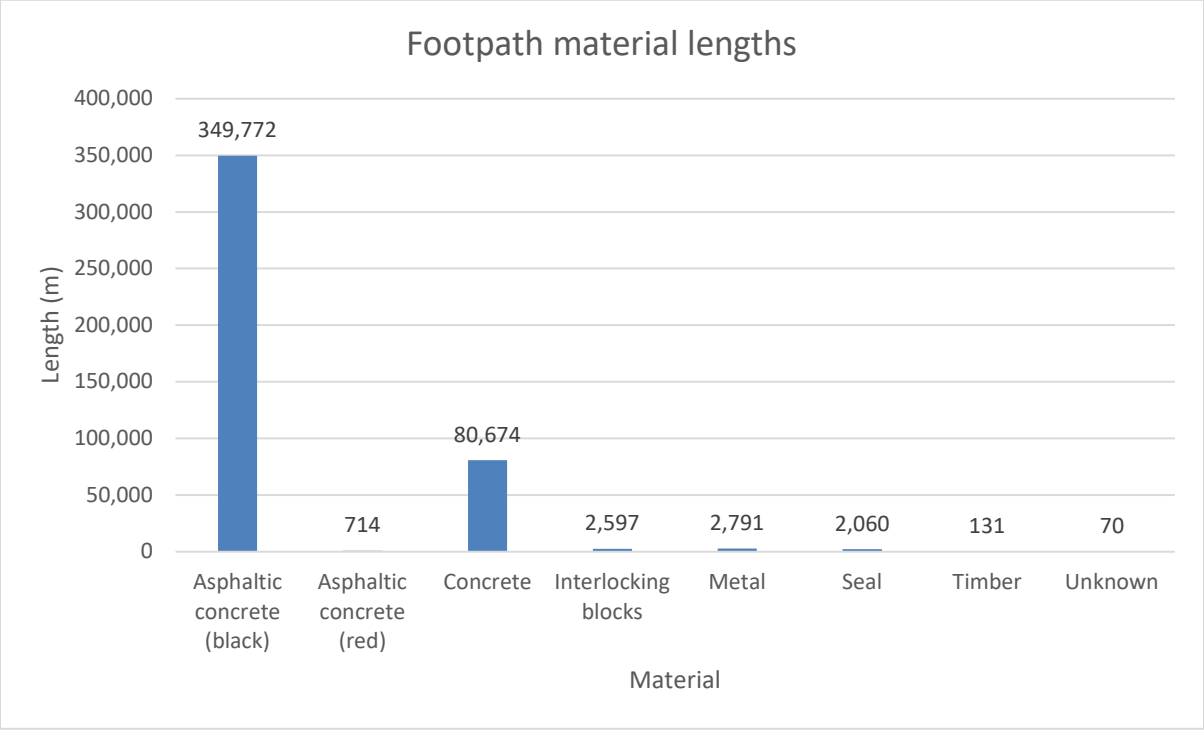
8.1 Overview

Encouraging walking and cycling provides positive benefits for health and efficient use of the transportation system. This mode shift - where people walk and cycle instead of driving - reduces congestion on the urban roading network which allows the road asset to be serviceable for longer before requiring capacity upgrades. It supports health outcomes through the reduction in vehicle emissions and the increased uptake of active travel modes.

Footpaths, shared paths and cycleways provide safer and more convenient movement for pedestrians and cyclists. They are key to the mobility for young people and non-drivers and contribute to emissions reductions (reduced VKTs through mode shift).

Footpaths are recorded in 23 townships in the district, with 82.1% of the assets (360.2km) located in the 5 biggest urban areas (Rolleston, Lincoln, Prebbleton, Darfield and West Melton). The bulk of this increase is made up of high specification vested assets constructed by developers, then transferred to the Council's ownership.





8.2 Historic investment

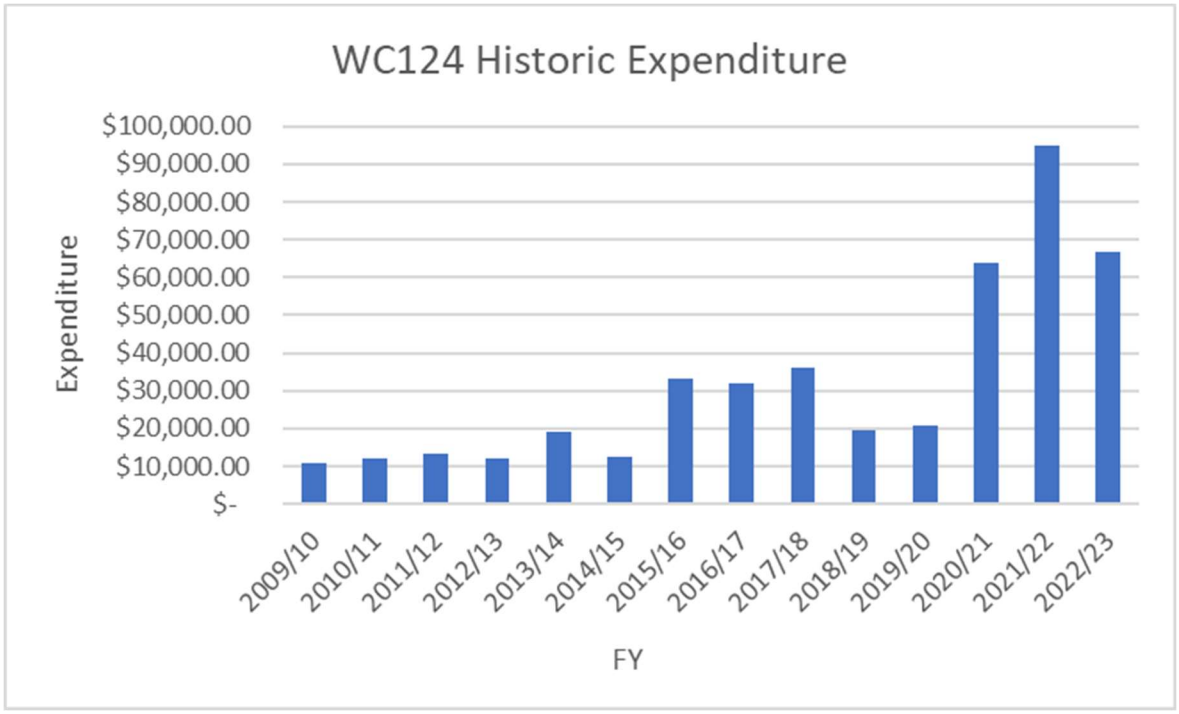
Financial Assistance supported through Waka Kotahi NZTA NLTP programmes for footpaths was a new Work Category introduced during the 2018-19 Financial Year. Prior to September 2018, all footpath maintenance and renewals were an unsubsidised activity.

Growth in footpath extents increased by an average of approximately 9km a year between 2006 and 2017, peaking at over 20km a year in 2014/15 and 2015/16. Between 2016/17 and 2021/22 there was an average of 16km of new footpaths a year (RAMM). From July 2022 to date, a total of 13.4 km of new footpaths were added to the network.

Selwyn District Council previously funded footpath maintenance and renewals from township budgets, based on historical funding levels approved by the Council. Total budgets prior to 2013 had been set at approximately $250,000 p.a. This led to a deterioration of footpaths in some townships where the funds available did not meet maintenance needs, resulting in structurally sound footpaths with poor surfaces. Where routine maintenance budgets had not enabled sufficient work to be completed, a backlog of resurfacing had developed. Maintenance and renewals funding was increased to approximately $350,000 p.a. in 2013-14, with around $50,000 p.a. of additional Council funding to construct new links between existing paths and the rapidly increasing volumes of vested footpath and cycleway assets from development.

Cycle path maintenance funded through the Selwyn District Council subsidised Land Transport Programme using NZTA Work Category 124 required the cycleway/shared path to facilitate use as a commuter route.

Investment levels in cycleway maintenance prior to 2018 had been typically $15,000 - $20,000p.a.



8.2.1 What did we propose in 2018 and 2021?

With the introduction of financial assistance for footpath maintenance and renewals in the 2018-2021 NLTP, the Council reviewed district-wide budgets for work on footpaths, cycleways and shared paths. Works that met the following qualifying criteria for co-funding were:

- Footpath, cycleway and shared path maintenance, patching and pothole repairs.

- Maintenance of associated facilities including signs, markings, lighting, and handrails/guard rails.
- Maintenance of public footpath and cycling infrastructure connecting the rest of the network, including stairs, alleyways, and off-road connections.
- Routine work – including drainage and environmental maintenance - necessary to maintain the function, structural integrity and appearance of footpaths and cycling infrastructure that provides access across or under roads, streets, highways, runways, waterways, railways or footpaths.
- Vegetation control programmed under Waka Kotahi NZTA Work Category 121 – environmental maintenance.
- Footpath renewals, such as resurfacing or reconstruction.

Investment in footpath maintenance and renewals for the 2018-2021 NLTP funding bid were set at $100,000 p.a. and $300,000 p.a. respectively. Cycleway maintenance investment levels were significantly increased from previous levels to $52,000 p.a. to reflect the rapid expansion of the cycling network.

The Council also significantly increased investment levels in unsubsidised footpath and cycleway improvements, addressing rapid change in the community's expected level of service for connected pathways linking the growing areas of development in Rolleston and Lincoln. Encouraging walking and cycling provides positive benefits for health and efficient use of the transportation system. This mode shift where people walk and cycle instead of driving reduces congestion across the network, which allows the road asset to be used longer before requiring a capacity upgrade.

The Transport Choices initiative (funded from Climate Emergency Response Fund) supported the construction of two new paths in 2023/24.

8.3 Issues faced

Growth

Footpath lengths across the district have increased due to vested asset and project work. The growth in urban roads and the associated footpath and cycleway assets places an immediate burden on maintenance budgets. Footpath budgets have been spent on delivering priority surface repairs and renewals, with routine maintenance needing to be deferred or funded from other sources. Where budgets and resources are constrained, work in urban areas is likely to be prioritised, placing pressures on other funding to carry-out other routine maintenance activities. Unfortunately, this has significant

impacts – both now and going forward – for customer safety, optimal asset management and road user comfort.

Urbanisation within the district is also raising Level of Service expectations. Levels of service customer outcomes, tracked against Selwyn District Council's performance measures, report the percentage of customers who consider the condition of urban roads, rural roads, footpaths, and cycleways to be 'Very Good' or 'Good' overall. Current performance (measured by resident opinion) is achieving, but not exceeding, the target level.

Asset Condition

Around ten years ago analysis of condition and maintenance/renewal expenditure - identified a significant need for footpath renewals in Lincoln, Prebbleton, Darfield, West Melton, Leeston and Southbridge. This is equivalent to investing in priority maintenance and renewals for 23km of footpath identified in the condition rating as 'Poor' or worse. There is also a significant backlog of renewals based on asset age and expected useful life, and analysis from this assessment suggests a long-term investment need for heavy-duty maintenance and renewals work tracking at a similar level for the next 20 years.

Significant efforts to improve footpath and cycleway data have been undertaken resulting in a better understanding of each township's overall asset base and plan for prioritised renewal.

A developing issue is the width of paths, particularly shared paths. E-bikes and scooters move quickly and some conflict is developing. Wheelchairs and prams/buggies cannot pass without leaving the hard surface of 1.5m wide paths which is an increasing issue which impacts on accessibility and equality. Although no widening is proposed at this stage, the focus is on ensuring new infrastructure meets the needs of all users.

Climate Change

The role of footpaths and cycleways in mode shift planning and VKT reduction is a key component of climate change mitigation and emissions reduction that Council is responsible for. Suitable provision of attractive and safe infrastructure to support active modes contributes towards Council's commitment to climate change mitigation actions, and wider community wellbeing benefits.

