Transportation Activity Management Plan 2024-27

Version 0.6

Ashburton DISTRICT COUNCIL

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Document Control

Revision	Status	Author	Reviewer	Date
0.1	Draft Submission	Ravi Trivedi	Mark Chamberlain	August 31, 2023
0.2	NZTA Submission Section 1.5, 7.9 Reduction in MOR Budget Section 1.4.6, 3.2.6 Public Transport inclusion in problem statement Section 11.2 Appendix B: LCLR programme list updated	Ravi Trivedi	Mark Chamberlain	December 8, 2023
0.3	Table 3-1 Strategic Alignment updated with draft GPS Table 5-1 End of Year Performance updated Table 9-2 Transportation Funding Forecast updated	Ravi Trivedi	Mark Chamberlain	March 12, 2024
0.4	Section 1.5, 7.9 and Table 7-3 updated with the GPS new activity classes	Ravi Trivedi	Mark Chamberlain	June 3, 2024
0.5	Section 9.6 Alignment with Long-Term Plan 2024-34	Toni Durham		June 14, 2024
0.6	Section 1.5, 4.6, 4.10, 5.4, 7.9, 11.1.2 Table 7-3, 9.1, 10.1 Figure 5.2, 5.3, 5.4, 5.6, 6.1, 7.2, 7.3, 7.4, 7.5	Ravi Trivedi	Mark Chamberlain	September 27, 2024

Approvals

Name	Title	Signature	Date
Mark Chamberlain	Roading Manager		September 27, 2024
Neil McCann	Group Manager Infrastructure and Open Spaces		October 3, 2024

Abbreviations

The following are abbreviations used within this document;

ADC	Ashburton District Council
AMP	Activity Management Plan
ARC	Aoraki Roading Collaboration (Ashburton, Mackenzie, Timaru, Waimate District Councils)
CAR	Corridor Access Request
CBD	Central Business District
CCDC	Consistent Condition Data Collection
CTOC	Christchurch Transport Operations Centre
ECAN	Environment Canterbury (Canterbury Regional Council)
FWP	Forward Works Programme
FY	Fiscal or Financial Year
GPS	Government Policy Statement
HCV	Heavy Commercial Vehicle (includes large agricultural machinery)
HPMV	High Productivity Motor Vehicle
IDMF	Investment Decision Making Framework
LCLR	Low Cost Low Risk Programme
LTP	Long Term Plan (Ashburton District)
NLTP	National Land Transport Programme
NZTA	New Zealand Transport Agency
ONF	One Network Framework
ONRC	One Network Road Classification
PT	Public Transport
RCA	Road Controlling Authority
REG	Road Efficiency Group
RLTP	Regional Long Term Plan
STL	Structural Treatment Lengths
TIO	Transport Investment Online
TMP	Traffic Management Plan
VKT	Vehicle Kilometres Travelled
VPD	Vehicle Per Day
WIM	Weigh-In-Motion

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1. Executive Summary

1.1. District Overview

Ashburton District is located in the heart of the mainland bordered by the Southern Alps and Pacific Ocean and neighbouring the Selwyn, Timaru, Mackenzie and Westland Districts.

Our population now numbers 36,300 (2022), a 15 % increase since 2012, and it's forecasted that we will experience a 17 % increase over the next 30 years.

The district supplies local, national and international markets with significant amounts of agricultural products and services.

Ashburton District's GDP growth measured at 5.1% in March 2022, compared to 5.3% national growth.

Our temperate climate provides beneficial conditions for the rural economy and extreme weather conditions are relatively infrequent.

The open plains topography provides flat straight roads and the underlying gravels mitigate rain events (where not extreme).

Ashburton has the fifth largest road network in New Zealand, covering over 2600 km, with 58% sealed. Urban roads account for 225 km, clearly reflecting Ashburton's core rural outlook.

The roading component of the rates intake comprises 23% of the total.

1.2. Strategic Direction

An essential purpose of local government is to promote the social, economic, environmental, and cultural well-being of communities in the present and for the future.

For the transportation activity this means, in simple terms, that we provide users with a network that enables safe, effective and fit-for-purpose journeys.

Our users include (but are certainly not limited to) residents, tourists, pedestrians, truck drivers, cyclists, commuters, goods and service suppliers, schoolchildren, motorcyclists, farmers, the disabled and physically challenged, and shoppers.

This reflects a diverse community, and presents a challenge to ensure transportation provision and management is both equitable and economical.

Desired community outcomes (informed by community consultation) drive Council's planning framework and influence which services are provided, and to what levels.

Outcomes are realised through various maintenance and renewal programmes, and road safety community action plans.

Targets are set where specific levels of performance are sought, and performance measures are used to indicate whether we are delivering our promised levels of service. Where levels of service are not met, analysis and reviews are undertaken to find out why, and appropriate solutions actioned.

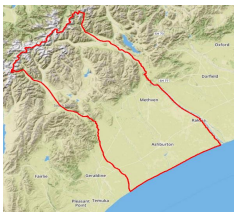
It is important to ensure connectivity between core national, regional and local policies and plans;

- Investment Decision Making Framework (IDMF)
- National Land Transport Plan (NLTP)
- Government Policy Statement (GPS)
- Regional Land Transport Plan (RLTP)
- One Network Framework (ONF)
- Ashburton District Long Term Plan (LTP)

These documents encompass many of the same priorities and outcomes including; ensuring network users' safety, providing multi-modal transportation options, achieving value for money, providing economic and social benefit, minimising environmental impacts, identifying and managing risks, and enabling and improving resilience.

1.3. Transportation Assets

Ashburton District Council manage the following assets with a total assets replacement cost of $574,647,000 (as of 30 June 2023). With an Optimised depreciated replacement cost of $366,000,000. Annual depreciation for 2023 is $9,083,000. As of June 2023, ADC roading assets are as follows:



Ashburton Districts

Roads 2,622 Km

Sealed Road

1,522 Km

Unsealed Road

1,100 Km

Bridges

188 each

Kerb & Channel

293 Km

Footpath

257 Km

Cycle lanes

9.7 Km

Traffic Signals

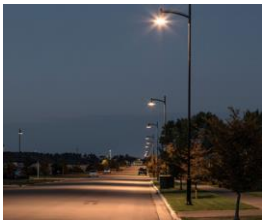
20 each

Road Signs

10,444 each

Road Marking

1,207 km



Streetlights

3,294 each

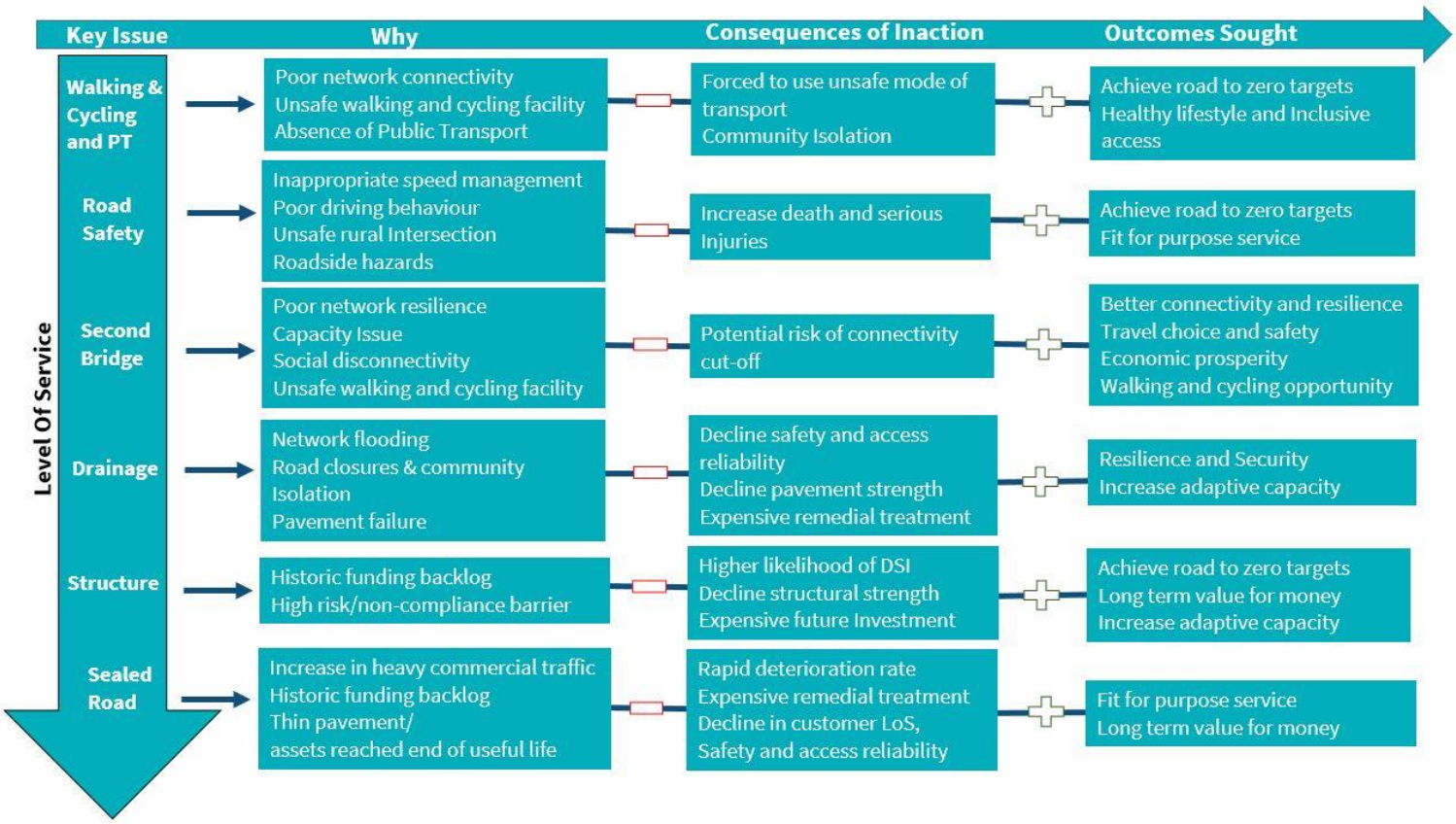
W Section Guardrails

133 each

Other assets including:

- Berms = 456,040 m^2
- Sight Rail (timber) = 654 each
- Traffic Island = 239 each

1.4. Key Issues



1.4.1. Deteriorating Rural Sealed Roads

Heavy commercial/agricultural vehicles are increasing in both tonnage and number combined with the district's thin and structurally inadequate pavements resulting in increased pavement failures. Predominantly our rural sealed road network is experiencing increased failure due to the age of the network, historic underspend in maintenance and renewals and the high cost escalations causing a further delay in remedial works.

To address these problems, additional funding investment is required to address the historic backlog and ensure we are achieving value for money while enabling the network to remain safe and accessible.

1.4.2. Bridge and Structure

Ashburton District Council's structure maintenance has been underfunded for some time with resulting lack of maintenance the condition of many bridges deteriorating. In particular, the Wills Street rail footbridge is 106 years old and in need of maintenance and renewal work, an action council has programmed component replacement and maintenance works for 2025/26 FY.

Also, many ADC bridges are narrow and in a high-speed environment which increases the likelihood of a crash occurring at or on the bridge. Non-compliant signs and barrier systems attached to the structures increase the likelihood of death and serious injury if a crash occurs at the bridge.

To address these problems, increasing structure maintenance and component replacement funding is required for provision of safe and secure network access throughout the district.

1.4.3. Drainage

The Ashburton district is generally flat, so appropriate drainage is necessary to ensure water is kept off and directed away from the pavement. However, climate change has affected the intensity and frequency of storm events as such runoff and overland flow from intense rainfall results in network flooding, road closures and pavement failures.

To address these problems, increasing routine drainage maintenance and construction (especially rural roadside swale drainage) is required to aid in keeping water away from the pavement. Strengthening the remote access routes and strategic planning is required to provide secure network access throughout the district.

1.4.4. Ashburton-Tinwald Connectivity

The Ashburton River Bridge on State Highway 1 (SH1) connects two parts of our district and currently only one practical connection between Ashburton and Tinwald township. This means that network resilience is very poor, and the connectivity and economic prosperity problem would be significantly affected by any event that either closes the State Highway 1 Bridge or restrict the traffic movement.

A detailed business case has been presented to NZ Transport Agency to demonstrate the need for a second Ashburton River bridge between Ashburton and Tinwald township. The government's strategic Investment programme (GPS 2024) has identified the Ashburton second urban bridge project as a Road of Regional Significance. The focus is around achieving a total transport system solution which provides better connectivity and travel choice while improving a greater resilience, safety and economic prosperity.

1.4.5. Road Safety

The GPS 2024 outlines that efficiently improving road safety is a key priority. The focus is on the premise that all network users should be protected, and the causes of crashes should not necessarily dictate the outcome.

Council has identified intersections, speed, roadside hazards and schools as key areas to implement safety improvements. Project identification is achieved through both crash history and risk analysis.

1.4.6. Walking and Cycling, and Public Transport

Transportation is more than just cars and trucks, and enabling journey choices for all network users is an important part of achieving acceptable living standards. Young and aged people who unable to drive and people with physical disabilities should have public transport that is safe and easy to use. Inclusive access, healthy options and environments, and safe transport corridors are all part of Council's aspirations for our community.

With the council Walking and Cycling strategy and incorporating other local, regional and national policy drivers, specific projects and longer-term plans will be generated to meet the needs of our walkers and cyclists in all their forms.

1.5. Finance

The funding that our Network needs;

Activity Type	2024/25	2025/26	2026/27
Local Road Pothole Prevention Activity Class	$13,170,000	$13,686,000	$14,235,000
Local Road Operation Activity Class	$5,978,000	$5,113,500	$5,248,500
Walking and Cycling Activity Class	$1,274,500	$1,328,000	$1,380,000
Road safety Promotions Budget	$316,000	$316,000	$316,000
Low Cost Low Risk Capital Project	$4,300 ,000	$4,122 ,000	$3,668,000
Bridge Renewals	$0	$250,000	$455,000
Total Budget	$25,038,500	$24,815,500	$25,302,500

To ensure the transportation activity is meeting the council's responsibilities and maintaining the roading assets at their desired state, the council is required to invest an average of $22.7 million per annum for Pothole Prevention, Operation, Walking and Cycling and Bridge Renewals activity over the 2024-27 period. This represents an increase of 58% ($7.5 million per year) funding from the 2021-24 period, due to both the substantial cost escalation, and the historic funding backlog to provide fit-for-purpose services.

The Council's financial strategy aim is to keep rates affordable while maintaining the level of service. Maintaining the roading assets at their desired state will significantly impact the council's affordability.

It is the Council’s view that maintaining the affordability and meeting community expectations can be achieved by 18% (including bridge renewals) funding increase with a 11.8% rate increase in 2024/25 FY. However, there is likely to be increased pressure on maintaining the level of service, which will result in the need for substantial funding investment during the 2027-30 period to fill the existing funding gap. The 2024-27 requested funding is as below,

The funding that Council Can afford;

Activity Type	2024/25	2025/26	2026/27
Local Road Pothole Prevention Activity Class	$10,905,000	$10,380,000	$11,415,000
Local Road Operation Activity Class	$3,715,739	$4,095,739	$3,675,739
Walking and Cycling Activity Class	$1,014,000	$982,240	$825,840
Road safety Promotions Budget	$316,000	$316,000	$316,000
Low Cost Low Risk Capital Project	$4,300 ,000	$4,122 ,000	$3,668,000
Bridge Renewals	$0	$250,000	$455,000
Total Budget	$20,250,739	$20,145,979	$20,355,579

2. Introduction

2.1. Overview

Ashburton District is a predominantly rural council responsible for one of the largest district road networks in New Zealand. The network includes a mixture of settled urban townships and a substantial rural road network primarily on the lowland Canterbury plains. In total the local road network covers over 2600 km, comprising sealed and unsealed roads. The sealed network is gradually extending as new subdivision development roads are added.

Ashburton District Council operates and maintains a large network of public roads and footpaths that enables the safe, convenient and appropriate movement of people through and within the district.

This network is the pathway for transporting products to local and international markets and plays an essential role in supporting the local, regional and national economies. It is also the conduit for the community to carry out their business, leisure and social activities in a safe and reliable way that is fit for purpose and meets their expectations and needs.

The delivery of transportation related activities covered by this AMP comprises a significant Council service to the community.

To a number of rural ratepayers transportation is the primary service provided to them by Council. The road network provides access within and between productive rural land, rural residential property, townships, and external markets via external distribution hubs and is a key contributor supporting economic and social activity within the district.

2.2. Activity Management Plan Purpose

This plan describes Ashburton District Council's transportation network, the rationale for the Council's involvement in it and the reasons why this plan has been prepared.

It covers all Council vested assets associated with the transport services and includes reference to related matters which may be provided by others, such as road safety education and car parking enforcement.

The Council's role, with respect to roading and transportation is to:

- Provide safe, efficient and fit for purpose core Council infrastructure that meets the district's needs.
- Advocate for effective and efficient transport.

The goal of infrastructural asset management is to meet a required level of service, in the most cost-effective manner, through the management of assets for present and future customers. This plan's purpose is to be:

"A statement of how agreed services will be provided to defined standards, at least cost, through the management of assets in a way that is sustainable in the long term and that complies with statutory requirements."

The purpose of this plan, and the factors that influence the need, priority and scope for improved activity management practices within the Council, are summarised as follows:

- to demonstrate responsible management
- to improve governance and accountability of Council
- to improve understanding of risk and risk management
- to provide an all-inclusive approach to management of Council's transportation assets
- to improve and support decision-making to deliver financial efficiency
- to communicate and justify funding requirements
- to comply with regulatory requirements

It also has a number of other functions:

- It ensures that the factors required to deliver the agreed levels of service on the transportation network at the lowest long term cost to the community are identified, documented and included in financial forecasts.
- It documents the Council's asset management, financial and engineering practices for transportation infrastructure and identifies opportunities for reductions in asset life cycle costs.
- It forecasts planned changes to these over the next 30 years.
- It uses this detail to support the transportation aspects of the Council's Long Term Plan.

This plan will be used by the Council's officers to combine management, financial, engineering and technical processes and procedures to ensure approved levels of service are provided to present and future customers.