8.4 The Case for Change and Strategic Response

Ongoing maintenance of the network is associated with all the problem statements as indicated below:

Selwyn Problem Statement	Footpath and Cycleway Considerations
The existing network and driver behaviour contribute to an unacceptable number of fatalities and serious injuries.	If the network is not maintained and managed to an adequate standard, road users may take evasive action to avoid hazards (e.g. potholes, uneven surfaces and trip hazards, loose gravel). The growth in population, driven by arrivals from outside of the Selwyn District, may have expectations of higher Levels of Service experienced elsewhere. This can create an increased risk where road users are not

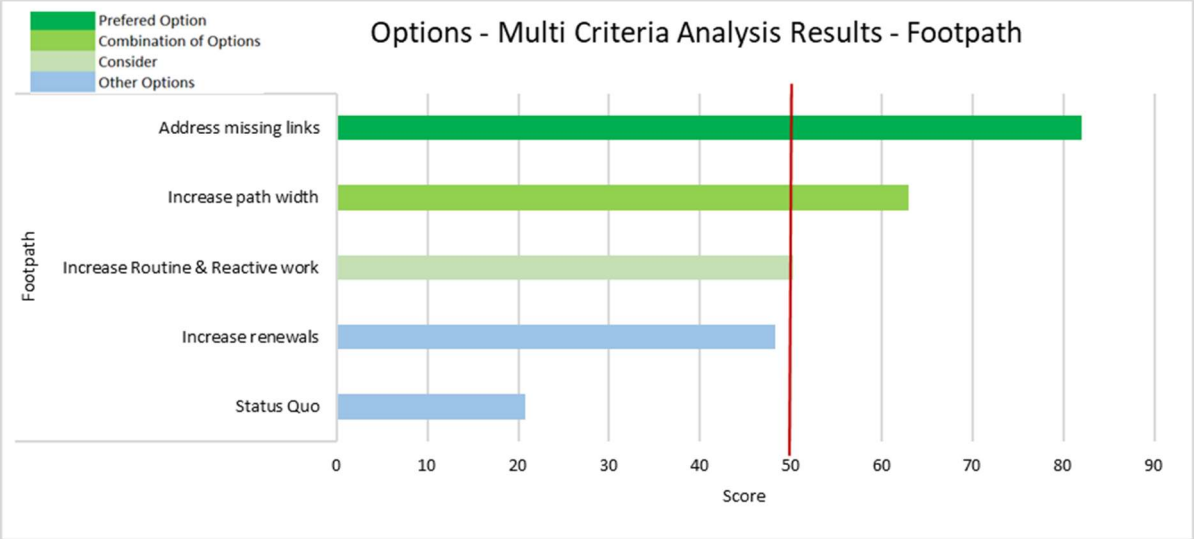
Selwyn Problem Statement	Footpath and Cycleway Considerations
	provided with appropriate warning or demarcation, due to rapid growth and changes in the design standards for pedestrian and cycling facilities. Vulnerable road users may be exposed to increased risk from drivers who are less experienced in considering the needs of users of a range of modes of transport. Perceived or actual safety concerns impact on mode shift efforts and minimise progress on VKT reduction
Development and land use change across a diverse range of urban and rural areas is prompting changes in travel patterns which challenge the transport system suitability and user choice	Footpaths and cycleways need to be fit for purpose, in an environment where increased demand and higher levels of service expectations are evident. Developing a hierarchical approach to management of these assets is in-line with those priorities. Footpaths and cycleways need to encourage customers to increase their use of alternative modes of transport to support mode shift planning and VKT reduction efforts
Growth and changes in travel patterns is impacting the network condition and efficiency	The network is deteriorating at an increasing rate, as a result of constrained investment and changes in demand. Where the condition of paths are poor and frequent repairs are required, this affects the efficiency of network use, exacerbating other system issues. The significant change in urban areas of Selwyn due to growth requires a different asset preservation strategy and investment programme in the future. This is key to ensuring that active modes of travel are viewed as attractive and safe alternatives to dependency on private vehicles

8.5 Options considered

Options identified for consideration include:

	Options
1	Address missing links
2	Increase path width
3	Increase routine and reactive work
4	Increase renewals
5	Status quo

These options have assessed using the multi-criteria analysis detailed in the AMP.



With an increase in the lengths of maintained network, the quantities of some routine maintenance works, which would improve the long-term condition and expected service lives of footpaths and cycleways are increased proportionally. The majority of these increases are resulting from roads which have been vested in the Council as a result of development. These have been built to appropriate design standards and specifications aiming to minimise additional maintenance burdens in line with the Council's level of service.

Planned improvements on the network also provide an opportunity to address footpath maintenance and renewal backlogs, through appropriate design and construction. This also presents opportunities to upgrade priority sites on the network in-line with best practice standards – potentially improving safety, levels of uptake for walking and cycling and user comfort.

In recommending this option, Selwyn District Council believes that additional work to understand and analyse the ongoing impacts of the affordable programme on the condition of the pedestrian and cycling network is required. Selwyn District Council will target improvements in the asset data and data quality they manage for footpaths and cycleways, enabling better decision-making for network asset management and supporting appropriate investment.

New footpaths will be sought through developments (vested assets), Councils low-cost low risk/local road improvement programme and opportunities such as Transport Choices.

8.6 Preferred Programme

	Options
	Maintaining existing paths and address missing links.

Council has made a strategic decision to at least maintain the current levels of service for this activity. This will be delivered through prudent management of existing budgets.

A significant number of upgrades and improvements are to be undertaken as part of Low-Cost Low Risk and unsubsidised capital projects. Council's Walking and Cycling Strategy 2018 currently under review, is the most significant driver of new footpath and cycleway improvement projects.

In general, other new paths are acquired through:

- New paths being constructed by the Council where no path previously existed (the Township Footpath Extensions programme and Major Walking and Cycling Strategy Implementation Projects);
- New footpaths vested in the Council from new urban subdivisions by private developers;
- Upgrading, to improve the level of service, particularly in relation to
    - Special treatments (e.g. interlocking block paving) in township centres and commercial areas;
    - Surfacing of metalled paths.

The Walking and Cycling Strategy provides an integrated approach to active transport, this will highlight the missing links that should be resolved. Safety is a key driver with connections around schools and community facilities being high demand walking routes. At times there is a need to respond to a specific issue raised in a township, or in relation to a shift in demand for footpaths. Safety improvements will be project-based.

There are considerable risks if the preferred programme does not proceed.

The impact of deferred footpath and cycleway maintenance and renewals is a reduction in network condition and customer satisfaction, with a corresponding lower level of service with respect to road user safety.

Analysis of the work being completed under the current investment levels suggests there is a higher risk that more work will need to be deferred in the short-term, placing these assets under increased stress. The long-term implication of the lower investment level represents a larger overall spend on resurfacing and renewal work, and risks subjecting stakeholders to a poorer level of surface as assets continue to decline.

If there is insufficient investment in maintenance, the network cannot be kept in a safe and serviceable condition. This will affect the safety and efficiency experienced by road users. This undermines the connectivity role of Transportation services.

If the network is allowed to deteriorate significantly through very constrained investment, costs will be subject to a huge increase in the long term. The opportunity to invest at the optimal time is lost, and the financial burden placed on future ratepayers and taxpayers will be significant. More footpaths and cycleways will deteriorate to a condition where rehabilitation – or even reconstruction – will become the only economically viable option.

8.7 Investment proposed

Selwyn District Council plans to focus very significant levels of investment.

The preferred, affordable programme for cycle path maintenance planned under Work Category 124 is for a similar level of investment. The asset is relatively new and no key issues have been identified. There is now allocation for cyclepath renewals.

A similar funding request (based on maintenance needs to support both planned and reactive repairs on footpaths) under Work Category 125 is proposed.

A similar increase in funding for renewals under Work Category 225 was progressed in 2021 and it is proposed this only be indexed up to allow for growth in network and costs. A further review of asset condition and renewals is proposed for 2027 when a larger evidence base is available.

Cycleway upgrades form a very significant part of Low-Cost Low Risk projects, Local Road Improvements and Selwyn District Council's unsubsidised capital improvement programmes. Improvements which are prioritised and programmed for delivery through 'Walking and Cycling' funding in the 2024-2034 LTP, in addition to the other improvement works classes, include around $9.6 million investment in projects. Improvement projects which have not met the safety benefit criteria but support complementary benefit delivery for the Selwyn District Council, have been targeted through unsubsidised investment of approximately $6 million.

Work Category	Proposal	Risk
124 Cycle path maintenance	Similar investment to previous three years	Safety and mode shift objectives are compromised
125 Footpath maintenance		Safety and mode shift objectives are compromised
224 Cycle path renewal		None proposed
225 Footpath renewal		Safety and mode shift objectives are compromised

WC	WC Description	Activity Breakdown	24/25	25/26	26/27		27/28	28/29	29/30	30/31	31/32	32/33	33/34
124	Cycle path maintenance	TOTAL	57,240	60,674	63,101		67,392	71,975	76,869	82,096	87,679	93,641	100,009
125	Footpath maintenance	TOTAL	125,280	132,797	138,109		147,500	157,530	168,242	179,683	191,901	204,950	218,887
224	Cycle path renewal	TOTAL	0	0	0		0	0	0	0	0	0	0
225	Footpath renewal	TOTAL	374,760	397,246	413,135		441,229	471,232	503,276	537,499	574,049	613,084	654,774

9 Bridges and Structures Management

Includes:	***Work Category 114*** ***Structures maintenance***	*The routine work necessary to maintain the function, structural integrity and appearance of road bridges, retaining structures, guardrails and railings, footpaths on road structures, pedestrian over-bridges/underpasses, stock access structures and cattle stops.*
	Work Category 215 ***Structural component replacements***	*The renewal of components of road bridges, retaining structures, guardrails and railings, footpaths on road structures, pedestrian over-bridges/underpasses, stock access structures and cattle stops.*

Selwyn District Council does not currently put forward a programme of bridge and structures renewals (Work Category 216) as part of Council's NLTP funding bid.

9.1 Overview

Selwyn District Council bridge assets account for 8% of the total transportation asset group, based on replacement cost. No new bridges or major culverts have been constructed in the last ten years, and a small number of structures have been removed from the Council's Transportation maintenance hierarchy.

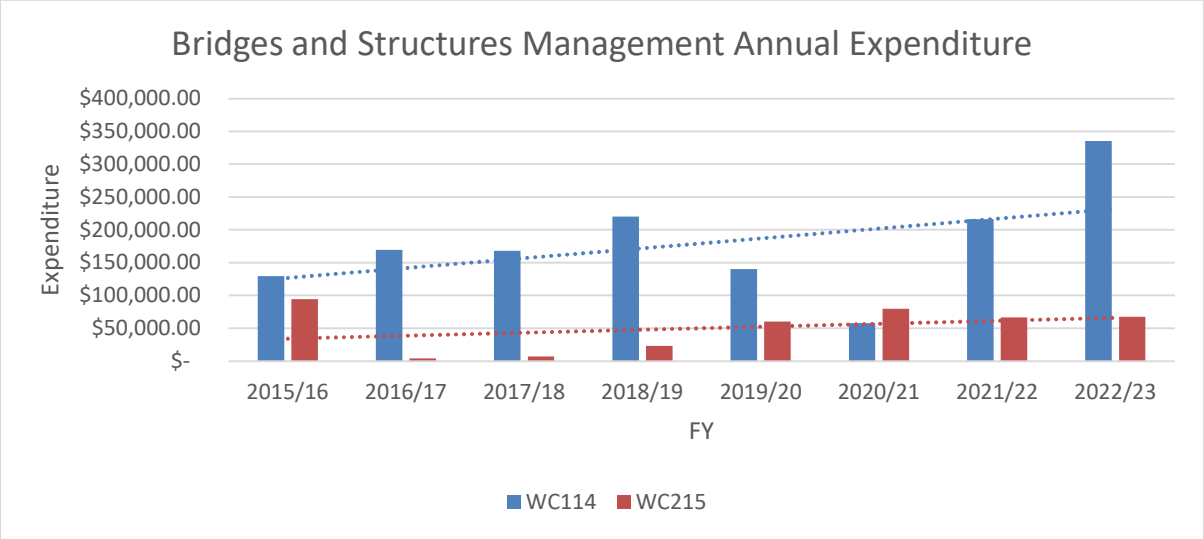
Railings are a very small asset grouping within the transportation assets, with just over 10,000 metres of railings and supporting structure recorded.

There are very few retaining walls so no separate allocation has been made.

9.2 Historic investment

Funding for structures maintenance has increased progressively, while component renewals has varied. The relatively low level of investment indicated bridge stock was generally in good condition.

Over the last here years a full routine and structural assessment has been undertaken, resulting in a detailed work programme. A programme for inspections have been developed and this will ensure information is more timely and accurate in future.



9.2.1 What did we propose in 2018 and 2021?

A 12.5% reduction in funding for structures maintenance - from $232,200 to $203,200 p.a. - was included in the council's 2018-2021 NLTP investment bid based on the typical works undertaken. Structural component replacements investment was retained at 2015-2018 NLTP levels, at $111,700 p.a.

Assessment of bridge condition and lifecycle suggests that there were very few issues with Selwyn District Council's structures. Only 6% of the assets were condition rated as 'Poor' or 'Very Poor'.