Parts of the plan also fulfil NZTA Business Case Approach requirements.

This AMP is revised and updated every three years to coordinate with the Council's Long Term Plan process (LTP).

2.3. Stakeholders

External to Council several groups will influence and be involved in the delivery of the processes described within this plan. Council will be expected to establish and maintain long term relationships with these groups and engage with key representatives. The following describes these stakeholders and their roles:

Table 2- 1 External Stakeholders

Group	Role
New Zealand Transport Agency (NZTA)	National policies, programme subsidy (funding partner) and technical support
Canterbury Regional Council (Environment Canterbury - ECAN)	Regional policies and public transport programme subsidy
HEB Construction	Road Maintenance Contractor
Council suppliers and contractors	Physical works and service delivery
New Zealand Police	Local network monitoring and enforcement

Heavy haulage companies and economic product suppliers	Significant network users
Timaru District Council Mackenzie District Council Waimate District Council	Partners in the Aoraki Roading Collaboration
Selwyn District Council	Neighbouring Road Controlling Authority
District community and interest groups	Community and specialist representation
District residents and ratepayers	Council customers and financial supporters
Utilities, telecommunications, and irrigation suppliers, operators and contractors	Road corridor users

Within Council several groups and activities will influence and be involved in the delivery of the processes described within this plan. The following describes these groups and their roles:

Table 2- 2 Internal Stakeholders

Group	Role
Mayor, Councillors, Community Boards	Monitor and review delivery of this plan to represent and respond to community interests and concerns
Chief Executive and Leadership Team	Monitor and overview Council activity in the consistent implementation and regular review of the AMP programme and documentation
Infrastructure Services staff	Implement the AMP processes and programme
Strategy and Policy staff	Monitor implementation and progress against the AMP processes and programme (policy and planning) and develop Long Term Plan
Environmental Monitoring staff	Monitor progress against the AMP processes and programme (regulatory requirements)
Business Support staff	Monitor progress against the AMP processes and programme (financial performance and requirements)

People & Capability staff	Support training and staff development around AMP process and development (human resources)
Community Relations and Information Systems staff	Report and communicate progress against the AMP programme, collect and collate customer feedback and requests

2.3.1. Aoraki Roading Collaboration

In 2014 Ashburton, Mackenzie, Timaru and Waimate district councils entered into a Memorandum of Understanding (MoU) to "work together in specific aspects of roading asset management and network operations." The objectives were;

- Improve asset management processes, outcomes and consistency in respect of their respective road networks.
- Improve investment decision-making, while recognising and accepting appropriate risk.
- Attract, develop, and retain good internal human resources.
- Enhance governance through shared policy and strategy.
- Provide a sustainable market for affordable specialist resources.
- Become "smarter buyers".
- Enhance customer satisfaction.
- To further embed safety in the cultures of the respective organisations.

The MoU was in part a response to meet the requirements of Section 17A of the Local Government Act (2002).

The intent was to develop shared resources, information and delivery in various aspects of asset management and network operations such as;

- Inventory management
- Construction and maintenance practices
- Specialists – geotechnical investigations, bridges and structures, design
- Corridor access requests (CARs), overweight permits, etc.
- Development of 30 year infrastructure strategies and asset management plans
- RAPT (Review and Prioritisation Team) reviews

Achievements to date include shared maintenance contract practices, improved data management through shared skills and strong technical support through inter-council communications. A draft delineation strategy is prepared to provide a consistent message about the delineation and signage across the Mid and South Canterbury.

Shared professional services such as Road Safety Promotion are being discussed to deliver collaboratively to provide a consistent coordinated approach. Development of the Asset Management Data Standard and implementation plan will be prepared in collaboration with the ARC group.

2.3.2. ADC Road Reference Groups

Two community reference groups (Urban and Rural) were created in 2013 to provide sharing of information and feedback for programming, budgets and levels of service in relation to all aspects of the transportation activity. They meet generally quarterly and are made up of members as described in Table 2- 3. The urban and rural groups have been combined with a review of membership personnel in 2023.

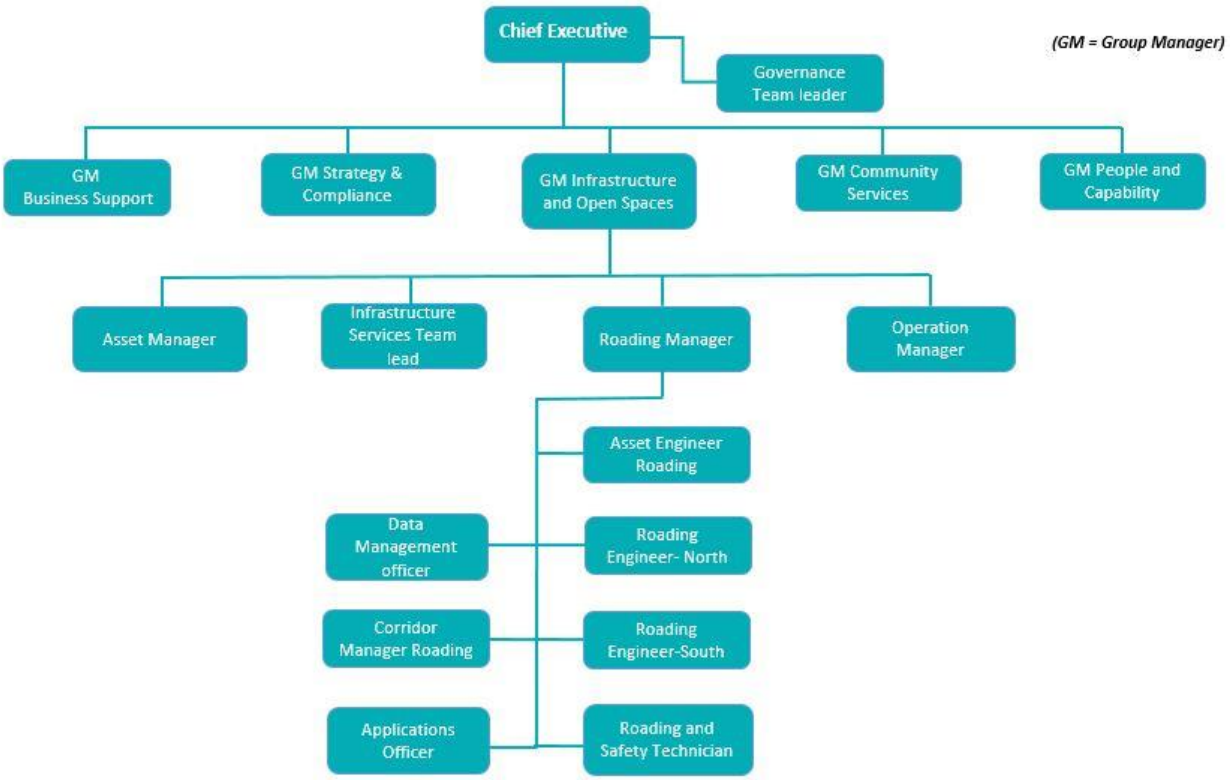
Table 2- 3 Road Reference Group Members

Urban Group	Rural Group
Four elected representatives A representative each of: • CCS Disability Action • Ashburton Taxis • Ashburton Citizens Association • Central Business District • NZ Post • Heavy transport sector Council staff (representative of the urban area)	Four elected representatives Three representative landowners from within the rural area Two or more representatives of the heavy transport sector A representative from Federated Farmers Council staff (representative of the rural area)

This group shares information from the community representatives to council (both elected members and staff) and vice versa. The intent is to enable open discussions that put forward the views and concerns of the different community sectors, while informing them of council direction and actions.

2.4. Our Role and Responsibilities

Our key work stream,



Delivering the Transportation asset activity incorporates inputs from staff across four key work streams within the Council,

Table 2- 4 Council Work Stream Input

Council Work Stream	Strategy and Planning	Financial Process and Monitoring	Works Delivery and Programming
Business Support	• Supply and manage information systems	• Financial monitoring and reporting	
Strategy and Compliance	• Develop Long Term Plan and Bylaws • Community engagement		• Monitoring environmental performance
Infrastructure Services	• Asset Optimisation Analysis for LTP • Advice into Annual Plan processes • Manage and update asset management systems	• Manage and update Annual Programme performance with NZTA • Justify subsidised works for NZTA	• Prepare and manage annual contract works delivery • Monitoring quality and progress of works

People and Capability			• Support training and recruitment of component AM skills

The Transportation activity is delivered primarily through the Roading Team within the Council Infrastructure Services workstream. Key roles within this team include:

Table 2- 5 Transportation Roles and Activities

Position	Role	Responsibilities
Group Manager Infrastructure and Open Spaces	• Management of the Infrastructure Services team	• Leadership in delivery of Transportation Asset Management
Roading Manager	• Management of the overall transportation programme including budgets, timeframes, level of service outcomes and compliance. • Management of the Roading Team	• Overarching management of network maintenance and operations, renewals and improvement works • Financial planning, oversight and control • Long term forward planning • Annual programme and project coordination • NZTA funding applications and claims • Compliance with legislative and environmental requirements • Liaison with; ○ Central Government ○ Key stakeholders ○ Regional Council ○ NZTA Planning and Investment • Individual and collective team monitoring and management
Asset Engineer Roading	• Development and updating of ADC roading strategic and planning documents, and funding programme monitoring	• Development and manage of Activity Management Plan, NZTA funding application and other strategic documents • Transportation component inputs for the Infrastructure Strategy and Long Term Plan • Manage Professional service contracts • Preparation, monitoring and progress financial and non- financial reporting
Roading Engineers (North & South)	• Management of the network maintenance and operations, renewals and improvement contracts • Management of renewals and improvement contracts	• Preparation, management and delivery of; ○ Network maintenance and operations ○ Pavement and surfacing renewals ○ Footpath and kerb & channel renewals ○ Improvement works • Undertake regular network inspections

Position	Role	Responsibilities
		• Management of customer requests • Assist with road corridor management • Management of Council pit resources • Development and management of GIS tools
Roading and Safety Technician	• Management of road safety programmes and policies	• Road safety liaison with RCAs, emergency services, community groups and road user groups • Development and delivery of road safety improvement programmes • Development of Road Safety Action Plan (RSAP) • Organisation and management of road safety education programmes • Crash statistics monitoring and reporting
Corridor Manager Roading	• Management of roading corridor requirements	• Corridor management including; ○ Corridor Access Request approvals ○ Temporary Traffic Management approvals ○ Works coordination (internal and external) ○ Processing of permits, applications and agreements ○ Field inspections and work approvals
Applications Officer	• Administration of roading corridor requirements	• Corridor administration including; ○ Processing of permits, applications and agreements including applicant liaison ○ Field inspections and work approvals
Data Management Officer	• Provision of ADC and NZTA asset management reports and plans • Management of asset management systems and data	• ADC and NZTA reporting • Updates, validation and analysis of; ○ Asset inventory ○ Traffic • Preparation of, and data reporting for, contracts

External consultants may be engaged where the Council team is unable to provide the resources required. This is primarily where specialist information, advice or service provision is required, or where critical timeframes cannot be met by Council without assistance. These areas currently include but are not limited to:

- Bridge Asset Management - Cyclic inspections of bridges with recommendations for bridge asset replacement programmes. Design of replacement bridges as required.
- Road Asset Deterioration Modelling - Use of JunoViewer and other appropriate pavement modelling tools to analyse and assess treatment options for the Council sealed road network.
- Asset Condition Monitoring - RAMM Road Rating, Sealed Road Roughness surveys. From July 2024, the Consistent Condition Data Collection (CCDC) project will introduce a new requirement for pavement condition inspection surveys and data collection methods. This

will change the contracting and supplier selection process for sealed road inspections and data collection.

Council's roading operations are audited regularly by NZTA and Audit New Zealand. These audits involve financial and technical aspects of the internal procedures for programming, and asset and contract management.

External contractors are engaged for a variety of physical works contracts which cover a range of activities and services. Contract duration may be long-term covering multiple years (e.g. network maintenance) or short-term over weeks or months for specific projects (e.g. renewals or upgrades).

Contract management is mostly undertaken by Council staff but may also be by external consultants for specific contracts when necessary.

3. Strategic Case

3.1. Strategic Context

3.1.1. Current State

Ashburton District's core economic base is the rural sector, with pastoral (e.g. dairy, sheep, beef) and arable (e.g. grain, seed, vegetable) farming the primary sources. Businesses providing services and support to these farms add to the workforce and income streams.

There is also a relatively large manufacturing and processing industry, along with smaller retail and commercial enterprises.

From a community perspective, the urban centres and smaller rural townships provide the bulk of the population and therefore community activity. However, social and civic functions and activities also include participants from rural settlements and remote areas such as river-mouth and high country residents.

Ashburton consistently ranks as one of the most cost-efficient districts (cost relative to network length) and performs well in national comparisons for Smooth Travel Exposure.

Hence, the performance measures and fault trends show few sections of the network are at high risk of severe deterioration (related mainly to pavement faults and drainage inadequacy).

These factors show that the district's transportation activity needs to provide a safe, reliable and resilient network to enable people to move themselves, others and goods, to fulfil their social and economic obligations and needs.

3.1.2. Future State

The district population is forecasted to grow 13% between 2022 and 2048. This represents an annual average growth of less than 1%.

The rapid economic growth of the last ten or more years with dairy conversions has slowed but is expected to remain steady at the current levels of around 2-3%.

Residential and commercial developments are also expected to be similar to current levels, with 1-2% average growth per annum from 2022 to 2048.

These growth forecasts indicate slow but steady growth, with minimal requirements for capital construction.

It is expected that resources (people, materials, plant and equipment) will be less available and more expensive, due to sector capacity and the general economic forecasts (global). The economic downturn is also expected to adversely impact funding sources.

Overall, the existing large and well-spread network is expected to cope well with future accessibility and capacity requirements (apart from some specific rural network).

Appropriate maintenance of the existing network is key to ensuring the continued provision of the network to the promised levels of service.

3.1.3. Community Objectives

Council has identified the following Community Outcomes and Levels of Service from public consultation and its Long Term Planning processes to meet its obligations under the Local Government Act.

Principles

- Plan and provide fit for purpose services
- Work with the community and engage in meaningful conversations
- Lead the community with clear and rational decision-making
- Represent the district regional/national issues and partner with others as needed

Community Outcomes

- Residents are well-represented, included and have a voice
- A district of great spaces and places
- A balanced and sustainable environment
- A prosperous economy built on innovation, opportunity and high quality infrastructure

Levels of Service (what we're aiming for)

- Provide quality transportation services for the district
- Council contractors respond to transportation network failures and requests within required response times
- The majority of residents are satisfied with Council's transportation services

The Transportation Activity supports these objectives through these practices;

- Customer service requests are encouraged, and submissions and responses are managed efficiently.
- Transportation works and projects are included in Council's consultative requirements, and contracts and work details are provided to the community through various media.
- Roads and footpaths are made smooth, safe and reliable to provide essential links between and within communities, and enable reliable access to essential services.
- District and regional economic growth and accessibility is supported through maximising network access for commercial transport, including HPMVs.
- Efficient maintenance practices are planned and undertaken to ensure a robust and accessible road network for economic, leisure and social activities.
- Material selection and sourcing, and work practices are mindful of, and adhere to, risk and sustainability policies and requirements.
- To deliver a sustainable transportation network Council works cooperatively with a wide range of stakeholders who hold diverse interests in the road corridor.
- Ashburton District Council is part of the Aoraki Roading Collaboration (ARC), and participates in many regional and national transportation forums and action groups.
- Regular Road Reference group meetings representing various community interests

3.1.4. Strategic Alignment

This plan is informed by various policies, strategies, plans and legislation at all levels of government.

It is important to ensure alignment between, and realisation of, the following core national, regional and local policies and plans;

- Ministry of Transport - Transport Outcomes Framework
- Government Policy Statement (GPS)
- Canterbury Regional Land Transport Plan (RLTP)
- Ashburton District Long Term Plan (ADC LTP)
- One Network Road Classification (ONRC)

Table 3- 1 below provides a summarised overview of the visions, objectives, principles and outcomes in these documents.

There are multiple correlations and links between each of these, with some direct connections and others that relate more through overarching intent.

It is key that all are addressed in some way within council's transportation plans to ensure we are meeting our national, regional and local obligations to our network users.

Table 3- 1 Strategic Alignment

Strategic Alignment				
The ***Ministry of Transport*** states that the purpose of the transport system is to **improve people's wellbeing, and the liveability of places.** It does this by contributing to five **Key Outcomes**:				
Inclusive Access Enabling all people to participate in society	**Healthy and Safe People** Protecting people from crashes and pollution	**Economic Prosperity** Efficient movement of people and products	**Environmental Sustainability** Aim for net zero carbon and improve good water and air quality	**Resilience and Security** Risk management, anticipate and adapt, recover effectively
The ***Government Policy Statement 2024*** has identified four **Strategic Priorities** for land transport investment to best realise the MOT outcomes:				
Economic Growth and Productivity Enabling all people to connect and freight quickly and safely, supporting economic growth and creating social opportunities	**Increased maintenance and resilience** A transport system is efficiently maintained at a level that meets the current and future needs and is able to cope with natural hazards	**Safety** Developing a transport system where no-one is killed or seriously injured	**Value for money** Focus on whole-of-life cost to maximise ling-term value	
The ***Canterbury Regional Land Transport Plan's*** **Vision** is to **an innovative, resilient, low emission transport system that helps Canterbury thrive for generations.** The MOT outcomes are the foundation of the RLTP strategic framework, and to achieve the Vision, the RLTP identifies seven **Strategic Objectives**, ensuring they are consistent with the GPS:				
Maintenance Strengthen the maintenance of the current network, so the network continues to underpin the outcomes across the region	**Safety** Reduce harm on our roads	**Emissions** Develop a range of transport emission reduction solutions across Canterbury to reduce negative environmental and health impacts	**Resilience** Develop a resilient transport network that can better cope with unknown stresses, natural disasters, and climate change impacts	**Freight** Create a low emission freight system that is more resilient, productive, and innovative	**Growth** Develop the transport network to support well-planned, quality urban environments in areas of high growth
The Ashburton District Council's **Strategic Vision** is to be the **district of choice for lifestyle and opportunity**. The ***Long Term Plan*** includes the following four **Principles** to guide the function and delivery of activities and services.				
Plan and provide fit for purposes services	**Work with the community and engage in meaningful conversations**	**Lead the community with clear and rational decision-making**	**Represent the district on regional/national issues and partner with others when needed**	
To realise the Strategic Vision, and in line with the Principles and the MOT Outcomes, the Long Term Plan also includes four **Community Outcomes**;				
Residents are included and have a voice Inclusion, collaboration, community influence and ownership of plans, strategies and decisions.	**A district of great spaces and places** Safe, thriving inter-generational communities. Well-connected district enabling a healthy lifestyle with infrastructure meeting their needs.	**A balanced and sustainable environment** Environment and resources managed to ensure they are fit for the future, with energy conservation and efficiency standard practice.	**A prosperous economy based on innovation and opportunity** Encourage and enable economic development, with opportunities for all to enjoy an economically sustainable and affordable quality of life.	
The ***One Network Road Classification*** assists with **ensuring value for money decisions and improved asset management practices** in a nationally consistent framework. It provides six **Customer Level of Service Outcomes**:				
Accessibility All road users are able to reach their destinations with efficiency and ease.	**Amenity** The road user experiences comfortable travel and a pleasing road environment.	**Cost Efficiency** Minimise whole-of-life costs while delivering required customer outcomes.	**Resilience** Impact of unplanned events on road users is minimised.	**Safety** The roads and roadside are becoming safer for road users.	**Travel Time Reliability** Travel times for road users are predictable.

The AMP will need to remain consistent and be updated to incorporate and reflect changes in the following key legislation, policies, plans and strategies that affect and influence the activities included in this plan:

3.1.4.1. *Central Governance*

Resource Management Act (RMA) 1991 and Amendments: Provides a statutory framework for Local and Regional Authorities to administer and balance land development with sustainable management of natural resources. The RMA focuses on the effects of activities rather than on the activities themselves.

Local Government Act 2002 (LGA) and Amendments: States the purpose of local government, provides a framework and powers for local authorities to decide which activities they undertake and the manner in which they will undertake them. In the transportation area it provides for local authorities to assume a broad role in meeting the current and future needs of their communities for good-quality local infrastructure, local public services, and performance of regulatory functions.

Land Transport Management Act (LTMA) 2003 and Amendments: Requires the Minister of Transport to issue a Government Policy Statement.

Government Policy Statement on Land Transport (GPS): This is a Government statement clarifying the NZ Transport Strategy and confirming the desired outcomes and funding priorities for transportation activities. It sets out what the Government expects to be achieved from its investment in land transport through the National Land Transport Fund. In detail it focuses activity to achieve national and regional targets.

New Zealand Transport Strategy: This NZ Government document sets over-arching vision, objectives, and outcomes for New Zealand, 2008 – 2040. This strategy ensures consistency with other Government policy and legislative obligations. The strategy covers all transport modes.

One Network Road Classification (ONRC): Involves categorising roads based on their traffic volumes and heavy vehicle percentages, as well as some high-level functional criteria. The classification applies to all public roads in New Zealand and will help local government and NZTA to plan, invest in, maintain and operate the road network in a more strategic, consistent and affordable way throughout the country.

One Network Framework (ONF): The ONF evolves the One Network Road Classification to a two-dimensional classification focused on Movement and Place. The ONF recognises that shared, integrated planning approaches between transport and land-use planners will result in better outcomes, and the ONF aims to provide an easy-to-understand common language that all transport, land use and urban planners can share. The ONF is not designed to provide transport solutions but can set the context for nationally consistent conversations. When fully implemented, the One Network Framework can be used to benchmark performance and align performance measures and outcomes.

National Land Transport Programme (NLTP): The NLTP brings together all the land transport activities, such as public transport services and road construction and maintenance, which are expected to receive funding from the NZ Transport Agency through the Land Transport Fund. The NLTP is compiled from the proposed Regional Land Transport Plans in accordance with available funding.

Land Transport Act 1998 and Amendments: Contains guidance to Road Controlling Authorities addressing road user and vehicle safety. This establishes the Rules process governing many technical aspects of Transportation activity. In May 2010, the Mass and Dimension Rule was amended to allow for High Productivity Motor Vehicles (HPMV). This change facilitated access for certain truck and trailer combinations, exceeding the (then) standard 44 tonnes in total, to use designated routes. These units must carry a permit and comply with this permit including using only pre-approved routes. Council approves access for vehicles of this type to use the majority of roads in the network.

Utilities Access Act 2010 and Amendments: This Act requires compliance with the "*National Code of Practice for Utility Operators' Access to Transport Corridors",* which provides a nationally consistent framework to manage transport corridors in coordination with utility operators.

Local Government (Rating) Act 2002 and Amendments: Council's key source of funding to support its transportation activity is through the ability to levy rates. The flexibility to support maintenance and improvement activity may be limited by the extent and nature of rates levied from time to time. The Act requires Council to consult and inform ratepayers through prescribed processes as part of annual works programmes preparation and delivery, including Transportation activity.

Government Roading Powers Act 1989: Although this Act primarily outlines management of State Highway network assets it does include some sections relating to all Road Controlling Authorities, including Council. Sections 54 to 57 cover management of utilities, structures, and trees on the roadside.

Health and Safety at Work Act 2015: This Act is intended to reduce and minimise harm to both people working in and those moving around places of work. There are obligations within the Act for employers and other controllers of places of works. Since the road corridor is often a place of work Council may have multiple obligations to both its agents, other workers, and also the public to manage safety. Ensuring appropriate Temporary Traffic Management (TTM) is employed on Council roads is a key outcome.

Civil Defence Emergency Management (CDEM) Act 2002 and Amendments: Identifies Council obligations to be prepared and respond in a co-ordinated way to disaster events. The Council response should link with Regional CDEM planning, led by Environment Canterbury, as well as being led by its own local policies. Some roads and access are specifically identified through planning as lifeline assets to support disaster response. Council obligations to maintain and reinstate access will then carry through to road network management priorities and activity.

Building Act 2004 and Amendments: Any structures to be built or rebuilt within the road reserve may require consent under this Act. The coverage will include bridges, large culverts, retaining walls, and underpasses. Even though some work on structures within road reserve may be exempted from requiring a building consent specifically, compliance with the Building Code for these works is still mandatory.

Biosecurity Act 1993 and Amendments: This relates to control of plant and organism pests. Specifically this relates to Council obligations and responsibilities to control pests within road reserve land.

3.1.4.2. *Regional Governance*

Regional Land Transport Strategy and Programme: The Canterbury Regional Council's Regional Land Transport Strategy sets over-arching vision, objectives, and outcomes for the Region. The Regional Land Transport Plan (RLTP) lists all of the transport activities currently agreed to be funded through the Regional Land Transport Committee (RLTC), for the relevant three year period. These strategic programmes then feed into and support applications for government funding through the New Zealand Transport Agency (NZTA).

3.1.4.3. *Local Governance*

ADC District Plan: This is the main document that sets the framework for managing land use and development within the District. It contains objectives, policies and rules to address resource management issues such as the effects of land use and subdivisions, noise and traffic, and is compiled to meet requirements of the Resource Management Act 1991 and the Local Government Act 2002 (and their amendments). It is reviewed and reissued every ten years. Council planning policy can influence environmental compliance requirements within transportation activities.

ADC Long Term Plan (LTP): This document, required under the Local Government Act 2002, sets out a local authority's priorities in the medium to long term over a 10-year period. It defines Council's long term vision and its links to community outcomes. It is generated to meet the requirements of the Local Government Act 2002 and its amendments, is reviewed and reissued every three years and includes the Council's Transportation activity.

ADC Walking and Cycling Strategy 2020 - 2030: This strategy provides a framework for making walking and cycling safer and more attractive across the district, intending to increase the number of people using the walking and cycling network. The development of improved walking and cycling networks requires investment over time. This strategy provides well-considered direction and sets priorities for council and other parties (NZTA) and community organisation for future investment.

ADC Transportation Procurement strategy: The transportation procurement Strategy identifies the proposed delivery model, the process to be followed for supplier selection for each activity, and the work activities that will be carried out over the next three years. The strategy is endorsed by NZ Transport Agency and effective from 23 June 2022.

ADC Bylaws: These define Council rules, (and penalties for non-compliance), for controlling road use activities within the District.

ADC Policies, Guidelines and Procedures: These detail or describe Council's recommended actions or processes required for road use activities within the District.

ADC Annual Plan: Is Council's annual statement of activity including financial requirements. It is issued annually to deliver progress against the LTP objectives.

ADC Annual Report: Is Council's annual review of activity achieved against the Annual Plan. It summarises progress achieved every year against the LTP objectives.

ADC Safety Management System: This ensures that ADC has sound systems and processes to ensure identification and monitoring of road hazards and ensures these hazards are appropriately managed through construction, maintenance, and operational means. This approach is to ensure the road network is managed to appropriate standards of safety.

ADC Works Contracts: These are the implementation mechanisms for delivery of works as required on the Transportation network. They are issued as required and their durations vary from weeks to years. All contracts reflect performance consistent with AMP objectives and standards.

3.1.4.4. *Industry Best Practice*

International Infrastructure Management Manual (IIMM): is a best practice guide addressing infrastructure asset management to ensure the required levels of service are met, in the most cost effective manner, through the management of assets for present and future customers.

Case Studies, Research Reports and Practice Notes: the sector provides a multitude of informative investigative outcomes based on actual work experiences and technical and scientific research. These are either publicly available or distributed through industry networks or groups.

3.2. Strategic Assessment

While there is no major change expected between the district's Current and Future states, the following issues are anticipated,

- Continuing challenges to ensure sealed pavement, drainage, and structures performance does not decline
- Reduced resource availability/affordability
- Decrease in or pressure on funding sources

Resources and funding constraints are challenges across the entire transportation activity. With the current and forecast economic downturn, the increases in governmental infrastructure stimulus packages to counter this, and the diminishing skilled workforce, there is a critical need for fiscally and practically responsible programming. It should be noted that the water sector is now a considerable competitor for resources, as policy and legislative changes are driving extremely large and ambitious water projects on relatively tight timeframes.

Responsible programming means identifying projects and methodologies that will solve problems or achieve desired outcomes while controlling and minimizing costs and maintaining realistic timeframes. Council actively seeks out industry improvements in work methods and solutions, and it is expected that the sector as a whole will increase their efforts in this area in response to the future it faces. Along with good business practices required by council's general principle and policies, NZTA's Investment Decision-Making Framework and the included Benefit Framework will provide overall guidance for identifying appropriate solutions.

Along with addressing these specific issues, we need to meet local and national objectives of;

- Protecting people
- Providing liveable towns
- Responding to community concerns and needs
- Enabling economic growth and prosperity
- Enabling appropriate freight modes and increased route resilience
- Protecting the environment
- Ensuring the transport system is fit for purpose
- Ensuring proposed actions and solutions are value for money

To ensure these obligations and problems are addressed, the following focus areas have been identified.

3.2.1. Deteriorating Rural Sealed Roads

The majority of Ashburton District's roads are narrow and originally developed from unformed roads or tracks. As shown in Figure 3- 1, heavy commercial vehicles are continuing to grow in both tonnage and number, and the district's thin and structurally inadequate pavement is suffering.

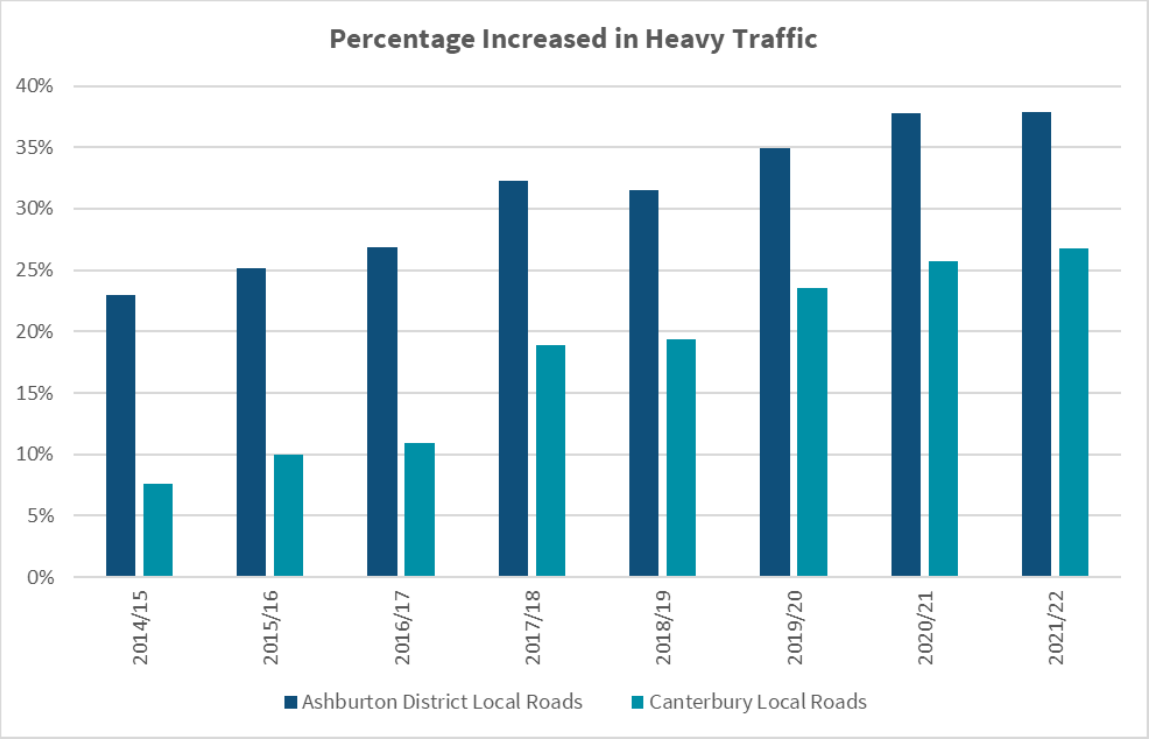


Figure 3- 1 Percentage Increased in Heavy Traffic

(source from REG transport insights)

Ashburton District's rural roads have a thin pavement depth (less than 100mm basecourse) and these roads are deteriorating due to use by heavy commercial traffic. The pavement loading has increased with the increasingly heavy traffic resulting in the rural network with increased failures and a corresponding decrease in pavement life.

The Figure 3- 2 below provides evidence of the overall sealed road remedial trend, the number of potholes filled, and the heavy maintenance (digouts and stabilisation) undertaken are constantly growing. As of June 2023, about 52,863 square metres of heavy maintenance had been identified with an estimated cost of more than $3.3 million.

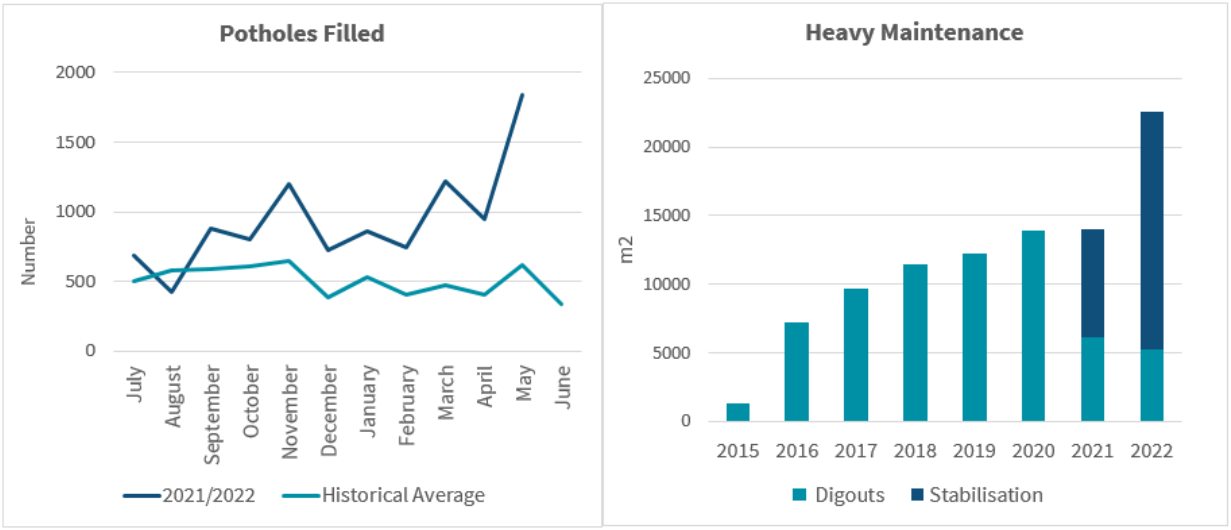


Figure 3- 2 Sealed Road Remedial Trend

The affordability to maintain the sealed network at its desirable level of service is a concern NZ Transport Agency audit in 2021 concluded that ADC's maintenance expenditure is in the lower quartile compared to the peer group. In addition, ADC's current maintenance contract has a 21% of cost escalation being applied which causes a further reduction in programmed works able to be completed. Reduction in ongoing maintenance costs affects the useful life of the pavement and increases the likelihood of more frequent failure.

The wet winters and heavy rain events in past three consecutive years (2021-22 and 2023) have had an impact on the rural sealed roads. The amount of reactive maintenance undertaken has significantly impacted the routine maintenance activities and caused stress on the maintenance budget. Unless the primary routes and deteriorating sections of roads are rehabilitated with adequate pavement strength to provide a fit-for-purpose solution, the condition of the rural sealed network will continue to deteriorate. See Section 3.2.1.1

Ashburton District Council aimed to rehabilitate 10 km/annum of rural sealed roads to provide the fit for purpose network. However, from Figure 3- 3 it can be identified that with the current funding, Council is unable to accommodate the scheduled programme. Reduction in the rehabilitation programme contributes to increasing the network deterioration and road safety risks.