The bridge inventory reviewed in 2019-20 comprises of 139 structures, with 141 structures identified in 2016-17. In addition to this, lengths of railings have remained unchanged in the same period. They require routine maintenance in line with the Council's level of service:

- Sweeping, painting, vegetation control, and inspections for defects or deficiencies;
- Waterway scouring or aggradation/debris build-up;
- Damage or deterioration to side protection;
- Wearing or loose deck planks.

9.3 Issues faced

Since 2021, a comprehensive inspection programme has been completed. Council acknowledges this has identified a range of issues not previously considered.

Asset Condition

Based on the Council's knowledge of the structures and recent inspections the majority are generally in good condition.

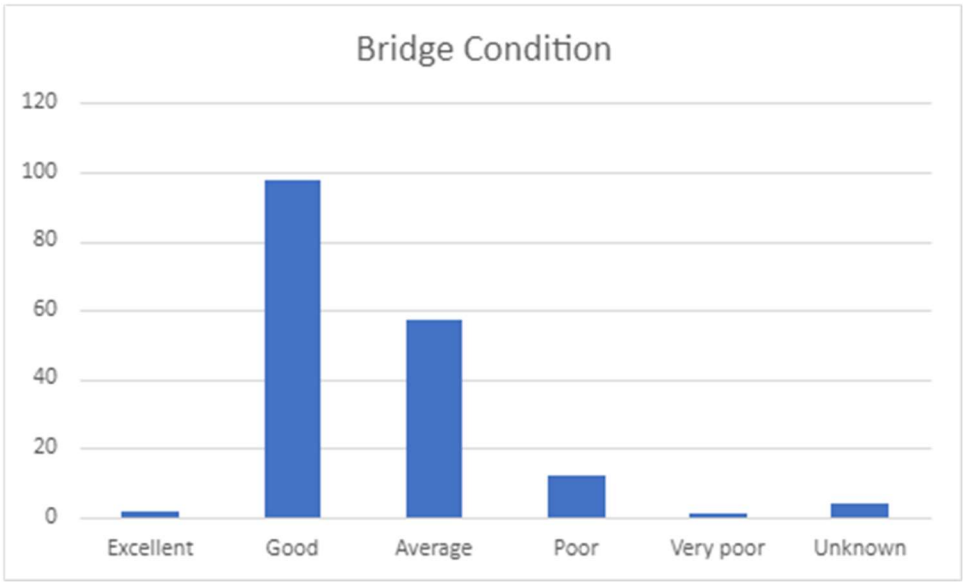
However, there are a range of faults requiring attention, from urgent items through to low priority items. There are two bridges that require significant work, but are still in service.

These results are not currently available but will be integrated into the planning once records are loaded. The inspection programme has been undertaken on a prioritised approach considering":

- Criticality
- If there are alternative routes
- Condition at last inspection
- Where there we no condition records
- Geographic proximity

Up to 2021 the overall condition of bridges across the network was:

Condition	Count of Bridge ID
Average	57
Excellent	2
Good	98
Poor	12
Unknown	4
Very poor	1 (since replaced)
Grand Total	174



Critical bridges

Name	Condition
ACHERON RIVER BRIDGE (C)	Average
RYTON RIVER BRIDGE (T/S)	Average
LEESTON RD SELWYN RIVER BRIDGE	Good
WAIMAKARIRI RIVER BRIDGE (C/S)	Good
POULTER RIVER BRIDGE (C/S)	Good
SELWYN RIVER BRIDGE (C)	Good

9.4 The Case for Change and Strategic Response

Having a robust identification and programme is key to prioritising work and ensuring an appropriate regime is in place for the future.

Selwyn Problem Statement	Structures Management Considerations
The existing network and driver behaviour contribute to an unacceptable number of fatalities and serious injuries	Increased expectations and Level of Service requirements associated with bridges and structures (e.g. guardrailing, vulnerable road user separation, and bridge approach safety interventions) require additional assessment and specialist works to deliver a safe network
Development and land use change across a diverse range of urban and rural areas is prompting changes in travel patterns which challenge the transport system suitability and user choice	Roads need to be fit for purpose, to match Level of Service and customer expectations. The ONRC assists this by taking a hierarchical approach to network management which ensures service delivery in-line with those priorities

9.5 Options considered

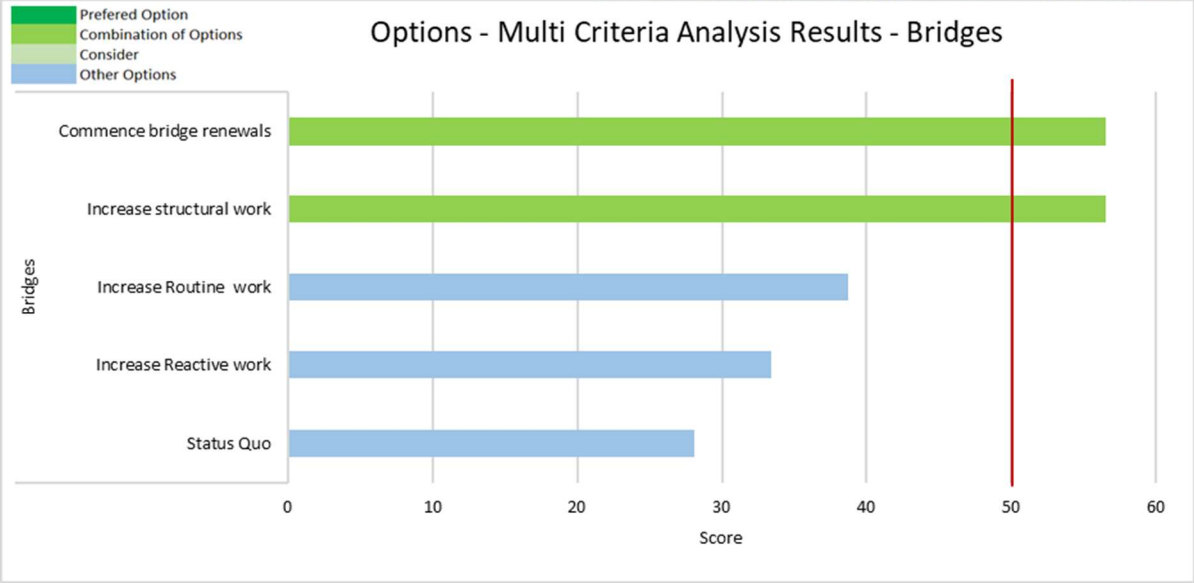
Given the comprehensive identification of work, the main decision relates to the timeframe for rectifying issues versus the funding available. Options considered include:

	Options
1	Commence bridge renewals
2	Increase structural work
3	Increase routine work
4	Increase reactive work
5	Status Quo

One bridge renewal is proposed (Whitecliffs Road at Whitecliffs).

This is discussed separately as it may be included in other programme cases.

These options have assessed using the multi-criteria analysis detailed in the AMP.



9.6 Preferred Programme

	Options
	Combination of increasing bridge renewals and increasing structural work.

Work to address routine maintenance required to bridges and railings will be managed across the urban and rural network. Ensuring that sufficient resourcing of cyclic cleaning and routine maintenance is funded will support efforts to ensure best value can be achieved across the maintenance activities.

From inspections undertaken there is a significant amount of work required. Ideally this would all be done immediately, but this is unaffordable and resourcing the work would be difficult.

Consideration of criticality, the significance of the fault requiring attention, the impact on levels of service and efficiency have been combined to develop the proposal of prioritised work.

The bridge stock is aging, and demands are changing, and further analysis is required to develop a long term (30-50 year) plan. This would highlight where renewals are a viable option.

There are risks if the preferred programme does not proceed, particularly for critical assets and those where there is no alternative access.

9.7 Investment proposed

The preferred, affordable programme planned under Work Category 114 is a small increase based on the cost of works, including Temporary Traffic Management. Significant increases are proposed for addressing issues identified in the inspections.

There is no Bridge Development Programme, as there is currently no identified need for any new bridges over the 2024-2034 LTP 10-year period.

Work Category	Proposal	Risk
215 Structures component replacements	A full structural inspection has now been undertaken across the network and a programme of work is in development. It is proposed that the high priority repairs identified be undertaken along with other repairs on those assets being worked on. This is a significant change with the previous allocation of $100k needing to be increased to $600k.	Issues may remain unresolved and bridges become not 'fit for purpose' works.
216 Bridge and structures renewals	Repairs are under way to keep the Whitecliffs Bridge in service; however, a full replacement is proposed to address the substructure failing and the deck which is not suitable for all users. An allowance is made the year prior to construction for design. (Estimated cost $4 million)	Access is lost, conflict between users continues.

WC	WC Description	Activity Breakdown	24/25	25/26	26/27		27/28	28/29	29/30	30/31	31/32	32/33	33/34
114	Structures maintenance	Bridge maintenance	233,280	247,277	257,168		274,655	293,332	313,278	334,581	357,333	381,632	407,582
		Retaining wall maintenance	0	0	0		0	0	0	0	0	0	0
		Vehicular ferries	0	0	0		0	0	0	0	0	0	0
		Maintenance other structures	0	0	0		0	0	0	0	0	0	0
		TOTAL	233,280	247,277	257,168		274,655	293,332	313,278	334,581	357,333	381,632	407,582
216	Bridge and structures renewals	Bridge renewals	0	461,858	4,322,992		0	0	0	0	0	0	0
		Retaining wall renewals	0	0	0		0	0	0	0	0	0	0
		Other structures renewals	0	0	0		0	0	0	0	0	0	0
		TOTAL	0	461,858	4,322,992		0	0	0	0	0	0	0

This page intentionally left blank

10 Network & Asset Management

Includes:	***Work Category 151*** ***Network and asset management***	*The general management and control of the road network and management of road assets. It includes the management of the road network, traffic and condition surveys and implementation and operation of road asset management systems.*

10.1 Overview

Selwyn District Council is actively involved in the development and adoption of best-practice Asset Management for the New Zealand transportation sector. The Council's teams are working with both Waka Kotahi NZTA and Te Ringa Maimoa deliver on the continuous improvements required.

10.2 Historic investment

Investment levels prior to 2015 had been maintained at around $522,000 p.a. for network and asset management activities. Funding was increased in the 2015-2018 NLTP from $521,700 to $620,400 p.a.

10.2.1 What did we propose in 2018 and 2021?

A significant increase in funding for network and asset management activities - from $620,400 to $1,250,400 p.a. - was requested in the council's 2018-2021 NLTP investment bid.

This was only partially achieved due to funding restraints. Funding in 2020/21 was $989,000, whilst 2021/22 and 2022/23 had $791,500 and $1,300,000 respectively.

10.3 Issues faced

Growth

With the rapidly increasing size and scale of the Selwyn District Council roading network and the complexity of assets involved, there is a need to retain and up-skill our business unit team. There is some reorganisation of the business unit under way to focus on responsibilities for deliverables and share the workload and skill set across the Transport activity.

Other

Council has made a strategic decision to improve the current levels of service for this activity, in-line with long-term national aims for public service delivery and Transportation in New Zealand. This requires continued investment to maintain and develop network management to current best practice standards.

Selwyn District Council currently has many systems, strategies and relationships which support delivery of Transportation activities. These are often supported by specialist software, processes and workflows that require knowledge of members of the in-house team and external Professional

Services staff. Further assessment of service delivery & corporate processes is planned to increase the Council's Asset Management Maturity towards the desired level. Challenges identified in the Asset Management Maturity Assessment were:

- Developing programme level optioneering and choices is considered a significant challenge for the Council's network and asset management activities. Maintenance planning is currently undertaken with limited tactical or strategic support of services delivered through the Council's maintenance contracts.
- No evidence of a corporate or divisional approach to Asset Management. The effectiveness of transportation activity and asset management skills/competencies will be subject to how the cross-departmental functions perform. Potential for lack of asset management integration across transportation activity.
- Risk Management as part of the Transport Activity Management Plan was last reviewed in 2014. Although, several elements are noted as being updated or are proposed to be undertaken. Lack of corporate risk policy is acknowledged and the "acceptable" level of risk for the Council has yet to be determined.
- Improvements listed in 2018-21 improvement planning are not well-aligned with the Transport team's activities. Often improvement items are routine activities/tasks rather than genuine improvements. There is limited evidence of a delivery plan or management of the improvement planning tasks through to completion.

The 2018-28 Transport Activity Management Plan is a developing document which effectively sets the context for the Council's performance and Levels of Service delivery. The investment to support the Transport Activity is clearly set out and explained in detail within this document.

Significant change to the State Highway network in the district (CSM2) is a considerable drain on resources. The continuing growth in residential, commercial and industrial development across areas of Selwyn also creates a very significant workload, supporting the whole of Council and developers to ensure our roading networks can be safe, efficient and fit-for-purpose.

10.4 The Case for Change and Strategic Response

The case for change identified in 2020 for the 2021-24 period remains the same, with the problem statement more evident in 2023.

Selwyn Problem Statement	Network and Asset Management Considerations
The existing network and driver behaviour contribute to an unacceptable number of fatalities and serious injuries.	Identifying and prioritising investment in the Council's road safety programmes and projects through management and analysis of safety data is a critical component of Network Management. Increased traffic volumes and vehicle movements can result in an increased frequency of serious crashes, where existing infrastructure cannot adequately support change.
Development and land use change across a diverse range of urban and rural areas is prompting changes in travel patterns which challenge the transport system suitability and user choice.	Transportation infrastructure needs to be fit for purpose, in an environment where increased demand and higher levels of service expectations are evident. Developing a hierarchical approach to management of these assets is in-line with those priorities.

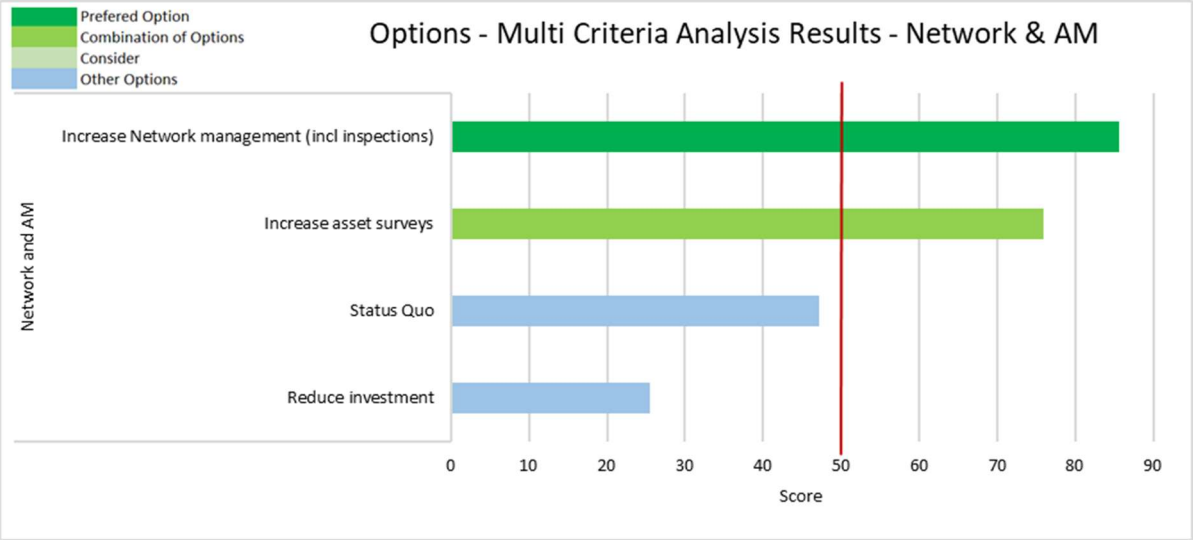
Selwyn Problem Statement	Network and Asset Management Considerations
Growth and changes in travel patterns is impacting the network condition and efficiency.	The significant change in urban areas of Selwyn due to growth requires a different network asset management strategy and investment programme for the future.

10.5 Options considered

Options identified for consideration include:

	Options
1	Increase network management (and inspections)
2	Increase asset surveys
3	Status quo
4	Reduce investment

These options have assessed using the multi-criteria analysis detailed in the AMP.



Opportunities for more sophisticated asset management approaches are being investigated as part of Selwyn District Council Asset Management Maturity and the organisational approach to Asset Management. Network and asset management supports the decision making that enables the transportation activity to serve its users.

Data collection, management and use remains a high priority for the Council. The Transport Asset Information Services Contract remains a key feature of this activity, supported by a strengthened in-house team to ensure institutional knowledge is acquired and maintained.

There will be increased costs associated with undertaking investigations, asset condition rating and options analysis. There are also additional activity costs planned; to undertake High-Speed Data collection on sealed roads, complete more detailed bridge and footpath asset inspections, and increase the skills and capabilities of the Council's in-house professional services business unit through training and support from professional services providers. Theses enable us to manage our assets better as we can understand the condition of our assets, complete more detailed analysis and modelling and ensure we can plan and deliver efficient, best-value programmes of work.

Some optimisation of the Council's in-house professional services business unit is planned to ensure that costs in this category are not going to increase significantly. This includes reviewing the hourly

charging rates and recovering some costs of roading management and regulatory functions from the end user.

10.6 Preferred Programme

	Options
	Increase network management (and inspections)

How professional services costs are provided and allocated to subsidised roading works are strongly influenced by Waka Kotahi NZ Transport Agency's (NZTA) policies and procedures. Ensuring the asset is managed effectively and efficiently using technology, information management and effective decision-making is critical. Operational costs provide for the professional services fees and business unit costs relating to maintenance and operations, which include:

- Management and operation of the Selwyn District Council roading network, including all operational and maintenance activities.
- Preparing contracts for the works and services needed to deliver the agreed levels of service.
- Operation and administration of the Council's transport Asset Management Information Systems.
- Legalising existing road reserves.
- Producing all planning and pre-implementation documentation for capital improvements and upgrades.
- Investigating capital renewals, rehabilitation works and replacements; and
- Managing preventative maintenance.

The systems and services that are funded provide current and historical inventory, rating, assessment and reporting information relating to:

- Traffic data
- Road assets and condition
- Age
- Design lives
- Asset performance and replacement strategies
- Costs
- Customer Service Requests
- Contract management and administration

Selwyn District Council provides cost effective service delivery across these activity areas.

There are considerable risks if the preferred programme does not proceed.

Developing and maintaining best-practice network and Asset Management delivery using both the in-house professional services business unit and external specialists are linked to all of Selwyn District Council's Levels of Service delivery and Performance Measures and outcomes for customers. Insufficient investment in the Council's programme may have significant impacts on effective roading service delivery.

10.7 Investment proposed

A proposed funding bid (based on the business unit operational and management costs) under Work Category 151 is presented in the 2021-2024 NLTP of $989,000 in 2021/22 - and increasing by 1% and 6% in 2022/23 and 2023/24 respectively to $1,057,000 p.a.

Work Category	Proposal	Risk
151 Network and Asset Management	Increase for CCDC ($290k over three years) and 10% increase for additional support.	Insufficient support for planning and programming

Initial request

WC	WC Description	Activity Breakdown	24/25	25/26	26/27		27/28	28/29	29/30	30/31	31/32	32/33	33/34
151	Network and asset management	Network management (incl inspections)	1,182,233	1,253,16	1,303,294		1,391,917	1,486,568	1,587,654	1,695,615	1,810,917	1,934,059	2,065,575
		Network user information	0	0	0		0	0	0	0	0	0	0
		Management of asset inventory systems	506,671	537,071	558,554		596,536	637,100	680,423	726,692	776,107	828,882	885,246
		TOTAL	1,688,904	1,790,238	1,861,848		1,988,453	2,123,668	2,268,078	2,422,307	2,587,024	2,762,941	2,950,821

Revised request

WC	WC Description	Activity Breakdown	24/25	25/26	26/27		27/28	28/29	29/30	30/31	31/32	32/33	33/34
151	Network and asset management	Network management (incl inspections)	1,092,233	1,153,167	1,203,293		1,285,117	1,372,505	1,465,836	1,565,513	1,671,967	1,785,661	1,907,086
		Network user information	0	0	0		0	0	0	0	0	0	0
		Management of asset inventory systems	506,671	537,071	558,554		596,536	637,100	680,423	726,692	776,107	828,882	885,246
		TOTAL	1,598,904	1,690,238	1,761,848		1,881,653	2,009,606	2,146,259	2,292,205	2,448,075	2,614,544	2,792,333

This page intentionally left blank

11 Transport Planning

Includes:	***Work Category 003***	
	Activity management planning	*The preparation and improvement of land transport activity management plans, regional public transport plans, road safety action plans and procurement strategies.*

11.1 Overview

Transportation planning is undertaken by Council staff with specialised assistance from Professional Services consultants.

Encouraging walking and cycling provides positive benefits for health and efficient use of the transportation system. This mode shift where people walk and cycle instead of driving reduces congestion on the motorway which allows the road asset to be used longer before requiring a capacity upgrade.

Wider objectives now include travel demand management activities (TDM) which aims to improve the performance of the land transport system by changing transport demand and travel patterns. This involves behaviour change more than the provision of additional assets. . The purpose of travel demand management is to support efficient and effective use of the transport system, and to reduce the negative impacts of travel and freight movement. Demand management activities influence how, when and where people and freight travel.

The objectives of travel demand management activities are to:

- shape 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, communities and/or New Zealand from a national perspective.

Selwyn District Council's planned improvements and upgrades investment also includes Local Road Improvements, submitted for inclusion in the 2021-31 LTP and RLTP. Improvements which are prioritised and programmed for delivery through the 'Investment Management' activity class.

11.2 Historic investment

Improvements listed in 2018-21 improvement planning as part of the AMP are not well-aligned with the Transport team's activities. Often improvement items are routine activities/tasks rather than genuine improvements. There is limited evidence of a delivery plan or management of the improvement planning tasks through to completion.

The 2018-28 Transport Activity Management Plan is a developing document which effectively sets the context for the Council's performance and Levels of Service delivery. The investment to support the Transport Activity is clearly set out and explained in detail within this document.

11.3 Issues faced

Council has made a strategic decision to improve the current levels of service for this activity, in-line with long-term national aims for public service delivery and Transportation in New Zealand. This requires continued investment to maintain and develop transport and activity management planning to current best practice standards.

The transportation sector is highly regulated, and planning is required to ensure:

- Long Term Planning and consultation occurs as required under the Local Government Act 2002.
- Waka Kotahi NZTA funding application requirements are met, and funding conditions/criteria are complied with.
- Development is managed effectively within the Resource Management Act 1991 and the Regional/Greater Christchurch/District Planning Framework.
- Sustainability objectives are targeted.

Travel Demand Management (TDM), which forms a key element of the 'Investment Management' activity class, was recognised in the Government Policy Statement on Transportation (GPS 2021) as part of other activities and investments as well as being their own standalone initiatives. TDM will be considered as part of programme and activity level business cases and then funded from the most appropriate activity class. Investment in planning and staff capability to deliver on this activity is essential to ensure best value.

11.4 The Case for Change and Strategic Response

Selwyn Problem Statement	Network and Asset Management Considerations
The existing network and driver behaviour contribute to an unacceptable number of fatalities and serious injuries.	Identifying and prioritising investment in the Council's road safety programmes and projects through management and analysis of safety data is a critical component of Network Management. Increased traffic volumes and vehicle movements can result in an increased frequency of serious crashes, where existing infrastructure cannot adequately support change.
Development and land use change across a diverse range of urban and rural areas is prompting changes in travel patterns which challenge the transport system suitability and user choice.	Transportation infrastructure needs to be fit for purpose, in an environment where increased demand and higher levels of service expectations are evident. Actions are also required to progress travel demand management and mode shift planning
Growth and changes in travel patterns is impacting the network condition and efficiency.	The significant change in urban areas of Selwyn due to growth requires a different network asset management strategy and investment programme for the future.

11.5 Options considered

These options have assessed using the multi-criteria analysis detailed in the AMP.

Developing and maintaining best-practice Asset Management Planning using both the in-house professional services business unit and external specialists are linked to all of Selwyn District Council's Levels of Service delivery and Performance Measures and outcomes for customers. Investment will support both the Transportation team and the wider organisation in delivering continuous improvements in a range of services expected to be fit-for-purpose by the community.

11.6 Preferred Programme

Travel Demand Management work will be supported closely by the programme for Work Category 151 and provide inputs to improvement projects which are delivering increased Levels of Service through Public Transport infrastructure and Public Transport services.

There are risks if the preferred programme does not proceed.

Deferring or reducing funding for activity management planning will place additional pressures on budgets which are already constrained.

11.7 Investment proposed

The preferred, affordable programme planned under Work Category 003 for the 2021-2024 NLTP is $50,000 in 2021/22 – with no increase on the approved funding for 2020/21. The total requested for the three year 2021-2024 NLTP period is $149,000. However, the funding under WC003 has not been approved. Instead of using WC 003, activity planning is budgeted within WC151.