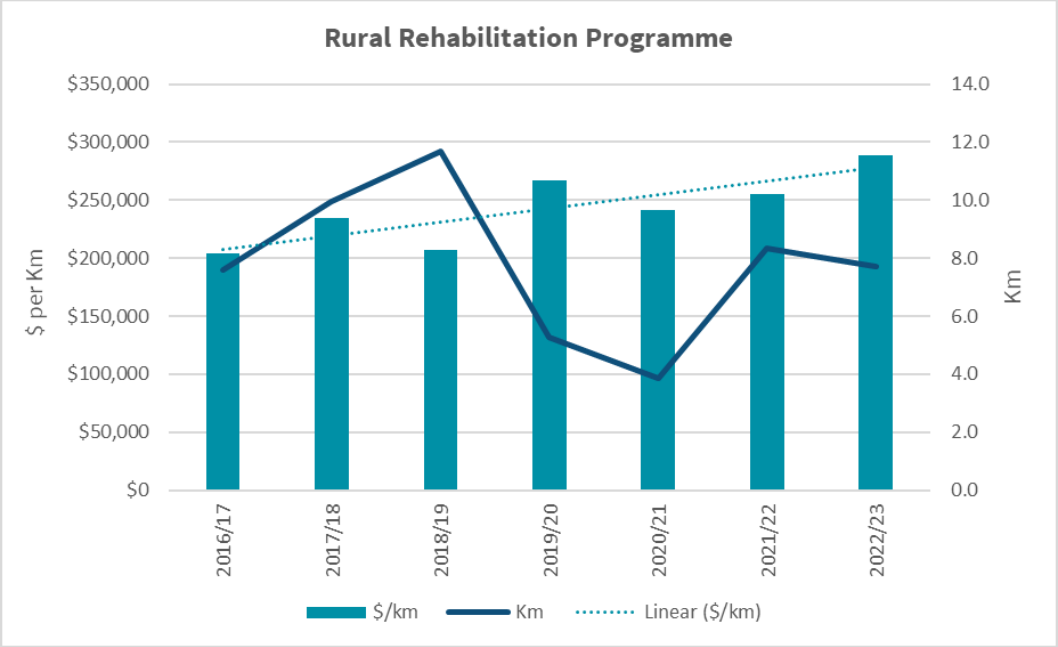


Figure 3- 3 Rural Rehabilitation Programme

Overall, there is an increasing need for sealed pavement maintenance and renewals funding investments in the short term to achieve long-term benefit. This will reduce the risk of increased reactive maintenance and customer dissatisfaction.

Pavement works may include;

- Targeted granular overlays and resurfacing programme
- Digouts and stabilisation repairs
- Optimised pothole repairs

Benefit: Pavements will in the long-term be of an appropriate condition and strength to withstand the current and forecast traffic volumes and loads. This will in turn provide users with safer, more comfortable and more reliable journeys.

Consequences of inaction: Deterioration of pavements will increase as maintenance and renewals would not be keeping pace with increased loading. This will affect users' safety and access reliability.

Outcomes sought: Realising the GPS Increased maintenance and resilience system and value for money priority, the RLTP objectives strengthen the maintenance, and the LTP Community Outcome of Ashburton district of great spaces and places. Ensuring life cycle optimisation by strategic and timely interventions.

3.2.1.1. *Case Study: Fit for Purpose Solution*

Introduction

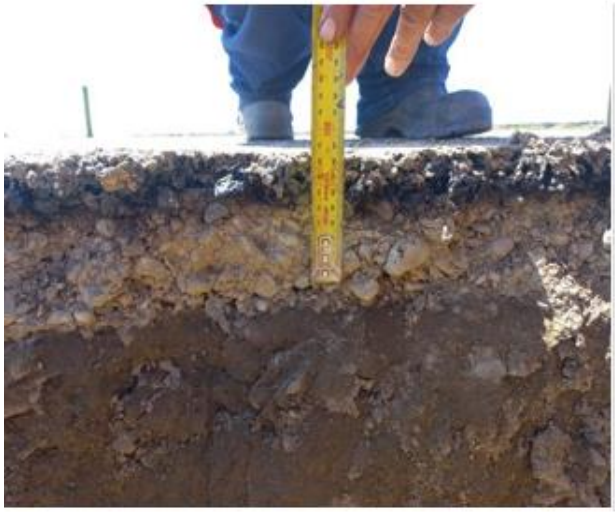
The purpose of this case study is to demonstrate that using fit-for-purpose solutions in the decision-making process can obtain long-term benefits.

Substantial maintenance has been undertaken on the district's two busiest roads to ensure that both roads are well-maintained and meet the community needs. Yet due to inappropriate pavement strength and budget constraints council was unable to achieve the most satisfactory solution until rehabilitation treatment was completed.

Problem and Opportunity

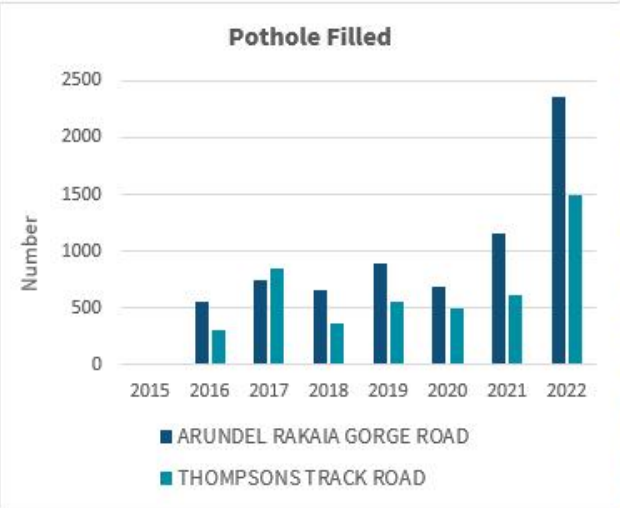
Arundel Rakaia Gorge Road and Thompson Track are approximately 57 Km and 40 Km long, both roads are Primarily Collector route and district's busiest rural roads. Arundel Rakaia Gorge Road is also part of the Inland Scenic Route and both roads cater for the tourist traffic across the Canterbury region.

As many of Ashburton District's rural roads developed from tracks and unformed roads, since these roads were originally constructed, they have not been improved to meet the current traffic demands. As such both roads pavement depth is significantly below what is required for the current traffic use. The pavement testing data in the below graph shows that the majority of Arundel Rakaia Gorge Road and Thompson Track pavement thickness is between 50mm to 100mm.



With the constant deformation of the base course layer, both roads are declining in their structural strength and surface conditions resulting in distressed pavement and the constant rise in customer service request numbers.

As shown in below graph, Ashburton District Council filled 2,364 potholes on Arundel Rakaia Gorge Road and 1,488 on Thompson Track in 2022 which is more than a twice as many as 1,163 and 621 potholes filled in 2021.



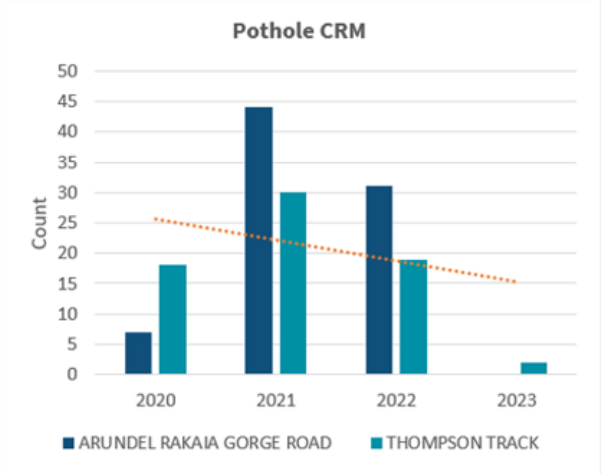
In the past five fiscal Years, about 7,500 and 4,600 square metres of heavy maintenance works have been completed on Arundel Rakaia Gorge Road and Thompsons Track. The fault trend is continually growing which demonstrates that constant patching of potholes and heavy maintenance isn't fit-for-purpose solutions.

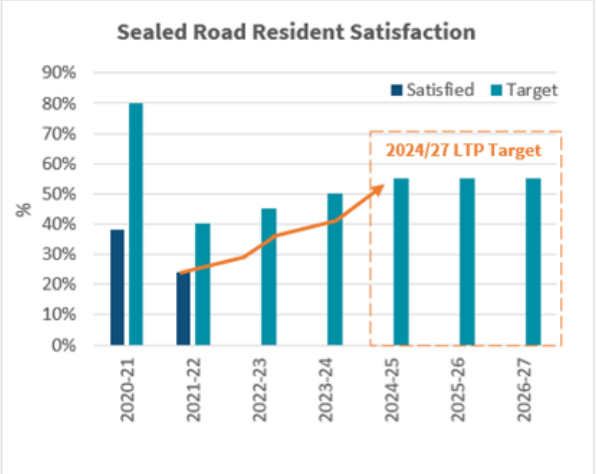
Continuing with the do-minimum reactive maintenance approach will slow the pavement deterioration rate in the short-term but it will increase the financial and safety risk in the longer term. A thin and structurally incapable pavement will be less likely to perform with the current traffic demand. However, affordability is the most critical issue, the substantial rise in cost escalation and budget restrictions have caused further delays in the rehabilitation programme, which have triggered the fault severity.

Action and Benefits

Due to the constant decline in the pavement condition, both roads serviceability had become intolerable for road users. To provide a defined level of service while reducing the reactive maintenance cost, Ashburton District Council awarded $2.5 million of granular overlay rehabilitation contract for 2021-22 and 2022-23 FY, including 8.8 km of rehabilitation on Arundel Rakaia Gorge Road and Thompsons Track.

Additionally, Council used $1.3 million of unsubsidised funds for Arundel Rakaia Gorge Road and Thompsons Track in 2022-23 FY (equivalent to 4.2 km of rehabilitation). A total of $1.7 million unsubsidised funds were used in the 2022-23 FY, including $385K on Mayfield Valetta Road (equivalent to 1.3 km of rehabilitation).





As shown in the above graph, there was a constant decline in pothole customer complaints since the rehabilitation treatments undertaken on the most deteriorated sections (CRM recorded from January to April for each year). It indicates that customer satisfaction should trend upward and meet the council's 2024-27 LTP targeted performance measure while achieving long-term benefits by improving the asset's useful life.

Recommendation

There is an increasing need for sealed pavement renewals funding investment to achieve long-term benefits. Ashburton District's network consists of 1522 km of sealed roads and while the rehabilitation budget has predominantly been spent (last two Fiscal Years) on these two roads due to their poor state and higher traffic volumes, there is a need for other deteriorated rural roads to be rehabilitated. In the absence of rehabilitation, road maintenance costs will significantly increase to maintain pavements that are at the end of their life.

3.2.2. Bridge and Structure

Bridges are valuable assets which require timely maintenance, repairs, strengthening and investigation. However, the ADC's structures have been neglected for a long time as such, many rural bridges are deteriorating due to the lack of funding to undertake necessary routine maintenance and component replacement.

The majority of ADC bridges are made of concrete I-beam which requires special inspections and maintenance of its joints and bearing. The bridge inspection programme has identified the leaking and cracking of concrete bridge joints, which can affect their serviceable life and make the structure vulnerable under any unplanned events.

An accumulation of vegetation or debris on structures can lead to structural deterioration. May 2021 heavy rain event led to widespread damage to the ADC bridge approaches and build up of debris. Although ADC has undertaken immediate reinstatement, many rural bridges still require debris and vegetation removal operations which is unaffordable due to funding constraints.

Many ADC bridges are narrow and in a high-speed environment with non-compliant signs and barrier systems or objects attached to the structures. In past decade, 41 vehicle crashes occurred within 100m of an ADC bridge structure. These crashes involved 75 people, resulting in 4 fatalities and 3 serious injuries. WSP have undertaken bridge inspection survey and barrier risk assessment based on the likelihood and consequence of a vehicle-barrier impact, programme schedule in Appendix C – Bridge Repair and Maintenance Works.

To address these problems, increasing bridge maintenance and component replacement funding is essential to the provision of safe and secure network access across the district. The most common defects in the Structures Maintenance and Component replacement include;

- Debris in waterway /on piers /detritus on decks
- Grass and vegetation obscuring BEMs (worse during Spring-time inspection)
- Structures missing delineation, hazard markers and signage
- Replacement of non-compliant safety barriers
- Poor condition paintwork on barriers, approaches and surfacing
- Deterioration of expansion joints; requiring replacement, refurbishment or repair
- Corrosion of steel members requiring repainting
- Scour of bridge abutments or approaches; requiring underpinning or rock protection works.

Benefits: Bridges will be in a condition and have adequate strength to withstand the current and forecast traffic or unplanned event. The appropriate road safety barrier is critical to reducing the severity of a crash and preventing serious injury and death.

Consequences of inaction: The structural strength will decrease if the routine maintenance is not undertaken. With the existing non-compliant barrier systems there is a higher likelihood of fatality occurring due to hazards including structure related obstructions (e.g. concrete parapets and end posts), large fall heights or deep water below.

Outcomes sought: Realising the GPS Increased maintenance and resilience system and safety priority, the RLTP Objectives of maintenance and resilience, and the LTP Community Outcome of a plan and provide fit for purpose services.

3.2.3. Inadequate Drainage

Ashburton district is generally flat, so a well-constructed and capacity-appropriate drainage system is necessary to ensure storms and floods do not cause more damage than is required. However, climate change has affected the intensity and frequency of storm events as such as inflow from intense rainfall is way beyond the drainage capacity resulting in network flooding, pavement failures and road closures.

An inadequate drainage system can significantly influence road maintenance costs, neglecting such maintenance works will lead to a major impact on annual Pavement maintenance costs. Predominantly Ashburton district's rural network has major drainage issues as numerous roads have high shoulders where water accumulates, seeps into the pavement and causes premature failure. The ADC performs a high-lip removal programme to establish an accurate drainage system. However, a substantial rise in maintenance cost and additional waste disposal costs (waste levy costs) have shrunk the planned high-lip removal programme.

To address these problems, increasing drainage maintenance and renewals (especially rural roadside swale drainage) investment and/or enhancing the existing drainage capacity is required. Strengthening of the remote access routes and strategic planning will benefits to provide secure network access under any unplanned event. Increasing drainage improvement will over the period return an improvement in pavement condition. Drainage works may include;

- Earth surface (swale) renewal or construction
- Installation of soakpits, sumps and subsoil drainage
- High shoulder removal programme
- Increasing the culvert size
- Road re-shaping to achieve adequate crossfall
- Strengthening the remote access

Benefits: The drainage system will in the long-term be in an appropriate condition and less likely to affect the pavement strength. Flood events will have less impact and enable faster recovery and reduced emergency durations. This will in turn provide users with safer, secure and inclusive access.

Consequences of inaction: Flood event durations and resulting damage could increase if drainage is not improved to the necessary capacity and condition. Deterioration of pavements will also increase as water gets into pavements and cause premature failure resulting large potholes or washouts. This will affect users' safety and access reliability.

Outcomes sought: Realising the GPS Increased maintenance and resilience system priority, the RLTP Objectives of maintenance and resilience, and the LTP Community Outcome of a district of great spaces and places.

3.2.4. Ashburton-Tinwald Connectivity

Figure 3- 4 Ashburton-Tinwald Connection Route

Ashburton River Bridge on State Highway 1 connects two parts of our district and currently only one practical connection between Ashburton and Tinwald township. This means that network resilience is very poor, and the connectivity and economic prosperity problem would be significantly impacted by any event that either closes the State Highway 1 bridge or restricts traffic movement.

A detailed business case has been presented (on July 2022) to NZ Transport Agency to demonstrate the need for wider investment across the Ashburton and Tinwald transport network. The focus is around achieving a total transport system solution which provides better connectivity and travel choice while improving safety and economic prosperity. The government's strategic Investment programme (GPS 2024) has identified the Ashburton second urban bridge project as a Road of Regional Significance.

This project outlines the benefits of investing in improving connectivity, examining available evidence for the problems, and identifies key performance indicators (KPIs) to measure the success of investment over time.

The need for investing in improving connectivity between Ashburton and Tinwald is being driven by:

- The need to support population growth.
- The need to ensure people can move safely and easily across the river.
- The need to ensure that inter-regional freight is moved efficiently.

- The need to provide locals with alternative travel modes to motor vehicles.

Four problems have been identified;

Problem 1: Social connectivity

“An absence of route choice contributes to more traffic on SH1. This discourages people from making journeys they otherwise would, creating social disconnect and lack of a ‘one community’ feeling”.

Problem 2: Travel choice

“Limited (or poor quality) facilities for sustainable modes makes it difficult to achieve long- term environmental and liveability objectives”.

Problem 3: Safety

“High traffic volumes make it difficult for people to travel along, across, or onto SH1. This increases the likelihood of crashes and delays emergency services”.

Problem 4: Economic prosperity

“Increasing traffic and constrained capacity on SH1 results in worsening travel time reliability between Tinwald and Ashburton. This impacts freight connections and economic prosperity.”

See Section 7.11 Capital Project (Ashburton-Tinwald Connectivity) for project details.

3.2.5. Road Safety

Ashburton district's rural crossroads have a high crash rate, on many occasions, drivers often failed to observe a Stop or Give Way control and drive through the intersection without yielding. In the past decade, 92% of total fatal crashes (people) and 50% of serious injuries (people) occurred at the intersection (excluding state highway crashes), involving total of 34 DSI crashes. It represents a large percentage of crashes on the road network therefore the installation of appropriate infrastructure and controls can result in a significant crash reduction on the rural network.

A key component of road safety is delineation. Signage and markings should be appropriate for the site and compliant with the required standards, and at-risk sites will be surveyed to ascertain where changes are needed. A delineation strategy is being created within ARC group to enable consistency and sharing of practices and resources.

The GPS 2024 outlines that efficiently improving road safety is a key priority. The focus is on the premise that all network users should be protected, and the causes of crashes should not necessarily dictate the outcome. Council has identified intersections, speed, roadside hazards and schools as key areas to implement safety improvements, see Appendix B – Low Cost, Low Risk Schedule 2024-27projects list. Project identification is achieved through both crash history and risk analysis.