12 Minor Events and Emergency Works

Includes:	***Maintenance Work Category 140***	*Enables funding from the National Land Transport Fund (NLTF) for the response to minor, short duration, natural events that reduce service levels on part of the transport network.*
	Minor event	

12.1 Overview

This Work Category (140) ensures some of the National Land Transport Fund (NLTF) maintenance budget is available for unplanned events (e.g. a single, extreme weather event). This budget is to allow for the response to minor, short duration, natural events that reduce service levels on part of the transport network.

Major events which have a significant impact on service levels and unforeseen expenditure are funded from emergency works (Work Category 141) within the NLTF.

Submissions to NZTA for funding under Work Category 140 are managed during the response and recovery phases of dealing with an event on the network. This activity is subject to co-funding criteria for Financial Assistance, requiring local share to be available.

Selwyn District Council has undertaken to complete a further review of funding and emergency reserve required for future events, as this has not been funded by Council in the rapid growth periods of 2015-2018 and 2018-2021. 'Minor event' funding would require Selwyn District Council to make cost adjustments to existing roading budgets – unless alternative discretionary funding sources are available – which is likely to have Level of Service impacts due to reductions in planned programmes or resource availability.

12.2 Historic investment

Maintenance activities from minor events had been accounted for in individual work categories.

12.3 Issues faced

Growth

Increased network and assets, resulting from growth, increases the extent of potential impact and need for recovery works. Urbanisation within the district is also raising Level of Service expectations and the demand for timely recovery.

Asset Condition

Some assets may have increased vulnerability to extreme weather events and emergency situations. This may relate to capacity (e.g., within drainage infrastructure).

Climate Change

Climate change is expected to increase the frequency and severity of extreme weather events and alter weather patterns, including wet dry cycles. These changes increase the risk exposure of the transport network and resilience. The frequency of emergency works may increase as a result.

12.4 Investment proposed

Initial request

WC	WC Description	Activity Breakdown	24/25	25/26	26/27		27/28	28/29	29/30	30/31	31/32	32/33	33/34
140	Minor Events		1,080,000	1,144,800	1,190,592		1,271,552	1,358,018	1,450,363	1,548,988	1,654,319	1,766,813	1,886,956

Revised request: Maintenance activities from minor events are to be accounted for in individual work categories.

WC	WC Description	Activity Breakdown	24/25	25/26	26/27		27/28	28/29	29/30	30/31	31/32	32/33	33/34
140	Minor Events		0	0	0		0	0	0	0	0	0	0

This page intentionally left blank

13 Promotion of Road Safety

Includes:	***Work Category 432*** ***Safety promotion, education and advertising***	*The development and implementation of activities that address the safe use of the land transport network.*

13.1 Overview

Road Safety Promotions (RSP) are national, regional and local campaigns and initiatives to encourage and deliver the behavioural changes required to support the road safety outcomes sought through the Road to Zero activity class.

Implementing national, regional, and local road safety initiatives involves a number of Council staff. Road safety is an integral part of the transportation planning and operations management carried-out by the wider Transportation team. Ensuring that the priority areas of concern for Selwyn District are well understood will underpin the development of road safety initiatives aligned to desired outcomes for the community.
Between the period 2021/22 to 2023/24, a total of $726,330 was allocated to the Road Safety Promotion.

Road safety promotions, education and advertising funded through the Selwyn District Council subsidised Land Transport Programme under NZTA Work Category 432 required a documented plan to target a reduction in deaths and serious injuries on the road network.

Annual national Road Safety risk assessments, published in Waka Kotahi NZTA's "Communities at Risk Register 2019" highlights 14 crash categories and groups them as strategic priorities:

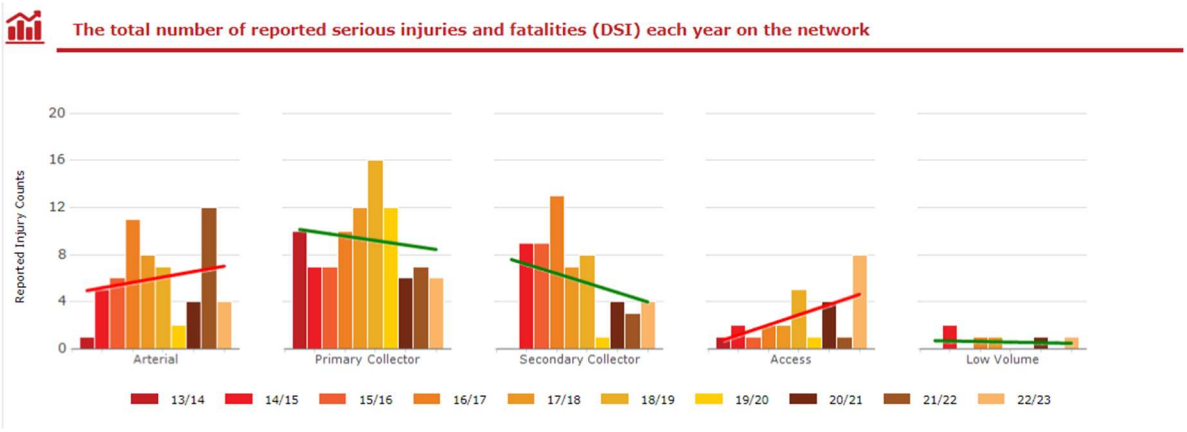
Strategic Priority	Crash Category
High	Alcohol/Drugs Intersections (Rural/Urban/All) Motorcycles Speed/Too Fast For Conditions Rural Roads and Roadsides/Loss of control/Head-on Young Drivers (aged 16-24)
Medium	Distraction/Attention Diverted Fatigue Cyclists Pedestrians
Emerging	Older road users (aged 75 and over) Restraints/Seatbelt Not Worn

Each of the 14 crash categories also ranks each Road Controlling Authorities' levels of risk in each category - based on crashes between 2013/14 and 2018/19 - resulting in a ranking indicating the levels of concern. Selwyn District Council is ranked as having the following crash categories within "High Concern", "Medium Concern" or above-average designations:

- Rural intersections – High concern;
- All intersections – High concern;
- Older road users – High concern;

- Distraction – Above-average.

Whilst these represent the priority areas for the Council, the number of crashes on Selwyn District Council's local road network has been trending upwards on Arterial and Access roads for the ten-year period of 2013/14 to 2022/23. Targeting specific safety deficiencies at sites across the network is intended to support on-going reductions in serious crash numbers.



Between 2017 and 2019, 38% of all crashes in Selwyn occurred at intersections. This amounted to 202 injuries, with 6 fatalities. Between January 2020 and May 2023, a total of 597 crashes were recorded in Selwyn District, resulting in 271 injuries and 5 fatalities. 125 (21%) of these crashes occurred at intersections which led to 76 injuries and 2 fatalities. The severity of crashes at intersections on rural roads is directly related to the higher travel speeds in these areas. Looking but failing to see and failing to stop or give way are large factors impacting these rates. Historic investment in high-risk intersection improvements is delivering a declining trend in serious crashes. Continual interventions will work to further lower the risk posed by intersections.

Selwyn District has an increasing older adult population. Many mature drivers that live rurally in Selwyn rely on driving to maintain their independence and quality of life. Between 2017 and 2019, mature drivers accounted for 9% of all crashes in Selwyn. There were 85 injuries as a result, with 8 fatalities and 26 serious injuries. With the growing crash rate in this demographic, it is a high priority for the Selwyn District and within the Road to Zero Strategy.

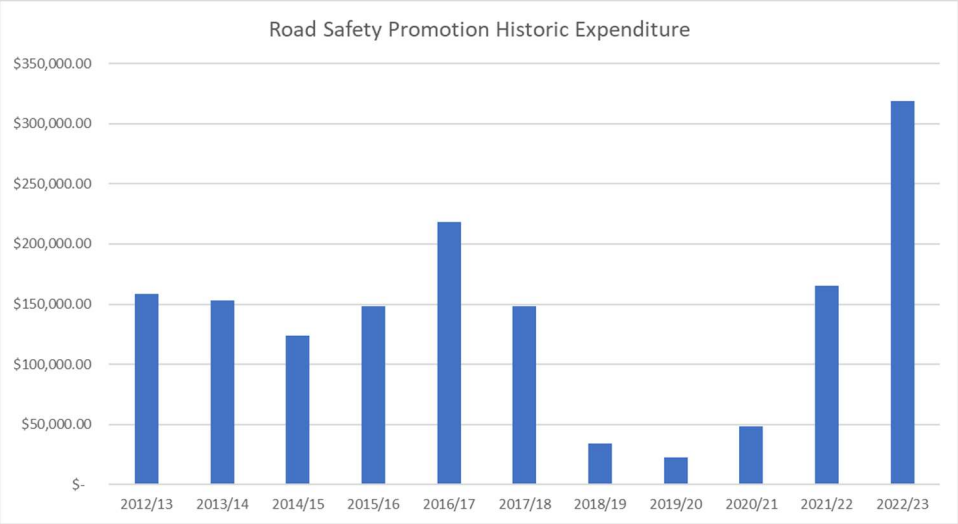
Between 2017 and 2019, there were 88 crashes in Selwyn where distraction/diverted attention was recorded as a contributing factor. The 32 injury crashes resulted in 1 fatality and 13 serious injuries. Collectively fatigue and driver distraction were a causative factor in 16% of all crashes in Selwyn. Between 2017 and 2019, Selwyn had 62 crashes where fatigue was recorded as a contributing factor. The 19 injury crashes resulted in 5 fatalities and 3 serious injuries.

Between 2017 and 2019, young drivers accounted for 27% of all crashes in Selwyn. There were 132 injury crashes, including 4 fatalities and 41 serious injuries. Catering training opportunities to this age group is beneficial in reducing the risk this age group faces. Not solely teaching to drive and pass their test, but to become safe, defensive drivers for life. Initiating involvement in these programmes from when they commence learning to drive is the best point of intervention.

13.2 Historic investment

Selwyn District Council's planned improvements and upgrades investment also includes Local Road Improvements submitted for inclusion in the 2021-31 LTP and RLTP, prioritised and programmed for delivery through the 'Road to Zero' activity class.

Investment levels in road safety promotion had been typically $200,000 to 230,000, this was increased to 291,000 in 2021/22 and was at $363,000 in 2023/24.



13.2.1 What did we propose in 2018 and 2021?

The approved subsidised funding for road safety promotion remained at a similar level to previously, with activities including:

- Delivery of projects and outcomes aligned with the 'Safer Journeys' 2010-2020 road safety strategy.
- Advancing the priorities and initiatives identified in the 'Road to Zero' road safety strategy.
- Achieving safer outcomes by working with communities to identify and address local land transport safety issues.
- Developing and motivating national, regional, and local land transport safety partnerships to ensure an integrated approach to safety outcomes.

In 2022/23 the Road Safety team was restructured and additional staff employed to deliver programmes.

13.3 Issues faced

Growth

The experience of growth and changes in development in the district, resulting in increased traffic volumes, contribute to road safety concerns. Promotion of road safety is a key component of managing risk in relation to increased traffic volumes, residential development and population changes increase mode conflicts.

13.4 The Case for Change and Strategic Response

Selwyn Problem Statement	Transportation Improvements Considerations
The existing network and driver behaviour contribute to an unacceptable number of fatalities and serious injuries.	The growth in population, and changes to land development including urbanisation and expanding residential development increase traffic movements and potential for mode conflicts. Vulnerable road users may be exposed to increased risk. Increased traffic volumes and vehicle movements can result in an increased frequency of serious crashes, Perceived or actual safety concerns impact on mode shift efforts and minimise progress on VKT reduction
Development and land use change across a diverse range of urban and rural areas is prompting changes in travel patterns which challenge the transport system suitability and user choice.	All transportation options should be fit for purpose, in an environment where increased vehicle volumes and modes are evident. Transport environments and road user behaviour need to be fit for purpose to encourage customers to increase their use of alternative modes of transport (active transport achieving wider community wellbeing benefits and contributing to mode shift planning and VKT reduction).
Growth and changes in travel patterns is impacting the network condition and efficiency.	The significant change in urban areas of Selwyn due to growth requires a focus on road safety.

There are considerable risks if the proposed programme does not proceed.

Developing and maintaining best-practice road safety activities using both the in-house professional services business unit and external specialists are linked to all of Selwyn District Council's Levels of Service delivery and Performance Measures and outcomes for customers. Insufficient investment in the Council's programme may have significant impacts for effective delivery of the Road Safety Action Plan and supporting the national and local objectives of the 'Road to Zero' road safety strategy.