Specific safety improvements include;

- Intersection improvements (enhanced signs and markings, installation of physical traffic control devices, islands, right turn bays, layout changes and surface re-shaping)
- Pedestrian Crossings (ensure the signs, markings, lighting, layout and locations are to standard and fit for purpose)
- Raised Safety Platform (aim to reduce vehicle speeds on the approach to area of higher risk)

- School sites (30 km/hr speed limit implementation with associated engineering improvements if required)
- Physical hazard mitigation (headwall removal or demarcation, deep dish channel replacement)
- Out of context curves (site validation with ensuing delineation enhancement or installation)
- Seal widening (on core HCV routes with existing narrow carriageways, at intersections and major accesses)
- Sealbacks or seal extension (build or extend at intersections, railway crossing and bridge approaches)

Benefits: Users have increased levels of safety at sites identified as higher risk due to the physical situation, vehicle/pedestrian interaction or vulnerable user location. By providing physical and visual warnings and restraints, the severity and likelihood of serious harm from any incidents that may occur is decreased.

Consequences of inaction: Extremely serious. By not undertaking actions to protect people we are exposing users to undue risk and not meeting our responsibilities to ensure their safety.

Outcomes sought: Realising the GPS Safety priority, which is both a national and regional focus. Ensuring Council's promises of planning and providing fit for purpose services, and having safe, vibrant and thriving communities are fulfilled.

3.2.6. Walking and Cycling, and Public Transport

It is the council's responsibility that young and aged people who are unable to drive and people with physical disabilities should have public transport that is safe and easy to use. Council needs public transport that meets the needs for the community, it is therefore, necessary to implement a reliable public transport system in Ashburton and Tinwald township similar to the Timaru district council (demand responsive transport) to facilitate improvements in community health and wellbeing. This initiative will reduce private vehicle use, crash rate (involving young and 60+ year old drivers) and also mitigate transport impact on greenhouse gas emissions.

Transportation is more than just cars and trucks, and enabling journey choices for all network users is an important part of achieving acceptable living standards. Inclusive access, healthy options and environments, and safe transport corridors are all part of Council's aspirations for our community.

Council's Walking and Cycling Strategy 2020-2030 provides a framework for making walking and cycling (for transport and recreation) safer and more attractive, with the aim of increasing the number of people using the walking and cycling network. This Strategy provides well considered direction and sets priorities for Council and other parties, including the NZ Transport Agency and community organisations, for future investment.

The Vision, Goals and Objectives were established and tested in conjunction with the key stakeholders at the workshop. The Vision has been retained from the 2008 Strategy to provide long term strategic continuity.

Vision:

- More people, more active, more often

Goals:

- A coherent, safe and connected urban walking and cycling environment
- A quality, fit for purpose recreational walking and cycling network that connects to key destinations
- Ensuring the urban and rural walking and cycling networks integrate to create an accessible district
- A district committed to walking and cycling for health, wellbeing, safety, environmental and economic reasons

The key challenges that need to be addressed are as below.

- Walking - rough/uneven surfaces, lack of footpaths and crossing facilities, narrow footpaths, unsuitable transition from road to footpath, footpath gradient, and others such as poor street lighting and sharing with cyclists.
- Cycling - a lack of cycle facilities separated from traffic, lack of defined cycle routes and cycle routes to key destinations, lack of crossing facilities/treatments at intersections, poor connections on existing routes, lack of cycle parking, rough/uneven surfaces, and others such as motorcyclists on tracks, sharing with runners, poor signage.
- Public Transport- Absence of public transport; Ashburton District has a high population of the aged community, in the past 5 years, aged people (60+) were involved in 24% of DIS crashes near the Urban centres.

Walking and cycling projects identified in other ADC Plans and the LCLR activity will also contribute to meeting the Strategy vision and objectives, see Appendix B – Low Cost, Low Risk Schedule 2024-27projects list.

Council's aim for the 2024-27 period is to undertake the key recommendations of the Strategy and ensure reviews and improvements for walking and cycling become a standard and regular component of our overall transportation plan.

Benefits: Network users are provided with safe and effective mode shift opportunities that provide positive impacts on user health, the environment, and community liveability.

Consequences of inaction: Users are forced to undertake travel in their preferred mode on paths or roads that are not safe or fit for purpose. Council risks appearing as indifferent or uninterested in enabling increased walking and cycling activities.

Outcomes sought: Realising the safety and sustainable urban and regional economic growth and productivity GPS priorities, the RLTP safety and freight, and Council's vision to A district of great spaces and places**.**

4. Network and Assets

4.1. Environment

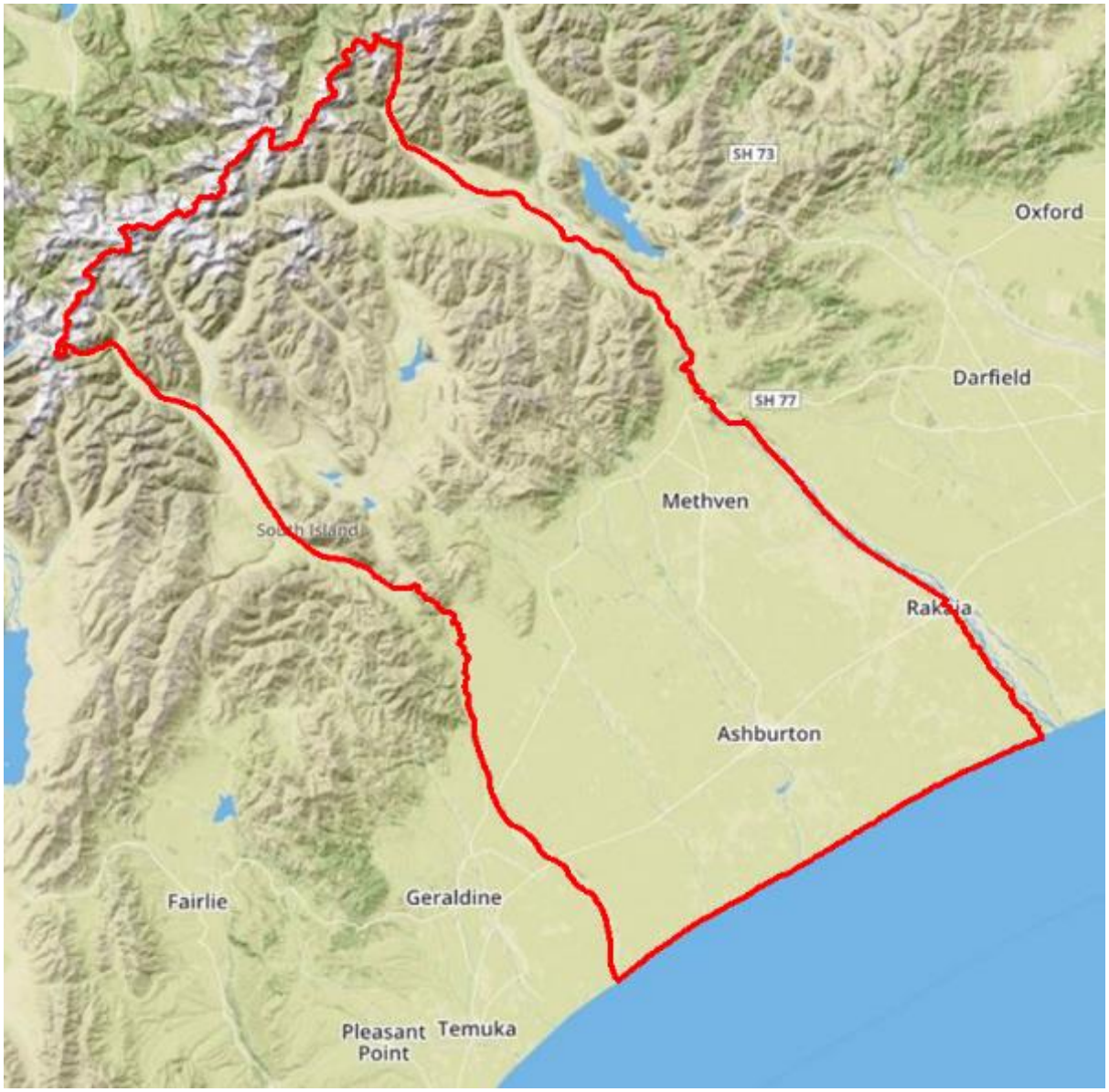


Figure 4- 1 Map of Ashburton District land area

The Ashburton District (617,500 hectares) is bounded in the northwest by the Southern Alps and on the southeast by the Pacific Ocean. Its northeast land boundary (with the Selwyn District) is the Rakaia River, and from its headwaters through mountainous country to the top of the Southern Alps. Its southeast land boundary (with the Timaru and Mackenzie Districts) is the Rangitata River and from its headwaters to the top of the Southern Alps.

The District's land types include coastal terraces, alluvial plains, riverside and riverbed, rolling hill country, and rugged hill country. The character and underlying resilience of the transportation network is strongly influenced by the predominant plains topography, with mostly flat straight roads.

The alluvial plains and pasture land is extensively used for agriculture. In general, dairying is located on the plains, with sheep and beef cattle production on steeper hinterlands. High-value crops are produced predominantly in the northern plains with horticulture areas also present.

Weather is temperate with coastal, plains, and alpine climatic influences. Summers can be hot and dry with strong northwest winds causing erosion and fine aggregate removal. Winters will bring snow along the foothills and in the higher elevations (generally 300m and above), but extreme events are infrequent. Frost and ice in winter can create temporary surface hazards across the district, especially where shelter belts are located on northerly roadsides. Where deep shading occurs moisture can remain for long periods causing lichen formation and pavement damage. Frost heave also causes pavement damage and can be especially destructive if sub-zero temperatures remain for extended periods.

Rain events can cause issues due mainly to the flat topography, and this is somewhat alleviated by the underlying alluvial gravels, but large events can cause widespread travel disruption and subsequent damage to roads and associated infrastructure. A map showing May 2021 rainfall event damage is in Appendix F – Flood Map (May 2021)

There are many watercourses traversing the District which interact with the Council transportation network. These include rivers, streams, lakes, and stockwater and irrigation races. Council seeks, holds and monitors the appropriate consents for mitigating the effects of this interaction. The most significant issues are acknowledged as managing stormwater run-off from roads and the impact of bridges and bridge works within river environments.

To address the impacts of these extremes in weather with a reasonable level of capability Council needs to apply a flexible approach to operations and also consider a range of asset management strategies in maintaining its transportation network.

Predicted climate changes may be beneficial to some sectors of the agricultural and horticultural industries with less frost and increased mean temperatures leading to longer growing seasons. However the District has experienced extremes of drought and flood in the past and climate change could increase their frequency and severity.

4.2. Demographics

Ashburton District's estimated population in 2022 was 36,300.

Ashburton is the main commercial and service centre of the district with a population of approximately 20,600. The smaller urban areas include Methven, Rakaia, Hinds, Mt Somers, Mayfield, Lake Hood and Chertsey. There are multiple rural community hubs and settlements with various levels of civic amenities and social functions.

Figure 4- 2 and Figure 4- 3 show population growth and age group distribution.

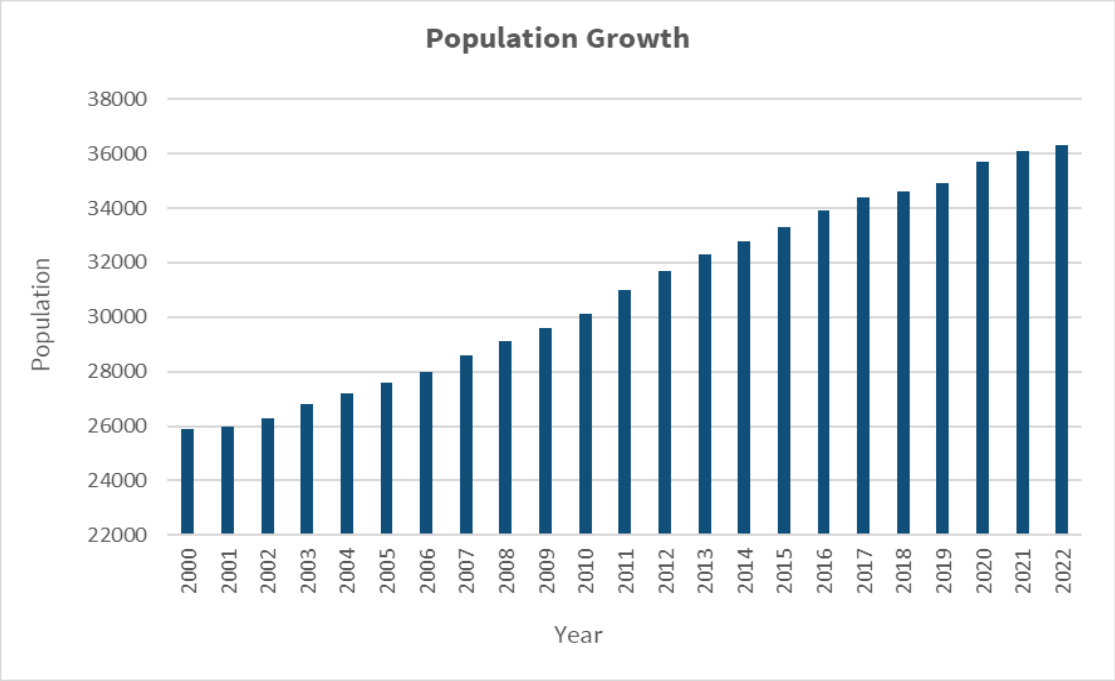


Figure 4- 2 Population Growth

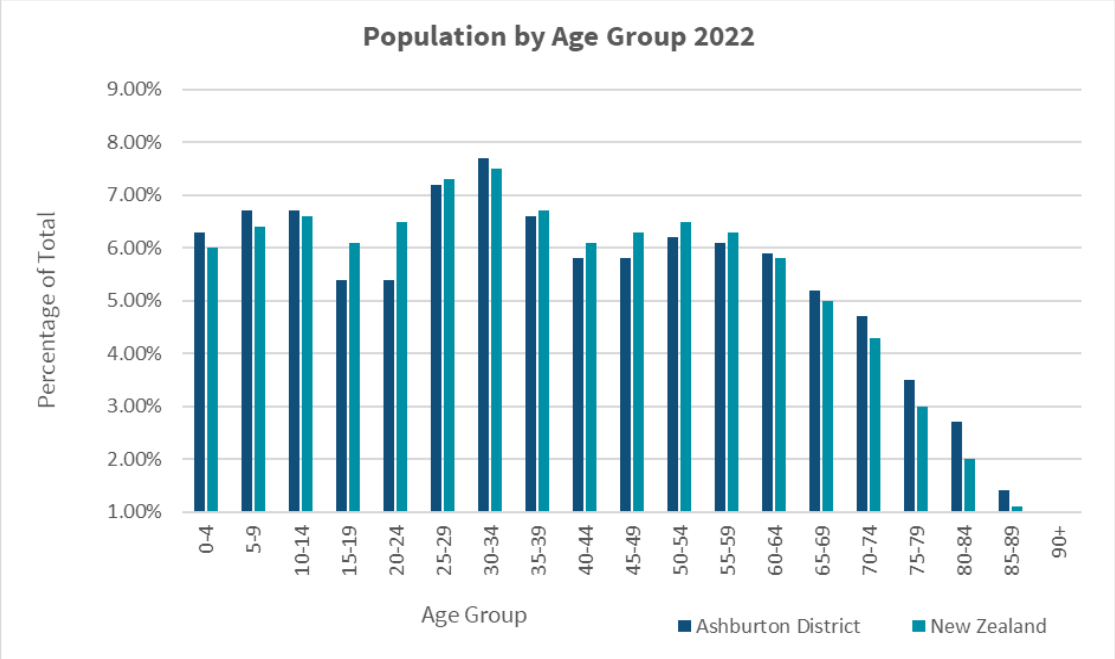


Figure 4- 3 Population by Age Group 2022

4.3. Road Network

Ashburton District has one of the largest road networks in New Zealand, covering 2,622 Km. 1,522 Km is sealed 1,100 Km is unsealed, and 91% (2,400 Km) of our roads are located in rural areas. These figures (and the Table 4- 1 below) exclude the total 4.1 km length of bridges (see Section 4.4.2).

State Highways 1 (from the Rakaia River to the Rangitata River) and 77 (from Ashburton to Rakaia Gorge via Methven) traverse the district. Whilst the highways are owned and managed by NZTA they complement the Council network and provide strategic regional and national roading network connections. Road users make little distinction between road owners, especially in urban areas, where highways are effectively regarded as local roads by local users.

With a sealed road within reasonable proximity of all properties, vehicle kilometres travelled on unsealed roads are reduced. Extension of the sealed road network is mainly due to urban subdivisions, with rural intersection sealbacks providing minor additions.

Table 4- 1 Ashburton Road Network

	Length (km)						
Budget Area	**Rural**			**Urban**			**Total**
TOWN	**Sealed**	**Unsealed**	**All**	**Sealed**	**Unsealed**	**All**	
Ashburton	**0.2**	**0.0**	**0.2**	**149.8**	**1.4**	**151.2**	**151.5**
ASHBURTON	0.2	0.0	0.2	119.9	1.4	121.3	**121.5**
TINWALD	0.0	0.0	0.0	29.9	0.0	29.9	**29.9**
Methven	**0.0**	**0.0**	**0.0**	**20.7**	**0.0**	**20.7**	**20.7**
METHVEN	0.0	0.0	0.0	20.7	0.0	20.7	**20.7**
Rakaia	**0.0**	**0.0**	**0.0**	**16.8**	**2.3**	**19.1**	**19.1**
RAKAIA	0.0	0.0	0.0	16.8	2.3	19.1	**19.1**
Rural	**1303.7**	**1093.1**	**2396.9**	**30.2**	**3.2**	**33.4**	**2430.3**
CHERTSEY	0.0	0.0	0.0	3.2	0.2	3.4	**3.5**
FAIRTON	0.0	0.0	0.0	2.8	0.0	2.8	**2.8**
HINDS	0.2	0.1	0.3	5.1	0.7	5.8	**6.1**
LAKE HOOD	0.0	0.0	0.0	9.2	0.0	9.2	**9.2**
MAYFIELD	0.0	0.0	0.0	1.8	0.0	1.8	**1.8**
MT SOMERS	0.0	0.0	0.0	5.3	0.5	5.8	**5.8**
RURAL	1303.5	1093.0	2396.5	2.8	1.8	4.6	**2401.1**
Total	**1304.0**	**1093.1**	**2397.1**	**217.5**	**6.9**	**224.4**	**2621.5**

4.4. Transportation Assets

4.4.1. Pavement and Surfacing

The purpose of the pavement is to provide for effective, efficient and safe passage for the movement of vehicles and people. The pavement includes the road surface, either sealed or unsealed, and the underlying road structure made up of gravel layers.