13.5 Investment proposed

A proposed funding bid (based on the business unit operational and management costs) for on-going road safety promotion activities included in Selwyn District Council's Road Safety Promotion Continuous Programmes is presented in the 2021-2024 NLTP of $291,000 in 2021/22 – a 32% increase from 2020/21 funding levels - and rising to $363,000 in 2023/24.

WC	WC Description	Activity Breakdown	24/25	25/26	26/27		27/28	28/29	29/30	30/31	31/32	32/33	33/34
432	Road Safety Promotion		395,000	423,000	452,000		470,080	488,883	508,439	528,776	549,927	571,924	594,801

14 Public Transport

Includes:	***Work category 532*** ***Low-cost, low-risk public transport improvements***	• *public transport services* • *public transport infrastructure*
	Work category 561 ***Passenger facilities and infrastructure improvements - bus***	• *The capital cost of all new or improved bus facilities and infrastructure for contracted bus services.*

Selwyn District is responsible for public transport (PT) infrastructure maintenance, renewal and improvements. PT service is provided by Environment Canterbury (ECAN), the regional council. Maintenance and renewal is mostly on bus stop and bus shelters, and funding is requested through ECAN for 24-27 thus not included in SDC's NLTP submission. Bus stop improvements (e.g. new bus shelters and Bus shelter Real-Time Information (RTI) displays) are included in the LCLR program, while Park and Ride facilities are considered major capital improvement.

14.1 Overview

Mode shift is a key strategic priority nationally, regionally and at a local level. In support of this, Council has been involved in the development and planning of key workstreams including:

- **Draft Government Policy Statement on Land Transport 2024:** outlines the Government's priorities for land transport, providing direction and guidance to those who are planning, assessing and making decisions on transport investment for the next 10 years. The Draft GPS 2024 builds on the strategic priorities of the GPS 2021: maintaining and operating the system, increasing resilience, **reducing emissions**, safety, integrated freight system and sustainable urban and **regional development** (**including a focus on provision of a range of low emission transport options**).
- **Keep Cities Moving:** Waka Kotahi's mode shift plan to improve travel choice and reduce car dependency. It aims to improve the quality, quantity and performance of public transport facilities and services, and walking and cycling facilities by making shared and active modes more attractive and influencing travel demand and transport choices.
- **Greater Christchurch Public Transport Futures:** the Interim Mass Rapid Transport Report explores how Mass Rapid Transport (MRT) could work as Greater Christchurch grows over the next 30 years to test the suitability of the selected investment objectives and associated performance measures to adequately inform decision makers on the impact that rapid transit might have against wider policy direction for the region. The Report assesses three scenarios: the use of the existing heavy rail corridor, a street running scenario with limited stops (generally following motorways) and a street running scenario with frequent stops along urban arterials, using either buses or light rail.
- **Regional Mode Shift Plan:** led by Waka Kotahi this Plan highlights opportunities where mode shift can be initiated through integrated planning and design with urban form and public transport to improve its efficiency and appeal. A key issue of this plan is climate change, with a recognition that a significant portion of greenhouse gas (GHG) emissions for Greater Christchurch are attributed to land transport, and that historic land-use patterns and investment have resulted in sprawling urban environments. The plan highlights opportunities where mode shift can be initiated through integrated planning and design with urban form and public transport to improve efficiency and usage of alternative modes of travel.

Passenger Transport is historically provided to Selwyn District through Environment Canterbury (ECan) Regional Transport Committee. While being involved in planning and decision making for public transport across the district and the Greater Christchurch region, Selwyn District Council's role has historically included the provision of supporting infrastructure (bus shelters at specific bus stops etc), with service delivery being administered by ECan.

Capital expenditure for new and upgraded bus stops has been funded from the Minor Improvements Programme budget – or Council's unsubsidised capital programme – prior to the 2018-2021 NLTP, where these upgrades have been identified as appropriate. Repairs and restoration have been undertaken under the Road Maintenance Contract when required.

Passenger Transport was identified as an ongoing priority for the district of Selwyn and is provided in line with the Metro Strategy. The "Yellow Line" is managed and operated by the Public Transport Joint Committee. The committee draws on feedback on public transport issues and ideas in preparation of the Canterbury Regional Public Transport Plan and ECan's Long Term Plan processes.

Council advocates for passenger transport services within the district, ensuring that ECan is notified regarding new subdivisions and community growth. Buses can be routed around these areas, and actively encourage residents to utilise the service.

Provision of supporting infrastructure such as bus stops, and bus priority measures on local roads, form part of Selwyn District Council's management of the transport network. Associated infrastructure (e.g., bus shelters and seating), is provided for through Council's operational and capital expenditure.

Continued management of this supporting infrastructure and advocacy to and participation in Greater Christchurch and Regional planning were progressed in the previous period.

Transportation planning is undertaken by Council staff with specialised assistance from Professional Services consultants. All public transport planning is undertaken in alignment and conjunction with ECan as service providers.

14.2 Issues faced

Growth

Rapid growth and urbanisation within the district is increasing demand for integrated public transport planning and provision and also raising Level of Service expectations. Growth is placing increased pressure on the road network, with capacity constraints becoming apparent. This is in large part driven by the prevalence of single occupancy vehicles. Travel demand management planning requires integrated public transport systems to provide mode choice.

As residential growth has occurred within the district, public transport provision hasn't necessarily aligned with changes to demographics and demand.

Climate Change

The role of public transport in mode shift planning and VKT reduction is a key component of climate change mitigation and emissions reduction that Council is responsible for. Suitable provision of attractive and safe infrastructure to support active modes contributes towards Council's commitment to climate change mitigation actions, and wider community wellbeing benefits.

Public transport provision increases mode choice, reducing dependency on private vehicles (reduced VKTs) and congestion, reducing transport disadvantage and contributing to improved social connectedness and equality. The GPS, aligned with ministerial expectations, identifies the importance of increasing the capacity, frequency and quality of public transport services as critical to our futures.

Increased accessibility and attractiveness of public transport options supports regional and national initiatives for climate mitigation measures that reduce dependencies on private vehicles and the development of more sustainable and efficient transport infrastructure.

Council is committed to supporting mode shift, with a focus on working in partnership with Waka Kotahi, ECan and our Greater Christchurch partners to improve travel choice and reduce short journeys within Selwyn between residential, schools, recreation and commercial activities and to reduce private vehicle use between Selwyn and Christchurch.

As Selwyn District continues to grow, and as we move towards Carbon Neutral 2050, public transport becomes an increasingly important component of the transportation network. To ensure that this can be well utilised and efficient, the appropriate supporting infrastructure and facilities are required to be developed and respond to changing needs. In particular, the analysis forecasts land-use by 2048 will generate sufficient demand to warrant further investigation into some form of high-capacity transit system along the northern and south-western corridors within Greater Christchurch. These scenarios indicate the future direction of mass rapid transport within Greater Christchurch and offers the opportunity to align future public transport infrastructure provision, in alignment with the Regional Council to support and implement this future state.

Other

Council has made a strategic decision to improve the current levels of service for this activity, in-line with long-term national aims for public service delivery and Transportation in New Zealand. This requires continued investment to maintain and develop transport and activity management planning to current best practice standards.

The transportation sector is highly regulated and planning is required to ensure:

- Long Term Planning and consultation occurs in accordance with the requirements of the Local Government Act 2002 and Council's Significance and Engagement Policy.
- Waka Kotahi NZTA funding application requirements are met, and funding conditions/criteria are complied with.
- Development is managed effectively within the Resource Management Act 1991 (and RMA reform outcomes) and the Regional/Greater Christchurch/District Planning Framework.
- Sustainability objectives are targeted.

14.3 The Case for Change and Strategic Response

Selwyn Problem Statement	Network and Asset Management Considerations
The existing network and driver behaviour contribute to an unacceptable number of fatalities and serious injuries.	The provision of public transport contributes to improved road safety outcomes through aligned travel demand management, reducing traffic volumes and vehicle movements. SDC advocacy and implementation of supporting infrastructure contributes to this
Development and land use change across a diverse range of urban and rural areas is prompting changes in travel patterns which challenge the transport system suitability and user choice.	Public transportation provision and supporting infrastructure needs to be fit for purpose, in an environment where increased demand and higher levels of service expectations are evident. Actions are also required to progress travel demand management and mode shift planning
Growth and changes in travel patterns is impacting the network condition and efficiency.	The significant change in urban areas of Selwyn due to growth requires a different network asset management strategy and investment programme for the future. Travel demand management and mode shift planning, including public transport provision and supporting infrastructure are key to this.

14.4 Preferred Programme

Improvement projects which are delivering increased Levels of Service through 'Public Transport infrastructure' and 'Public Transport Services' activity classes will be undertaken.

Council will continue to participate in and advocate for improved transport options within Greater Christchurch.

In support of Council's responsibilities for providing supporting infrastructure for public transport, Council is preparing a Public Transport Infrastructure Plan to encourage consistency in the provision of public transport infrastructure and facilities within the district. The Plan outlines the types of infrastructure which may be appropriate and provides a framework for determining the level of infrastructure required based on demand, projected growth, surrounding facilities and activities and connections to other forms of transport including walking and cycling.

There are risks if the preferred programme does not proceed as the mode shift targeted and commitments to Greater Christchurch multi-party initiatives.

14.5 Investment proposed

The proposed program includes both LCLR and major capital works.

The LCLR programme consists of $180,000 per annum to improve bus stops, shelters and information systems to support public transport services (Metro) in line with the determined levels of service outlined in the Public Transport Infrastructure Plan.

WC	WC Description	Activity Breakdown	24/25	25/26	26/27		27/28	28/29	29/30	30/31	31/32	32/33	33/34
532	*Low-cost, low-risk public transport improvements*		180,000	180,000	180,000		180,000	180,000	180,000	180,000	180,000	180,000	180,000
561	***Passenger facilities and infrastructure improvements - bus***				4,000,000				4,500,000			5,500,000	

The major capital works include the following PT projects over 2024-34.

Program	Year	Base cost/yr
Lincoln 'Park N Ride'	2026/27	$ 4,000,000
Kidman Street Park N Ride	2029/30	$ 4,500,000
Rolleston 'Park N Ride'	2032/33	$ 5,500,000

This page intentionally left blank

15 Capital Works

15.1 Overview

Selwyn District Council has continued to promote and support a very ambitious improvements programme for a number of years. The Council has committed to delivering projects through a significant level of local investment of Capital Improvements budgets. These programmes are aligned with national, regional and local priorities to increase the provision of fit-for-purpose roading assets and Levels of Service, in-line with the growth being experienced in the district.

15.2 Historic investment

Selwyn District Council's planned improvements and upgrades investment also includes Local Road Improvements and Regional Improvements, submitted for inclusion in the 2021-31 LTP and RLTP. Improvements which are prioritised and programmed for delivery through 'Road to Zero' or 'Walking and Cycling Improvements' activity classes.

Selwyn District Council also invests in significant unsubsidised capital renewal and improvement programmes. These have required a step-change in funding from the previous Minor Improvement Programmes and reflect changes in the scope of the activity classes, the scale of response supported and outcomes targeted by Council.