Layers of construction comprising the pavement are:

- The subgrade formation - the preparation of the natural ground.
- The subbase and basecourse - the constructed gravel layers which support the overlying layers and surfacing.
- The surfacing – either bitumen bound chip (sealed) or unsealed running course gravels.

The pavement of a road should be:

- A safe, suitable, all weather surface that is appropriate to its location and function in terms of skid resistance, noise reduction, and smoothness. In other words: “fit for purpose”.
- A structure suitable for legal traffic loading requirements.

Full details of the ADC pavement and surfacing assets are recorded and stored in the RAMM database, but an overview map is shown below in Figure 4-4.

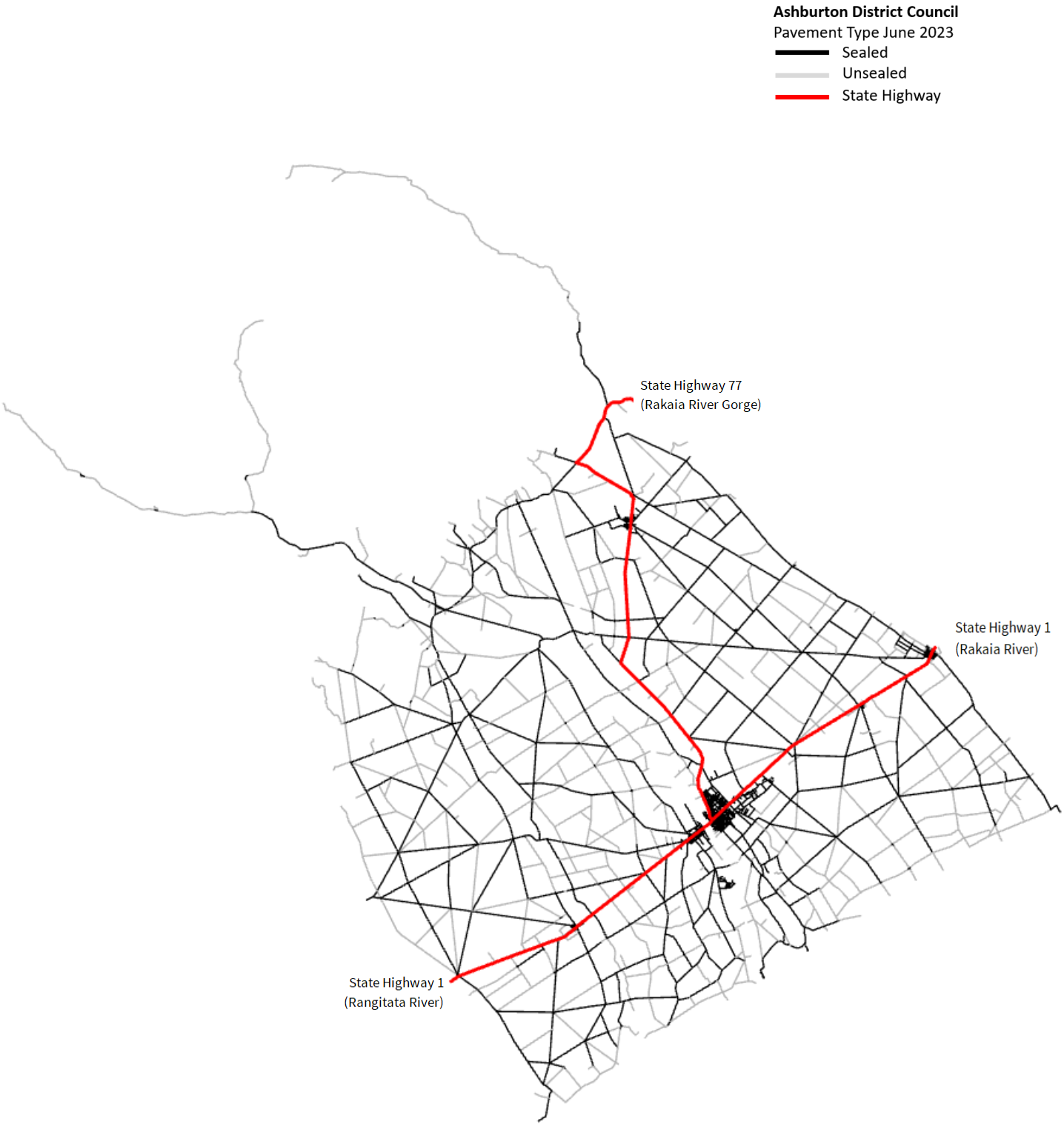


Figure 4- 4 Ashburton District Roads

4.4.2. Bridges

With many natural and man-made watercourses in the district (including rivers, streams and races) the Council maintains 188 bridges (including 19 large culverts classed as bridges for funding purposes as their cross-sectional area is greater than 3.4m^2).

This number includes 25 Rangitata Diversion Race (RDR) bridges, one pedestrian railway overpass and three “sunshine” bridges.

RAMM holds basic location, dimension and class information, while the council’s bridge consultant, WSP, maintains a specialised bridge inventory database (Online Bridge Information System - OBIS). This holds details including plans, inventory data, condition assessments, maintenance and renewal recommendations, photos and related documentation. Council has access to OBIS as part of the contractual agreement.

Key facts;

- 6 of the 188 bridges are timber structures, with the remainder concrete
- 3 bridges have speed/weight restrictions listed in the ADC Bylaws
- 3 bridges on the Hinds River are known as “sunshine” bridges since they only span part of the watercourse and the gravel approaches within the riverbed are expected to wash out in major flood events
- The 25 RDR bridges were all built before 1940 and range from 13m to 59m in length
- The longest bridge (on Arundel Rakaia Gorge Road spanning the Rangitata River) is 332m long and is jointly owned and maintained with Timaru District Council
- There are no bridges in the North East quadrant (see Figure 4- 5 below)

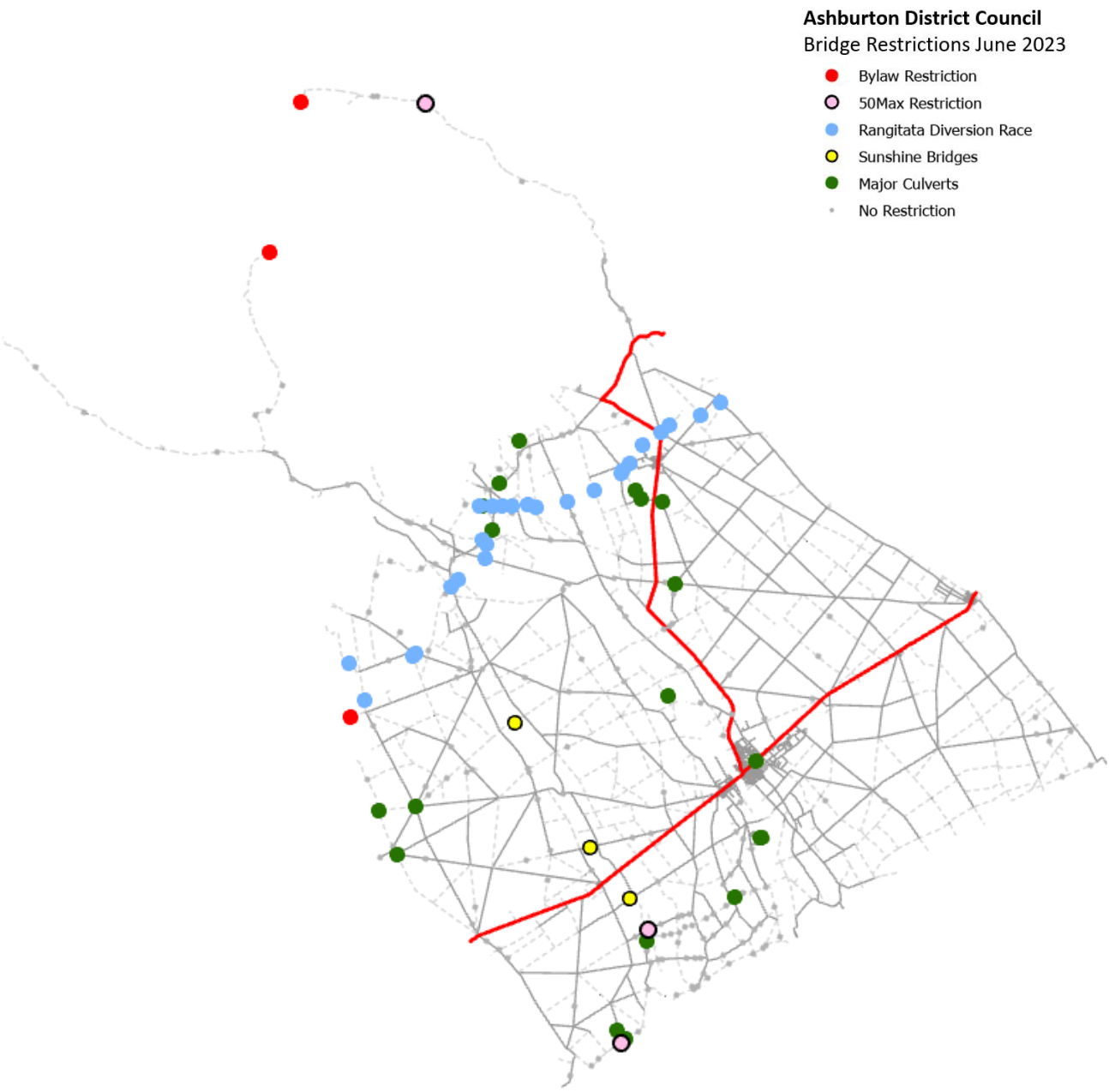


Figure 4- 5 Ashburton District Bridge Locations

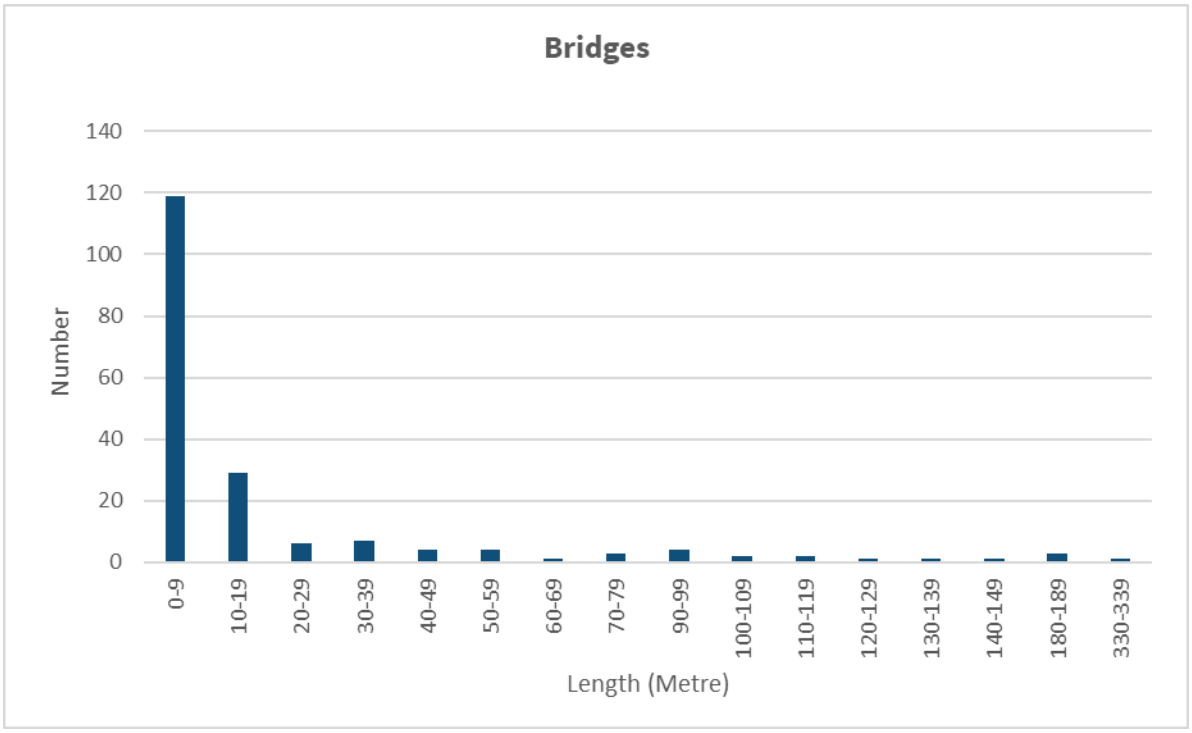


Figure 4- 6 Ashburton District Bridge Lengths

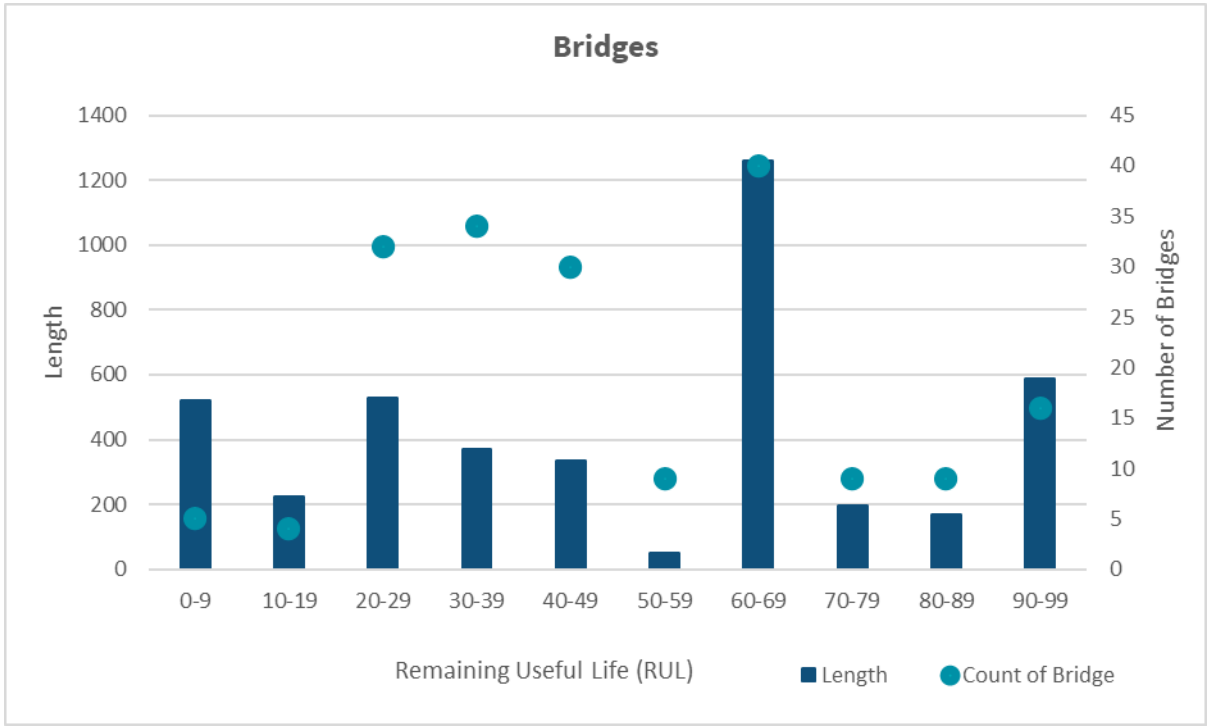


Figure 4- 7 Ashburton District Bridge Remaining Life

4.4.3. Drainage

Maintaining and preserving drainage along and across the road is one of the key aspects to ensuring the integrity and serviceability of pavement assets. Thus, drainage structures are a significant Council asset. The primary purpose of these assets is to prevent water from remaining on or accessing the road pavement layers, either by collecting and removing water from the roads during a rain event, or diverting existing watercourses that may otherwise naturally flow to the road.

Asset types include:

- Culverts - pipes crossing the road or at accessways
- Stormwater channels - including earth swale drains and kerb and channel
- Soakpits or sumps – these catch, disperse or hold water at low points on the roadside

Stockwater and irrigation races (and connected culverts or syphons) are the property and responsibility of the race owner/manager, and are not included in the transportation assets. Historically, as these watercourses became unused through obsolescence or upgrades they were generally filled in or removed. Recent experience in large floods have shown that where they remained, their worth as stormwater channels proved invaluable in either stopping or limiting flood extents. Race closures are identified and discussed with the various concerned parties to ensure subsequent actions are not detrimental to either council or private assets affected by the race's functions.

Full drainage asset details are contained in the RAMM database, but a summary is show in Table 4-2 below;

Table 4- 2 Drainage Assets

	Number			Length (m)							
Budget Area TOWN	**Culvert**	**Sump**	**Soakpit**	**Kerb & Channel**	**Kerb & Deep Dish**	**Kerb & Deep Dish & Covers**	**Mountable Kerb & Channel**	**Mountable Kerb Only**	**Kerb Only**	**Dished Channel**	**Earth Swale**
Ashburton	**162**	**1580**	**31**	**180545**	**33676**	**5384**	**1482**	**1882**	**4286**	**1189**	**25504**
ASHBURTON	108	1312	23	151976	22902	4345	742	1824	3777	1035	12752
TINWALD	54	268	8	28569	10774	1039	740	58	509	154	12752
Methven	**28**	**220**	**29**	**26988**	**1217**	**46**	**0**	**60**	**172**	**414**	**8384**
METHVEN	28	220	29	26988	1217	46	0	60	172	414	8384
Rakaia	**28**	**111**	**18**	**17332**	**395**	**0**	**0**	**222**	**0**	**52**	**1958**
RAKAIA	28	111	18	17332	395	0	0	222	0	52	1958
Rural	**3103**	**144**	**487**	**15507**	**43**	**0**	**6755**	**254**	**129**	**548**	**794741**
CHERTSEY	9	3	2	989	0	0	60	0	0	0	118
FAIRTON	6	8	14	2008	0	0	0	0	0	0	0
HINDS	7	26	3	5257	0	0	61	123	0	210	15898
LAKE HOOD	47	76	6	2667	0	0	5801	58	83	90	1323
MAYFIELD	4	10	1	1516	43	0	0	0	0	0	10735
MT SOMERS	12	17	1	2574	0	0	20	10	46	248	2756
RURAL	3018	4	460	496	0	0	813	63	0	0	763911
Total	**3321**	**2055**	**565**	**240372**	**35331**	**5430**	**8237**	**2418**	**4587**	**2203**	**830587**

4.4.4. Footpaths and Cycleways

Council maintains 257km of footpath, with 80% located within Ashburton Township. The footpath inventory grows through subdivision construction and annual Council capital programmes.