15.2.1 What did we propose in 2018 and 2021?

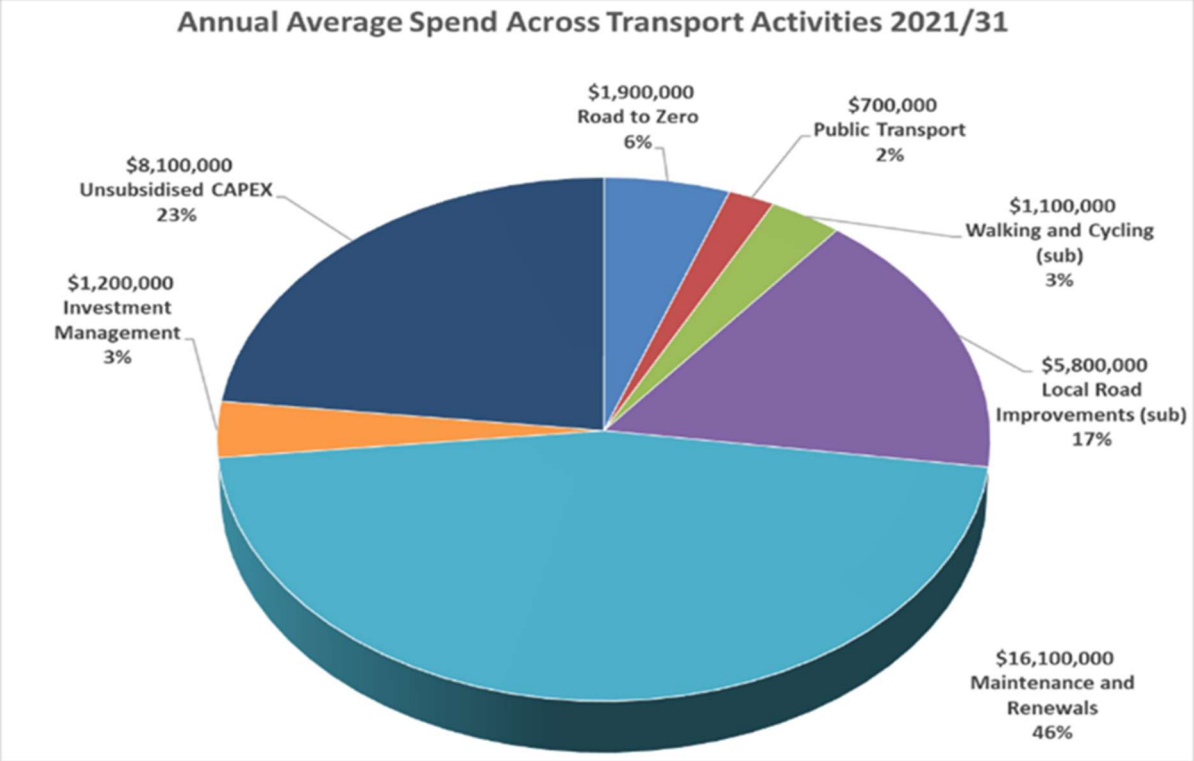
Selwyn District Council had put forward investment cases for major Transportation activity expenditure supporting future service delivery, against a background of local growth levels amongst the highest in New Zealand. Improvements were put forward for both the Rolleston and Prebbleton roading network to cater for the increased and changing traffic movements associated with stages of the Christchurch Southern Motorway (CSM2). The construction of new bridges (at interchanges where bridge structures are used to separate competing traffic streams) to provide improved and more sustainable long-term access from State Highway 1 to Rolleston local roads. Rolleston and Lincoln Town Centre projects included a range of intersection improvements, car parking and urban street and pathway upgrades.

The Transportation Activity Management Plan 2018-2028 set out a high-level programme of improvements investment covering 20 years. Planned investment for the 2018-2028 ten-year period comprised of:

State Highway 1 Rolleston Interchange:	$6 million, fully funded by Waka Kotahi NZTA as a State Highway improvement.
State Highway 1 Grade Separation (Rolleston Overpass):	$30 million
Southern Motorway Extension Stage 2 Rolleston interchange:	$7 million, fully funded by Waka Kotahi NZTA as part of the Southern Motorway Extension project.
Prebbleton Arterial Intersection Business Case projects:	$24.3 million
Rolleston Town Centre Projects:	$20.5 million
Lincoln Town Centre Projects:	$11.9 million

Total Cost for Seal Widening:	$7.6 million
Total Cost for Seal Extensions:	$1.7 million
New cycleways determined to be a high priority by Council:	$7.0 million
TOTAL:	**$116.0 million**

Most of these projects were planned for completion in the first six years of the LTP period.



With the exception of projects planned for the 2021/22 Financial Year, which are made up of the bulk of the committed Rolleston Town Centre improvements, the capital improvement programme for the 2021-2024 NLTP has been scaled-back to reflect the constrained funding situation faced by both the Selwyn District Council (seeking to minimise rates increases) and Waka Kotahi NZTA (needing to account for a $1.3 billion shortfall in transport revenues) as a result of COVID-19 impacts.

15.3 Issues faced

	Growth	Cost Increases	Asset Condition	Climate Change
High				
Medium	■			
Low		■	■	■

Safety

Safety is the key driver for Low-Cost/Low-Risk projects.

Between 2017 and 2019, 38% of all crashes in Selwyn occurred at intersections. This amounted to 202 injuries, with 6 fatalities. Between January 2020 and May 2023, a total of 597 crashes were recorded in Selwyn District, resulting in 271 injuries and 5 fatalities. 125 (21%) of these crashes occurred at intersections which led to 76 injuries and 2 fatalities. The severity of crashes at intersections on rural roads is directly related to the higher travel speeds in these areas. Looking but failing to see and failing to stop or give way are large factors impacting these rates. Historic investment in high-risk intersection improvements is delivering a declining trend in serious crashes. Continual interventions will work to further lower the risk posed by intersections.

Selwyn District has an increasing older adult population. Many mature drivers that live rurally in Selwyn rely on driving to maintain their independence and quality of life. Between 2017 and 2019, mature drivers accounted for 9% of all crashes in Selwyn. There were 85 injuries as a result, with 8 fatalities and 26 serious injuries. With the growing crash rate in this demographic, it is a high priority for the Selwyn District and within the Road to Zero Strategy.

Growth

With the ongoing growth in our district and the development of the Walking and Cycling Strategy and associated Action Plan there is motivation to use newly built cycle infrastructure within and between our urban centres. Investment plans support continued development of the network to link more commuter and recreational cycling opportunities.

Cost Increases

Council has acknowledged that there is a balance between actions and affordability. A structured project moderation process ensures this is addressed systematically.

15.4 The Case for Change and Strategic Response

The case for change identified in 2020 for the 2021-24 period remains the same, with the problem statement more evident in 2023.

Selwyn Problem Statement	Transportation Improvements Considerations
The existing network and driver behaviour contribute to an unacceptable number of fatalities and serious injuries.	The growth in population, driven by arrivals from outside of the Selwyn District, may have expectations of higher Levels of Service experienced elsewhere. This can create an increased risk where road users are not provided with consistent and self-explaining roading infrastructure. Vulnerable road users may be exposed to increased risk from drivers who are less experienced in considering the needs of users of a range of modes of transport. Increased traffic volumes and vehicle movements can result in an increased frequency of serious crashes, where existing infrastructure cannot adequately support change. Perceived or actual safety concerns impact on mode shift efforts and minimise progress on VKT reduction
Development and land use change across a diverse range of urban and rural areas is prompting changes in travel	Transportation infrastructure needs to be fit for purpose, in an environment where increased demand and higher levels of service expectations are evident. Developing a

Selwyn Problem Statement	Transportation Improvements Considerations
patterns which challenge the transport system suitability and user choice.	hierarchical approach to management of these assets is in-line with those priorities. Footpaths and cycleways need to be fit for purpose to encourage customers to increase their use of alternative modes of transport (active transport achieving wider community wellbeing benefits and contributing to mode shift planning and VKT reduction).
Growth and changes in travel patterns is impacting the network condition and efficiency.	The significant change in urban areas of Selwyn due to growth requires a different network asset management strategy and investment programme for the future.

15.5 Options considered

Approximately half of improvement projects (in combined $ value) are expected to be prioritised for inclusion in NLTP, and if approved by NZTA Waka Kotahi, subsidised at the current Funding Assistant Rate (FAR) of 51%. The uncertainty in NTLF co-funding is recognized at the time of preparing the program business case and the council's Activity management Plan. The Council's 24-34 LTP consultation will ask the community on directions on options given the uncertainty. For example, for the three Park n Ride projects identified for 2024-34, the options are to

1. Deliver the projects only if co-funded;
2. Deliver the projects even if not co-funded;
3. Defer the decision to the next NLTP and LTP cycle (i.e. 2027)

There are considerable risks if the preferred programme does not proceed.

Prioritised improvements are linked to all of Selwyn District Council's Levels of Service delivery and Performance Measures and outcomes for customers. Deferring or removing projects from the long-term programme may have significant impacts on effective roading service delivery.

- Selwyn District Council's improvement projects have a strong focus on user safety, targeting improved outcomes within the context of rapidly increasing traffic volumes and road user expectations for busy urban and rural networks. Projects are often packaged into programmes, which are supporting benefit delivery through a number of integrated improvements (such as the Prebbleton Arterial Intersections and the Town Centre Upgrades for Rolleston and Lincoln).

15.6 Investment proposed

Approximately $280 million (uninflated, in 24/25 $) worth of improvement projects have been identified for 2024-34. During 2024-27, there is an average of $37 million worth of improvement projects per year. It is expected that more capital projects will be identified during 2027-34. For Long Term Plan budgeting purpose, an average of $37 million per year for 2024-27 in improvement projects is planned.

15.6.1 Composition of Capital Works

Selwyn District Council's capital programme is extensive and made up of many interrelated parts. The key areas of capital expenditure related to the following drivers:

- Growth in population and urban areas.
- Increase or change in demand (e.g. heavy traffic, passenger transport, walking and cycling).
- Integration with wider projects (e.g. NZUP SH1 Rolleston Access).
- Road safety.
- Town centre projects.

The types of projects eligible for NZTA funding include:

- Local road improvements – Safety (formerly Road to Zero)
    - Intersection upgrades
    - Road upgrades

- Local road improvements
- Public Transport Infrastructure Improvements
- Walking and Cycling Improvements
- Low Cost Low Risk Improvements

Council also undertakes a range of work which does not receive co-funding assistance, including:

- Bridge improvements
- Carpark
- Cycleway
- Entranceway improvements
- Intersection improvements
- Lighting Improvements
- Construction of new roads
- Passenger Transport Infrastructure
- Road Upgrades
- Safety improvements
- Seal Widening
- Undergrounding of utility services

15.6.2 Main Packages for 2024-34

The capital works program consists of projects both subsidised and non-subsidised. Some of the subsidised projects are in the Low Cost Low Risk category. There are four main packages of projects.

1. PT Infrastructure (subsidised)

The PT Infrastructure program, as detailed in the previous chapter, consists of an annual investment of $180,000 in bus stop improvements and 3 Park n Ride facilities:

Project	Year	Budget	Description
Lincoln Park n Ride	2026/27	$4,000,000	new facilities for express and other bus services north of town centre combined with Meijer Dr extension.
Rolleston 1 Park n Ride	2029/30	$4,500,000	formalisation of existing unformed Park N Ride site, to north of Kidman Street in conjunction with Flyover (NZUp related). Includes land value $2M.
Rolleston 2 Park n Ride	2032/33	$5,500,000	new facilities for PT express and/or /MRT services at Jones and Hoskyns Road corner. Coordinate with IPORT & retail. Includes land value $1.6M.
SUM		**$14,000,000**	

2. Road to Zero Safety Improvements (subsidized)

Project	Year	Budget	Description
Goulds & Ellesmere Road Intersection Safety Upgrade	2024/25	$ 150,000	standard rural intersection safety upgrade with widening, median islands, kerbing, lighting and signage to improve safety
Bealey & Telegraph Road Intersection RIAWS Safety Upgrade	2024/25	$ 400,000	installation of Rural Intersection Advance Warning System active signage at key arterial intersection
Selwyn & Springston Rolleston Road Roundabout (SNP)	2025/26	$ 6,000,000	Rolleston arterial intersection safety upgrade on Selwyn Rd arterial route, and adjoining Rolleston 2nd College
Birchs Road Intersections Cycle Safety Upgrade	2025/26	$ 750,000	safety improvements to rural intersections between Prebbleton and Lincoln for the cycleway
Ellesmere Road Arterial Intersections Safety Upgrades	2025/26	$ 2,000,000	The safety upgrade of 6 intersections in conjunction with the seal widening project

Maddisons & Curraghs Road Intersection RIAWS Safety Upgrade	2025/26	$ 250,000	installation of Rural Intersection Advance Warning System active signage at key arterial intersection
Springston Rolleston & Waterholes Road Intersection RIAWS Safety Upgrade	2025/26	$ 225,000	installation of Rural Intersection Advance Warning System active signage at key arterial intersection
Hoskyns Road Arterial Intersections Safety Upgrades	2025/26	$ 1,200,000	The safety upgrade of 5 intersections in conjunction with the seal widening project
Springs & Hamptons Road Roundabout	2025/26	$ 5,000,000	upgrade existing intersection to single lane roundabout, close Trices Road to intersection. Last of 5 RtZ Prebbleton Arterial Intersections Upgrade package.
Shands & Boundary Road Intersection RIAWS Safety Upgrade	2026/27	$ 225,000	installation of Rural Intersection Advance Warning System active signage at key arterial intersection
Selwyn & Robinsons Road Intersection RIAWS Safety Upgrade	2026/27	$ 225,000	installation of Rural Intersection Advance Warning System active signage at key arterial intersection
Selwyn & Dunns Crossing Roundabout (SNP)	2026/27	$ 6,000,000	safety upgrade - key arterial intersection south of Rolleston development areas
Ellesmere & Lincoln Tai Tapu Road Roundabout (SNP)	2027/28	$ 4,500,000	safety upgrade - roundabout at key Lincoln south arterial roads intersection. Proximity to key land drainage infrastructure an issue
SNP Package Projects for 2027-31	2027-31	$ 5,000,000	Total of projects identified in SNP Forward Programme for 2027-31 period by Waka Kotahi
Selwyn & Lincoln Rolleston Road Roundabout (SNP)	2028/29	$ 8,000,000	safety upgrade on Rolleston southern arterial network/future PT route - combine with Selwyn/Weedons Road roundabout that includes 4 lanes between them
Selwyn & Weedons Road Roundabout (SNP)	2028/29	$ 6,500,000	safety upgrade on Rolleston southern arterial/future PT network - combine with Selwyn/Lincoln Rolleston Road roundabout
Feredays & Willis Road Rural Intersection Upgrade (SNP)	2032/33	$ 2,000,000	safety upgrade - reconfigure multi leg rural intersection
SUM		**$ 48,425,000**	

3. Rolleston SH1 Access (NZUp Coordinated, subsidised)

Below are Key Council projects required for integration and coordination with planned NZUP SH1 Rolleston Upgrade by NZTA Waka Kotahi.

Project	Year	Budget	Description
Dunns Crossing & Burnham School Road Traffic Signals (SNP)	2024/25	$ 4,000,000	Safety upgrade, including for safer pedestrians/school crossing. Use raised platform. Combine with Dunns Crossing Widening Stage 1 (NZUp related).
Levi Road Widening	2024/25	$ 600,000	850m Levi Road to Weedons Interchange arterial link beyond that developer provided (NZUp related)
Two Chain Road Widening Stage 1	2025/26	$ 1,500,000	2.1km seal widening between Walkers Road and Wards Road - link to Rolleston Industrial Zone (NZUp related)
Walkers Road & Two Chain Road Roundabout	2025/26	$ 2,500,000	safety upgrade - Rolleston Industrial Zone southern link (NZUp related)
SH1 Dunns Crossing Road Cycle Underpass Pathways	2026/27	$ 1,500,000	Coordinate with the NZUP SH1 Dunns Crossing Roundabout and installation of the cycle underpass with connecting ramps and local paths on both sides of SH1. As agreed with Waka Kotahi SDC contribution.
Dunns Crossing Road widening Stage 1	2026/27	$ 300,000	450m seal widening west side between Newmans Road and Lowes Road. Combine with traffic signals Burnham School Road. Extent hampered by power poles, and possible adjoining plan changes (NZUp related)
Jones Road & Two Chain Road Realignment	2026/27	$ 3,500,000	safety upgrade (includes rail level crossing) - Rolleston Industrial Zone southern link (NZUp related)
Levi Road and Weedons Road Cycleway	2028/29	$ 500,000	1.6km Shared use path to Weedons Interchange beyond that provided by urban development (NZUp related) Combine with Levi Road widening Project.
Jones Road Cycleway	2029/30	$ 750,000	1.3km Hoskyns Road to Weedons Interchange - links to Rolleston to Templeton Cycleway (NZUp related). Likely requires property purchase along north side of Jones Rd to accommodate
Levi & Weedons Road Roundabout	2032/33	$ 4,000,000	part of Levi Road Weedons Interchange arterial link (NZUp related)
SUM		**$19,150,000**	

4. Lincoln Town Centre (mostly non-subsidised)

Project	Year	Budget	Description
Lincoln South Public Car Parks	2024/25	$ 1,600,000	town centre public parking south Gerald Street in support of main Street upgrade using 11 Gerald St to 3 Maurice St

Gerald Street Eastern End Upgrade	2024/25	$ 15,000,000	Lincoln town centre main street multimodal and amenity upgrade to create slow speed core between Kildare Terrace and West Belt. Includes traffic signals at West Belt
Lincoln North Public Car Parks	2025/26	$ 1,550,000	town centre public parking north Gerald Street in support of main Street upgrade using 16 William to 15/15A William St
Gerald Street & Vernon Drive Traffic Signals (SNP)*	2026/27	$ 3,500,000	Combined with the transitional section town centre upgrade of Gerald St
Gerald Street Transitional Section Upgrade	2026/27	$ 7,500,000	Lincoln town centre main street multimodal upgrade between West Belt and Vernon Drive. Traffic Signals at Vernon Dr separated out as funded by RtZ
Gerald Street Western End Upgrade	2027/28	$ 3,400,000	Lincoln town centre main street multimodal upgrade between Vernon Drive and Springs Road. Traffic signals at Springs Rd separated for PC69 requirements
Spring & Gerald Street Traffic Signals	2027/28	$ 5,500,000	Combined with Gerald Street Western section town centre upgrade but may need to be aligned with PC69 ODP developer outcomes
Gerald & Birchs Road Traffic Signals	2029/30	$ 7,700,000	Lincoln town centre intersection upgrade that includes improving crossing and connectivity for Rail Trail to town centre and University
SUM		**$ 45,750,000**	

Note:

* NLTF subsidy expected.

15.6.3 Prioritisation of Capital Works for 24-27

Given the uncertainty in NZTA co-funding and LTP funding availability, capital projects in transport have been classified into the following categories to inform prioritisation.

Business As Usual:

Annual Projects

Priority 1:

Nationally Moderated by Waka Kotahi

Priority 2:

Financial assistance from Waka Kotahi expected, and supported through the Canterbury Regional Land Transport Plan

Priority 3:

Projects where there is a Development Contribution

Priority 4:

Projects funded by Council alone

The table below contains annual projects, which is a mixture of subsidised and un-subsidised projects. They cover Business as Usual annual expenditures in improvements. The $3 million Supplemental Transport Funding covers emergency works, unexpected cost increases, and other priorities of the council.

Project	Category	Annual
Rural Road Intersection Safety Programme*	LC/LR	$ 400,000
Intersection Seal-back Safety Programme	LC/LR	$ 375,000
Greater Christchurch Bus Stop Improvement Programme	LC/LR	$ 180,000
Township Footpath and Crossings Programme	LC/LR	$ 300,000
Supplemental Transport Funding		$3,000,000
Developer Coordinated Works		$ 150,000
Non-Subsidised Street Cleaning		$ 250,000
Vehicle Entranceways		$ 200,000
Project Forward Planning		$ 100,000
SUM		**$4,955,000**

Notes

* Rural Intersection Safety Upgrade Programme:

These are not projects identified through the Safe Network Programme but are part of an ongoing improvement programme developed by Council.

Coordinated upgrades to improve alignment, delineation, drainage and lighting to improve safety and performance on an integrated basis per intersection. 4 - 6 rural intersections per year

** Intersection Seal Backs Programme:

Discretionary funding to carry out 100m seal backs on unsealed roads to stop gravel drift safety and improve braking stopping distances. Approx. 4-6 per year. Has been identified in NZTA technical audits.

The table below shows projects included in the 24-27 NTLP co-funding application.

	24/25	25/26	26/27	Total
LCLR Local road improvements	4,020,000	8,370,000	4,220,000	16,610,000
LCLR Walking and cycling improvements	300,000	300,000	3,300,000	3,900,000
LCLR Public transport infrastructure	180,000	180,000	180,000	540,000
Selwyn & Dunns Crossing IS SNP	0	0	6,000,000	6,000,000
Springston Rolleston & Selwyn IS SNP	0	6,000,000	0	6,000,000

Springs & Hamptons IS SNP	0	5,000,000	0	5,000,000
Dunns Crossing Rd & Burnham School Rd IS SNP	4,000,000	0	0	4,000,000
Lincoln Park N Ride	0	0	4,000,000	4,000,000
Gerald & Vernon IS SNP	0	0	3,500,000	3,500,000
Hoskyns Road Widening Stage 1	0	3,500,000	0	3,500,000
Jones Road - Two Chain Road Realignment	0	0	3,500,000	3,500,000
Walkers Road - Two Chain Road Roundabout	0	2,500,000	0	2,500,000
SUM	**8,500,000**	**25,850,000**	**24,700,000**	**59,050,000**

The individual projects in the LCLR program categories are shown in the table below.

Activity name	Funding source	24/25	25/26	26/27	Total
Prebbleton to City Cycle Link	Walking and cycling improvements			1500000	1500000
SH1 Dunns Crossing Road Cycle Underpass Pathways	Walking and cycling improvements			1500000	1500000
Township Footpath and Crossings Programme	Walking and cycling improvements	300000	300000	300000	900000
Greater Christchurch Bus Stop Improvement Programme	Public transport infrastructure	180000	180000	180000	540000
Waimakariri Gorge Rd Guard Rail Stage 2	Local road improvements	200000			200000
Intersection Sealback Safety Programme	Local road improvements	375000	375000	375000	1125000
Rural Road Intersection Safety Programme	Local road improvements	400000	400000	400000	1200000
Mathias Street Level Crossing Upgrade	Local road improvements	300000			300000
Dunns Crossing Road widening Stage 1	Local road improvements			300000	300000
Hamptons Road Widening	Local road improvements		750000		750000
Weedons Ross Rd Seal Widening Stage 2	Local road improvements	450000			450000
Levi Road Widening	Local road improvements	600000			600000
Brookside Road & Rolleston Drive Roundabout	Local road improvements			1500000	1500000
Two Chain Road Widening Stage 1	Local road improvements		1500000		1500000

TDM Package	Local road improvements	175000	175000		350000
RtZ - Ellesmere Rd Arterial Intersections Upgrade Package	Local road improvements		2000000		2000000
RtZ - Selwyn School Safety Infrastructure Programme	Local road improvements	470000	470000	470000	1410000
RtZ - Bealey & Telegraph IS SNP	Local road improvements	400000			400000
RtZ - Shands Rd & Boundary Rd IS SNP	Local road improvements			225000	225000
RtZ - Selwyn & Robinsons IS SNP	Local road improvements			225000	225000
RtZ - Maddisons & Curraghs IS SNP	Local road improvements		250000		250000
RtZ - Goulds & Ellesmere Junction IS SNP	Local road improvements	150000			150000
RtZ - Certified Speed Management Plan - Selwyn SNP	Local road improvements	500000	500000	500000	1500000
RtZ - Hoskyns Rd Arterial Intersections Upgrade Package	Local road improvements		1200000		1200000
RtZ - Birchs Corridor Package	Local road improvements		750000		750000
RtZ - Springston Rolleston & Waterholes IS SNP	Local road improvements			225000	225000

The table below shows projects with no NLTF subsidy expected for 2024-27.

Project	DC Eligible	Year	Budget
Lincoln South Public Car Parks	Yes	2024/25	$ 1,600,000
Gerald Street Eastern End Upgrade*	Yes	2025/26	$ 15,000,000
Lowes Masefield Intersection Upgrade**	Yes	2024/25	$ 5,604,000
East Maddisons Road Upgrade	No	2024/25	$ 300,000
Ellesmere Road Seal Widening	Yes	2024/25	$ 3,000,000
Birchs Road Kakaha Park Upgrades		2024/25	$ 300,000
PT Futures Selwyn Infrastructure Business Case		2024/25	$ 75,000
Rolleston Access Local Road Upgrades Business Case		2024/25	$ 75,000
Lincoln North Public Car Parks	Yes	2025/26	$ 1,550,000
Meijer Drive Extension	Yes	2025/26	$ 3,500,000
Rolleston Public Carpark 4 & Service Lane	Yes	2025/26	$ 1,100,000
Public Carpark and Walkways Light Renewal to LED		2025/26	$ 250,000
Castle Hill Dark Sky Street Lighting Controls		2025/26	$ 50,000
District and Township Signage Implementation		2026/27	$ 700,000
Tennyson & Moore Street Roundabout	Yes	2026/27	$ 2,500,000
Moore Street Extension	Yes	2026/27	$ 1,800,000
Gerald Street Transitional Section Upgrade	Yes	2026/27	$ 7,500,000
Coes Ford Upgrade Feasibility Study		2026/27	$ 50,000
Coleridge Tail Race Bridge Replacement Contribution		2026/27	$ 500,000
Gerald Street Western End Upgrade	Yes	2026/27?	$ 3,400,000
Springs & Gerald Street Traffic Signals	Yes	2026/27?	$ 5,500,000
SUM			**$54,354,000**

Notes:

* Including $7.65m budgeted for 23/24 which will mostly be carried forward into 24-27.

** Including $3.5 million budgeted for 23/24 which will mostly be carried forward into 24-27.