The Council footpath asset was primarily chipseal surfaced but current Council policy is to use asphaltic concrete (AC) for any new or resurfaced footpaths. AC generally provides a smoother surface and achieves longer life than chipseal. As at June 2023, 85% of footpaths are AC.

There are also footpaths in the parks and recreational areas managed by another Council department – Open Spaces. These are maintained by either Roading or Open Spaces dependent on cost efficiency and resources.

Council have relatively few separated cycleways (6533m) and all function as shared pedestrian/cycle paths. These are distinct from cycle lanes painted on roads of which there are 8842m. All cycleways and cycle lanes are located in the Ashburton township.

Full footpath asset details are contained in the RAMM database, but a summary is show in Table 4-3 below;

Table 4- 3 Footpath Assets

	Length(m)						
TOWN	**Asphaltic Concrete**	**Concrete**	**Interlocking Blocks**	**Metal**	**Chipseal**	**Slurry Seal**	**Total**
Ashburton	**176410**	**4190**	**4708**	**2043**	**12109**	**3806**	**203266**
ASHBURTON	145666	2906	4618	974	9566	3068	166798
TINWALD	30744	1284	90	1069	2543	738	36468
Methven	**17663**	**2933**	**1187**	**724**	**586**	**0**	**23093**
METHVEN	17663	2933	1187	724	586	0	23093
Rakaia	**8974**	**92**	**0**	**140**	**676**	**0**	**9882**
RAKAIA	8974	92	0	140	676	0	9882
Rural	**16740**	**305**	**0**	**3230**	**749**	**99**	**21123**
CHERTSEY	967	0	0	0	0	0	967
FAIRTON	1144	0	0	0	0	0	1144
HINDS	2776	49	0	0	106	99	3030
LAKE HOOD	8544	46	0	0	260	0	8850
MAYFIELD	2055	36	0	0	0	0	2091
MT SOMERS	1254	0	0	0	41	0	1295
RURAL	0	174	0	3230	342	0	3746
Total	**219787**	**7520**	**5895**	**6137**	**14120**	**3905**	**257364**

4.4.5. Traffic Services

Traffic services assets primarily assist in delivering safety outcomes on the road network and include the following:

- Road Signs and Pavement Markings
- Sight and Guard Rails
- Traffic Signals

Full details of the signs, road markings and railings are contained in the RAMM database. A summary of statistics shows the Council own and manage;

- 10,444 signs (identifying hazards, providing warnings, regulatory instructions or route directions and location or amenity identification)
- 911 km of centreline marking, 229 STOP markings and 911 Give Way triangle markings
- 8.03 km of guardrails and 4.3 km of sight rails

Guardrails are typically w-section railing generally located on bridge approaches or at roadside hazards providing physical separation and protection. Timber sight rails are commonly located at culverts, intersections or corners and provide a visual rather than physical barrier.

Council currently has only three signalised intersections (on East St, at the Moore St, Havelock St and Walnut Avenue junctions) which are maintained and managed by Traffic Control Systems (TCS). Along with the three signalised intersections on the adjacent State Highway 1 in Ashburton these are coordinated as one network to ensure effective traffic control.

4.4.6. Streetlights

Full details of the streetlights (separated by pole, bracket and light components) are contained in the RAMM database.

There are almost 3294 ADC Roading streetlights, and 92% are stand-alone lighting columns with the remainder mounted on power poles that are owned and managed by Electricity Ashburton Limited (EA). EA are progressively undergrounding their power lines, and where existing lights are mounted on power poles, new streetlights are installed as the power poles are removed and lighting levels are upgraded to meet the requirements of AS/NZS 1158.

87% of the streetlights are LED, providing brighter outputs (per unit of power) and consuming less power than traditional non-LED lights. However, more LED lights are required to achieve the same standard of lighting as non-LED lights and due to the high unit charge for electricity there hasn't been a substantive saving since the LED upgrade. The non-LED lights are generally either flag lights (generally at rural intersections) or ornamental lights that are uneconomic or impractical to convert. The ornamental group numbers over 300, and this indicates that there should be more control over vested streetlight design criteria to ensure they are compatible with council standards and policy.

Lighting within parks and carparks, and floodlighting for Council statues, features, and amenities are owned by other Council departments (Open Spaces or Property). These lights, along with the ADC and State Highway streetlights within the district, are included in the 2019-22 Lighting Operation and Maintenance contract, undertaken by EA. This contract was extended for two years till June 2024 (original 3-year contract had provisions for a 2-year extension). On June 2024, ADC awarded the 2024-29 Lighting Operation and Maintenance contract to Power Jointing Limited. Under-veranda lights are not included in the contract as these are privately owned assets.

4.4.7. Gravel Pits

Pits are needed to assist with material supply and cleanfill disposal as part of Council's roading programmes. Prudent pit management is essential to ensure future requirements for material sourcing and disposal of cleanfill are fulfilled, and Council's legal obligations (under the Crown Minerals Act 1991 and the Minerals Programme for Minerals (Excluding Petroleum) 2013) are met.

There are numerous sites across the district (over 230) that are gazetted for use as gravel pits, but only 14 are currently legally designated and used, for either extraction of gravel (6 sites), extraction of clay (1 site) or cleanfill disposal (7 sites). Some pits cannot be used due mainly to either exhausted material supply or physical inaccessibility.

The designation process is an alternative to obtaining specific resource consents for each site. Designations are permanent (until removed by Council) whereas resource consents have a fixed validity period. Council is pursuing designation for sites where future use will prove beneficial.

Extensive discussions were undertaken with Ministry of Business, Innovation & Employment (MBIE) in 2023 to obtain confirmation that mining permits are not required for the gravel pits ADC currently have in use and that an exemption from requiring a mining permit was granted as per Section 8(2)(a) of the Crown Minerals Act (1991). This decision was made on the basis that extracted gravels represent fair use of Crown minerals for road making and that the material is only used for the maintenance of Council's roads.

Council road rehabilitation contracts usually require materials to meet the TNZ M/4 specification. Most of the Council pit gravels cannot comply with this specification so the extracted material is generally used for metalling of unsealed roads, where the high fines content is desirable for an unbound surface. Rehabilitation material for the sealed road network is sourced by the specific project contractor as part of their contractual obligations and is typically obtained by crushing aggregates from rivers.

Access to the pits is made available to contractors if required and appropriate under Council contracts. Some pits may be leased to contractors for private cleanfill disposal once the gravel resource is depleted. This outcome is mutually beneficial as Council does not generate enough cleanfill to rehabilitate all the pits, and the contractor is not required to pay disposal fees. In addition, the Council receives lease payments and the contractor maintains the pit.

4.4.8. On-Street Car Parks

Installation and maintenance of on-street car parking sites in urban areas comprises road markings, signs and electronic monitoring systems.

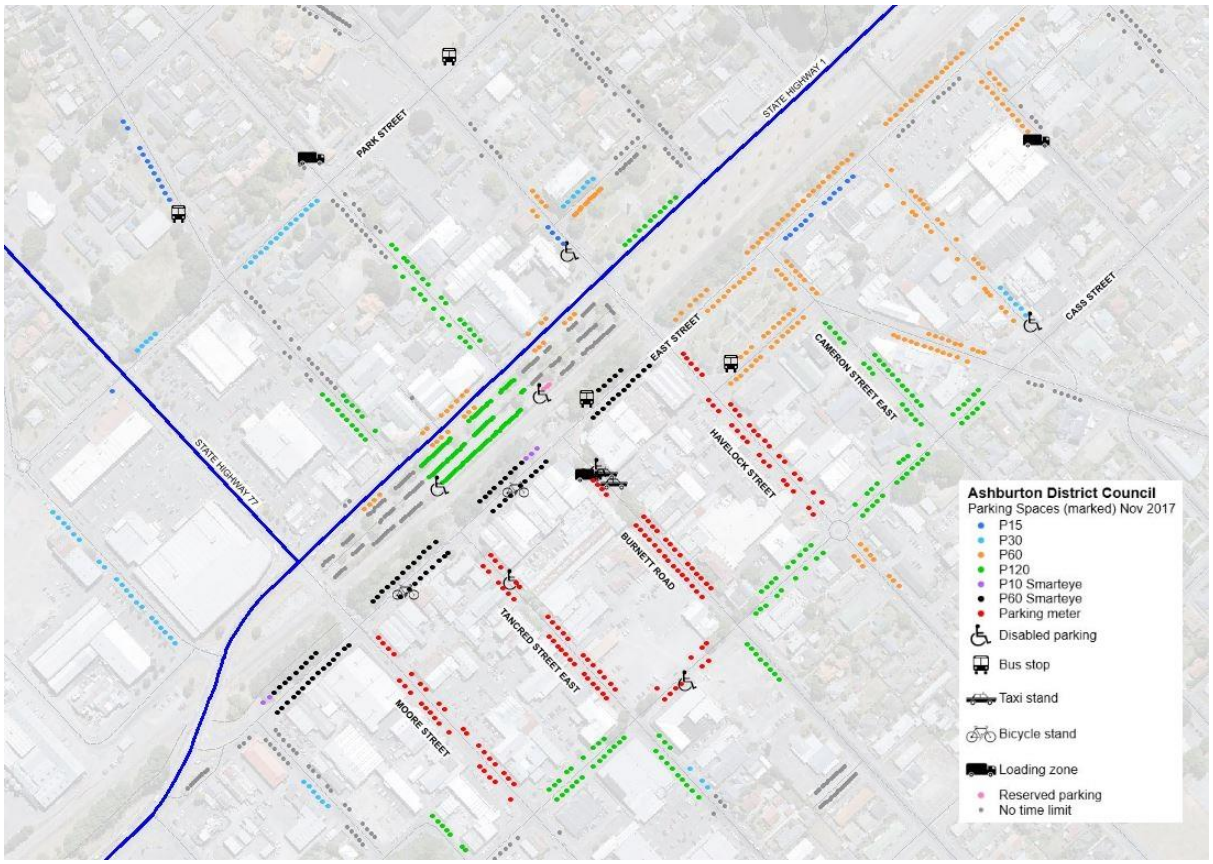


Figure 4- 8 Ashburton Car Parks

The activity responsibility is shared between Council's Roading (physical asset operation and maintenance) and Regulatory (enforcement and payment collection) departments.

There are time-limited car parks in Ashburton, Methven and Rakaia, but only Ashburton is patrolled by parking wardens.

NZTA subsidy is available for certain aspects of car parking, typically signs and markings.

4.4.9. Third Party Assets

There are assets either in or adjacent to the road corridor that are not the responsibility of the Roading team. However as they may affect the transportation network they must be included in planning decisions (for both long-term strategies and specific projects). These assets may be owned and/or managed by parties internal or external to Council and include;

- Railway lines
- Wastewater, stormwater and drinking water reticulated networks and associated structures.
- Power and telecommunication poles, cables and junction boxes.
- Irrigation and stockwater races, structures and conduits.
- Plantations, garden plots, trees and protected vegetation.
- Buildings, fences and signage.

Liaison is undertaken with third parties either through regular forward planning meetings or as required for specific events or projects.

Council require all parties undertaking work on the local road corridor to comply with COPTTM and/or the National Code of Practice for Utility Operators' Access to Transport Corridors (NZUAG Code).

Railway crossings are defined as either "road over rail" or "rail over road". "Road over rail" indicates that the road is encroaching on railway property, and as such, the Council (as the road controlling authority) is responsible for all or part of the operations, maintenance and renewal of the road and related assets, and shall comply with requirements of the rail controlling authority (Kiwirail). All railway crossings in the Ashburton District are "road over rail". The Council's share of costs for work that Kiwirail requires at crossings is site-dependent and largely dictated by Kiwirail. Kiwirail's communications and work programmes (including costings) have historically been at short notice and lacking in consultation. This issue has been raised with NZTA to encourage a national improvement, as the same occurs with many other councils.

There are an increasing number of stock underpasses on the ADC road network as farmers realise the benefit of avoiding public roads for their herd movements (especially for the daily dairy farm schedules). These structures are privately owned and the owners are responsible for their maintenance under signed agreements (Memorandum of Encumbrance) with Council. These agreements are attached to the relevant property titles, and Council is progressively correcting where this is not the case. Building consents are required for construction and costs are shared between the owner and Council. In terms of their effect on the transportation network they are treated as large culverts. NZTA provide subsidy for stock underpasses, with the rate based on the traffic volume of the relevant road. A nominal amount of council funding is set aside annually but because construction is at the farmers' discretion, reliable forecast figures are not available.

4.5. Road Classification

4.5.1. Road Hierarchy

There are currently two road hierarchies used within ADC to inform treatment decisions and define road corridor management requirements.

The Council road hierarchy comprises Arterial, Principal, Collector and Local roads (See Table 4- 4) and is only referenced in the District Plan, which sets out the defining parameters. It is used for ascertaining required vehicle access dimensions and locations.

The NZTA One Network Road Classification (ONRC) consists of eight road classes of which five are relevant to the Ashburton District: Arterial, Primary Collector, Secondary Collector, Access and Low Volume (see Table 4- 5). It is used for national comparative reporting, funding decisions and levels of service (see Section 5). The intent of this system is to provide road users with nationally consistent service expectations, inform and support activity management planning, investment choices, and operational decision-making. Detailed information is available on the NZTA website.

The Council hierarchy used in the District Plan has limited practical reach and can be managed in parallel with ONRC. As the District Plan process is somewhat onerous (with many years between revisions, and public consultation processes), and the Council hierarchy is not used for the day-to-day management and planning of the road network (as ONRC is) ADC are not intending to include ONRC in the District Plan. ONRC is updated on an annual basis, dependent on changes to traffic volumes or vehicle classifications, and may alter significantly over the periods between District Plan changes. While the Council hierarchy is also subject to change, its sphere of influence is relatively limited, and retaining out-of-date information for this hierarchy in the District Plan will have a very minor effect, as opposed to that of incorrect ONRC data.

In general terms both hierarchies reflect the traffic use in vehicle movements per day (Annual Average Daily Traffic or AADT), with additional functional criteria applied as required.

Table 4- 4 District Plan Road Hierarchy

Hierarchy	Rural AADT	Urban AADT	Notes
Arterial	> 1000	> 5000	• Predominantly through traffic, connect major localities. • Long trips and generally link to other arterial and collectors.
Principal	500-1500	1000-6000	• Connect arterials and inter-connect major rural, suburban, commercial and industrial areas. • Intermediate length trips and generally link to arterials and collectors.
Collector	150-800	200-2000	• Distribute and collect local traffic within and between neighbourhoods. • Link rural communities, and to arterials. Local spines in neighbourhoods.
Local	< 200	< 250	• Primary access to adjacent land and properties - through use discouraged.

Table 4- 5 One Network Road Classification

Class	Rural AADT	Urban AADT	HCV Daily	Additional Criteria
Arterial	3000-10000	5000-15000	300-400	• Buses per hour (urban peak) • Pedestrian/cyclist numbers • Linking populations • Critical connectivity • Ports / Inland Ports (tonnage) • Airport Passengers (per annum) • Tourism (significant destinations) • Hospitals (tertiary or regional)
Primary Collector	1000-3000	3000-5000	150-300	
Secondary Collector	200-1000	1000-3000	25-150	
Access	< 200	<1000	<25	
Low Volume	<50	<200	<25	

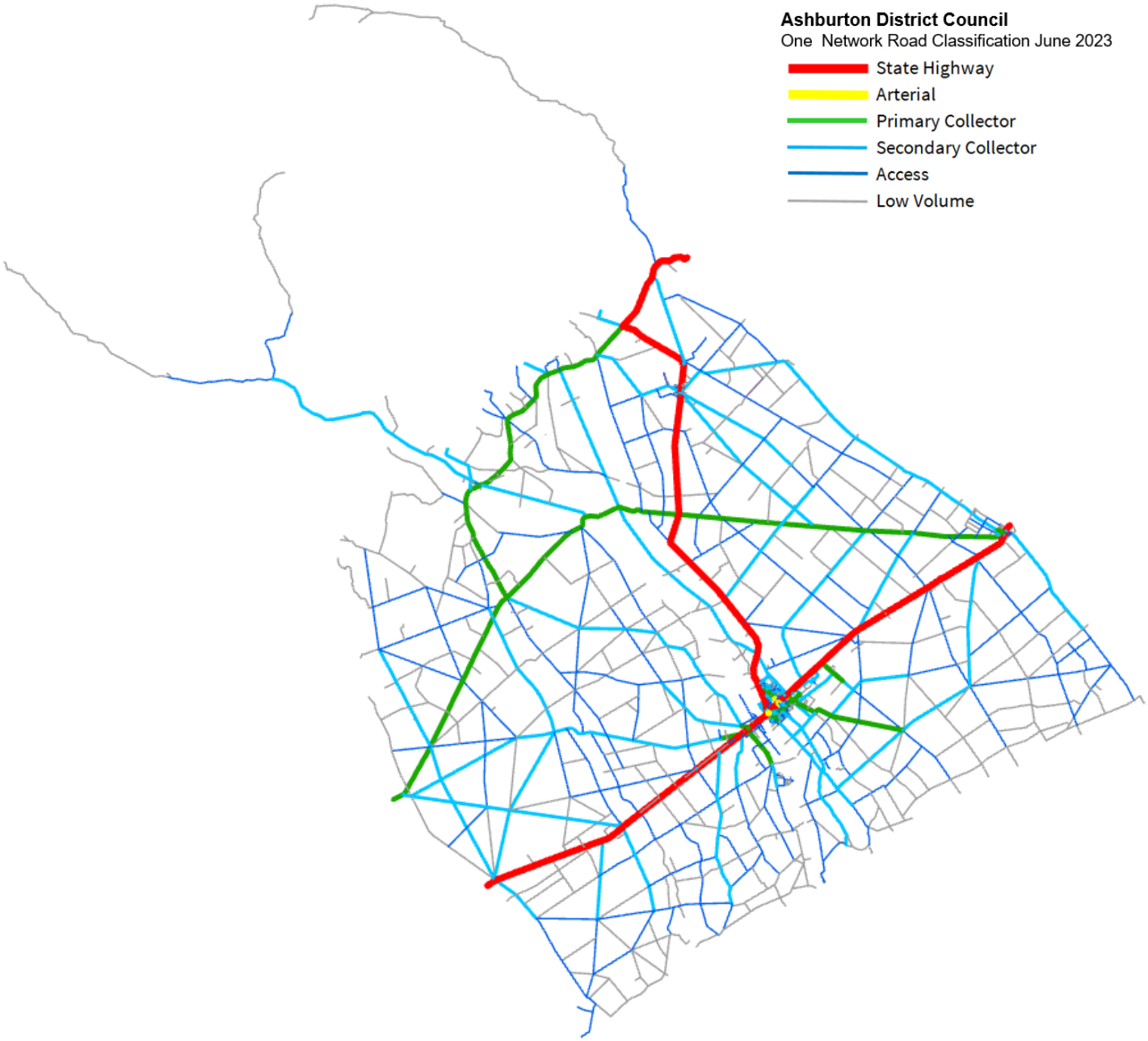


Figure 4- 9 Ashburton District One Network Road Classification

4.5.2. One Network Framework

NZ Transport Agency has created an overarching structure to road classification – the One Network Framework (ONF). This expands on ONRC by introducing additional parameters such as Movement and Place functions, which are then combined to provide Street Families. ONF allows more detailed application of multi-modal movements, adjacent land use, community requirements and economic activity.

The NOF classification Implemented on ADC's RAMM database during the 2021-24 period, with the expectation that it will be fully utilised in the 2024-27 period. Council expects that the ONF will provide an improved granularity reflecting a truer route or site characterisation than using only vehicle types and volumes. It also aligns with Government's wellbeing and environmental outcomes and recognises that roads and streets are used by a mix of people including pedestrians, cyclists, public transport users and freight operators. ONF is effective for our rural roads with higher traffic volumes, as well as urban streets and peri-urban roads.

For urban areas, this will highlight locations with increased activities such as walking and cycling, retail and commercial trade, and community gatherings and actions. In rural areas, we will be able to draw attention to sites that function as freight hubs, or stopping places for commercial, leisure and community purposes, and routes that serve as core connectors for regional, district and sub-district circuits.

While ONF adequately addresses most road types, the ADC finds that its "Rural Roads" category lacks the granularity required for prioritizing investment in rural roads. For such cases, ADC will revert to ONRC. The council propose introducing classifications such as Secondary Collector, Access, and Access Low Volume, which would include Type A, B, C and D roads. For instance, Type A roads have up to 50 vehicles per day (VPD) and light heavy commercial vehicle (HCV) usage, Type B roads have less than 20 VPD and minimal HCV usage, Type C roads have less than 10 VPD and negligible HCV usage, Type D Roads are generally low volume in nature but access DOC estates so will have variable access requirements pending on local and international visitor trends. This refined classification would aid in a more transparent level of service conversations with the road user and ratepayer explaining the need for prioritization of investment on the rural road network.

The service outcomes and performance measures will be introduced to help identifying differences between current and desired network performance. The figure below provides the ONF classification for Rural and Urban Road or Streets.

Figure 4- 10 One Network Framework Street Families

- **Place defines**- "Land use vision and user experience that transport needs to support"
- **Moment defines-** "Consider the mix of transport modes and defined priority for moving people and goods safely"

The following table set out the Place and Movement functions in five scale (1 to 5) classification based on their characteristics.

Table 4- 6 Characteristic of Place function

Place function ranking	Level of on-street activity	Typical adjacent land-use	Level of on-street activity – pedestrian volume
P1	• Very high on-street activity – very high numbers of pedestrians • Very high numbers of people spending time in the location • Major movement across the carriageway	High rise office blocks and apartments, central city shopping and entertainment, major commercial centres, streets with this level of place are most likely to be located within the CBD of major cities	>1000 /hour at peak > 5,000 /day
P2	• High/very high on-street activity – high numbers of pedestrians • High numbers of people spending time in the location • Significant movement across the carriageway	Office blocks, low rise apartments, entertainment venues, retail, commercial businesses, community facilities	>2,500 /day

Place function ranking	Level of on-street activity	Typical adjacent land-use	Level of on-street activity – pedestrian volume
P3	• Medium to high on-street activity • Some people spending time in the location • Some movement across the carriageway	Office blocks and low-rise apartments, retail, entertainment venues, commercial/trade businesses, community facilities, industrial	>1000 /day
P4	• Low to medium on-street activity related to people going about their lives • Limited movement across the carriageway	Residential, schools, community facilities, low intensity commercial/industrial	<1000 /day
P5	• Little discernible on-street activity	Mostly rural except for State Highways (motorways/ expressways) in urban areas	Negligible pedestrian movement

Table 4- 7 Characteristic of Movement function

Considerations to determine Movement Significance		Nature of Movement	Scale of People Movement (all modes)
M1	Major	Mass movement of people and/or goods on roads or streets that are of major importance in urban areas, within and between regions or nationally	Typically > 20,000 per day
M2	Significant	Movement of people and/or goods on inter-regional routes or primary roads and streets linking main centres or significant destinations and travel hubs within a city/town or region.	10,000 – 25,000 per day
M3	Moderate	Movement of people and/or goods around a city, town or region	3,000 – 12,000 per day
M4	Minor	Local movement by people making short trips or connecting to connector roads	300 – 4,000 per day
M5	Low	Local movement by people going about their daily lives	Typically < 500 per day

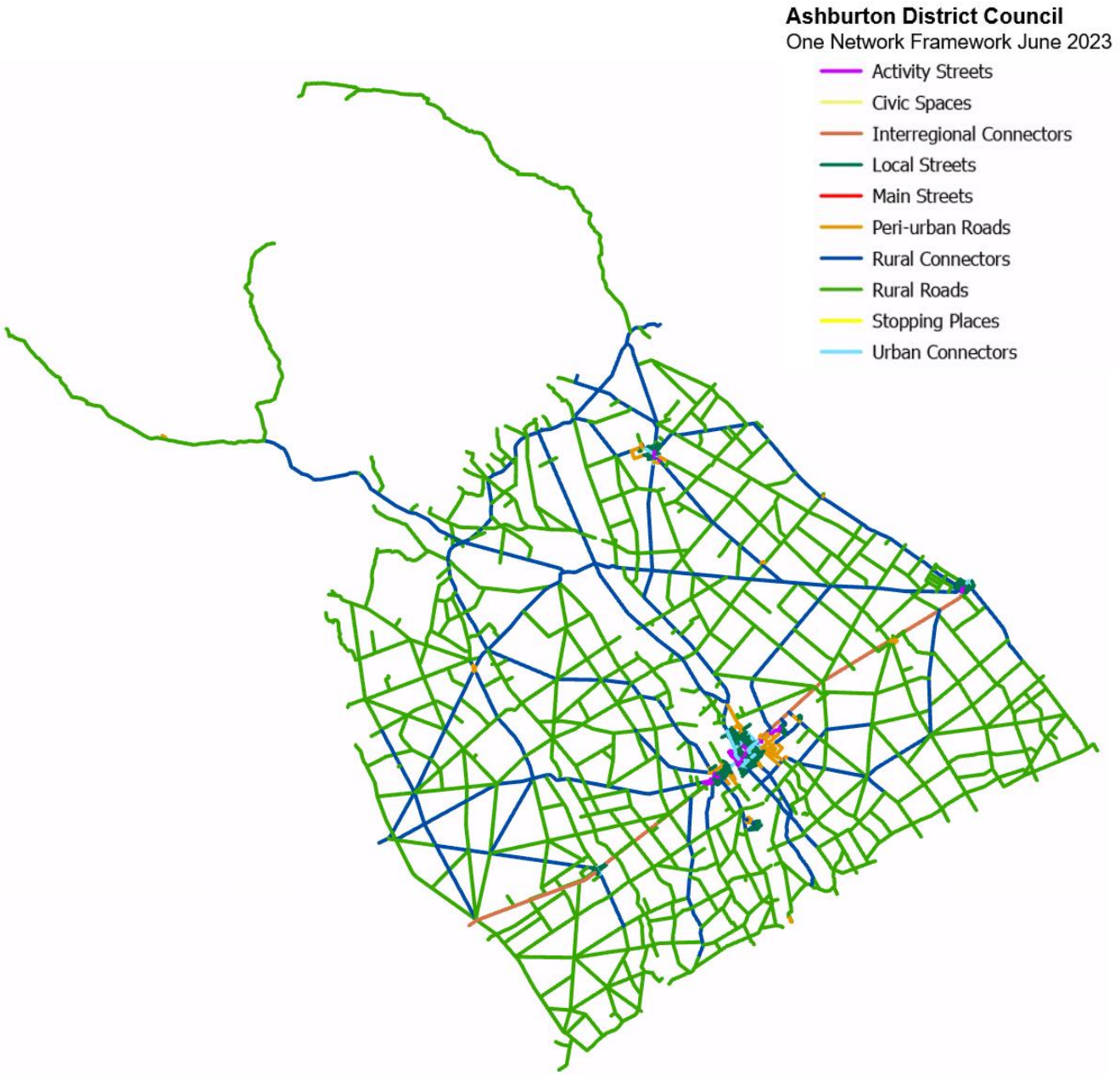


Figure 4- 11 Ashburton District One Network Framework

4.6. Safety Management

4.6.1. Safety Management Strategy

Road safety is managed by the Road Safety Technician applying Council's Safety Management Strategy (SMS). This strategy identifies central, regional and local government and community requirements across all aspects of network safety, and provides plans and actions to facilitate these requirements. The SMS includes processes to enact that ensure hazards are identified and addressed appropriately to prioritise network users' safety.

The SMS considers and contributes to the following:

- Physical activities on the road reserve
- Investigations and design of improvements
- Land use activities
- Regulatory controls and Police enforcement
- Road safety publicity and education programmes

The SMS ensures that the whole network is managed with a structured approach to meet required standards and achieve a high level of safety for users. Council will monitor current best practices, investigate new recommendations, and update processes and policies as required.

This AMP includes some of the detail required for the operation, management and implementation of the SMS, but the SMS is published separately. The SMS is currently under revision to ensure all relevant legislation, policies and strategies are correctly referenced and aligned.

4.6.2. Road Crash Monitoring

Council uses the NZTA Crash Analysis System (CAS) as its primary reference for monitoring and reporting on crashes occurring within the road network. Council's response to crash trends in either location or type is then developed based on the severity and regularity of crashes as they occur.

Council's overall approach to Road Safety is led by both GPS 2024 safety priorities and also the Canterbury Regional Land Transport Plan 2024-2034.

Council's vision is no one is killed or seriously injured in road crashes. This means that no death or serious injury while travelling on our roads is acceptable.

Council then uses this approach applying higher-level guidelines when investigating and prioritising potential road safety initiatives and projects.

Council's future safety infrastructure improvements will focus on the following key areas:

- Intersection improvements
- Out of context curves
- Delineations
- Crossings

4.6.3. Speed Limits

The setting of speed limits on local roads is council's responsibility. The Land Transport Rule: Setting of Speed Limits 2022 sets out the procedures and requirements that Council must follow when setting or reviewing speed limits. New Zealand Transport Agency's Speed management guide (Road to Zero edition) provides information and guidance to the Road Controlling Authorities (RCA) in transitioning safe and appropriate speed limits across the network. The Four principles are designed to be applied together and complement each other.

- **Safety**

  Set speed limits that minimise the risk of fatal and serious injury to all road users by reducing impact speed and crash forces

- **Community wellbeing**
  Set speed limits to enable equitable access to a variety of safe and healthy transport options, and generate public health, accessibility, environmental and amenity co-benefit

- **Movement & Place**
  Set speed limits in accordance with the One Network Framework (ONF) street categories, design and infrastructure

- **Whole of System**
  Support speed limits with other speed management activities such as regulation, enforcement, communications, engagement and monitoring

Ashburton District Council developed the Interim speed management plan to align with NZ Transport Agency's Road to Zero national road safety strategy. The objective is to reduce DSI crashes on local roads and encourage active transport in the district. The public consultation was carried out with several proposals were received for reducing speed limits around schools and urban fringes. The ISMP has three principles as below,

1. Reducing the speed limits around schools to 30 km/h permanent speed limit for most schools in the district. Four rural schools have a 30 km/h variable speed limit due to the high average vehicle speeds next to the schools.
2. Reducing the speed limits around the urban fringes. This is to cater for urban development in the district and to reduce the approach speed of vehicles entering the townships. This would allow speed reductions on urban fringe roads to either 50km/h, 60km/h or 80km/h depending on the level of development. The area defined under the urban fringe category are roads within a 1 km radius from a township's boundary and can be seen on the maps in Appendix D – Speed Management Plan (Urban Fringe 1 Km)
3. Reducing speed limits on roads with high active users to 40km/h or less.

Ashburton District Council changed the school zone speed limit to 30 km/h for all schools around the district, which came into action on July 2023.

The Government policy statement 2024 will replace the Land Transport Rule: Setting of Speed Limits 2022 with a new rule that requires Road Controlling Authorities to reverse blanket speed limit reductions by 1 July 2025.

4.6.4. Community Road Safety Action Plans

As well as considering physical network improvements Council also submits annual recommendations to NZTA on funding needs for community based road safety projects, targeting education and promotion activity. This plan concentrates more on the users of the transportation asset aiming to improve overall safety behaviour and perceptions.

Once adopted, community projects are coordinated by the Ashburton Road Safety Coordinating Committee where a number of key stakeholders (including ADC, NZTA, emergency services and local health agencies) are involved in the delivery of community programmes and projects. A number of projects from this process have been included in the 2024-27 NZTA funding submission. Council's focus for the community education campaigns are the following key areas:

- Alcohol and drug Impaired driving
- Travel speed too fast for the condition
- Intersection approach awareness
- Young/ New drivers education and licencing programme

4.6.5. Collaboration

Ashburton District Council works closely with neighbouring authorities. Meetings are held regularly with all West Coast and Canterbury councils to ensure consistency in message and approach, enable information sharing and provide efficiencies in cost and resources. There are also Regional Road Safety Working Group and Regional Road Safety Coordinators' meetings.

The Council works with the South Canterbury Road Safety Coordinator (representing Timaru, Mackenzie and Waimate District Councils) to deliver combined campaigns and data sharing due to the similarity of our districts, and to align with ARC.

ADC shares a road safety focused website with South Canterbury Councils (scrs.org.nz), this website holds our road safety information and projects.

4.6.6. Temporary Traffic Management

Council has adopted the NZTA Code of Practice for Temporary Traffic Management (COPTTM) as a basis for managing the safety at temporary worksites of both workers and public road users on its road network. Council reviews, approves, and monitors Traffic Management Plans conforming to COPTTM requirements, to ensure that any work done on the Council road network by Council contractors, other contractors, or members of the public is done by applying best practice in Temporary Traffic Management.

With NZTA's planned changes to COPTTM (training requirements, traffic management practices etc.) Council is concerned that costs either borne directly (staff training) or indirectly (contract requirements) will increase beyond the relative benefit that the changes are supposed to achieve. While safety is paramount for all work sites to ensure public, staff and contractor wellbeing and protection, it is not expected that available budgets will be able to absorb the increased costs without reductions in other areas.

Council will work with the approved contractors and subject matter experts to implement the New Zealand guide to temporary traffic management (NZGTTM) risk-based approach, and plan and mitigate the risks to all road users and road workers. It includes robust risk assessment and ensuring that the TTM setups are as safe as possible for the specific risks at each site.

4.7. Technology

Council embraces technology that provides fit-for-purpose solutions that increase staff and contractor productivity and provide innovative advancements.

RAMM software applications have been used for many years, providing inventory information, valuations, assessments, condition surveys, mapping, contract and corridor access management, network planning and treatment programmes. Field work is enhanced through use of live or synchronised data access to the maintenance programmes.

Customer Service Requests are managed with multi-modal functionality, and linked to RAMM Contractor to provide semi-automated updates.

The latest pavement modelling programmes and data collection tools are utilised to ensure optimised outputs for forward works (see Section7.3.2)

ADC provide regular updates to the Auckland Motorway Alliance's online location tool – Mobile Road. This provides live location and inventory data via mobile technology for all road users.

In-house expertise has developed utilisation of on-site mapping and data collection processes and software that save time and improve functionality.

4.8. RAMM

Ashburton District Council uses the Road Asset Management and Maintenance (RAMM) system. This is a nationally standardised database used by the majority of road controlling authorities in New Zealand. RAMM stores asset inventory, condition information and traffic data. Asset valuation forward works programming and treatment analysis and selection are additional functions within the software. RAMM is a key tool in managing transportation assets in an efficient and effective manner. Council staff are continuously and progressively improving the quality and completeness of asset data in RAMM.

4.8.1. Asset Management Data Standard

NZTA introduced an Asset Management Data Standard (AMDS) to provide nationally consistent and comparable assets data information that informs better land transport investments. This will be achieved by the provision of a common language defining and describing land transport assets as well as their attributes, values, characteristics, location and performance. The new data standard will enable multiple benefit across the sector.

The Implementation is proposed to be staged over the 2025-26 period for the Canterbury region, as various asset types are finalised and released within modules for feedback and subsequent application. The Implementation action plan will be developed along with the Aoraki Roading Collaboration (ARC) group due to the similarity of our districts. This process will require changes to the content and structure of the RAMM tables but at the time of writing the associated costs and resource requirements are unknown.

4.9. Data Confidence

Data confidence grades (Table 4- 8) have been assigned per asset type (Table 4- 9) relative to four key attributes;

- Location – the physical location of the asset in linear and/or geospatial terms.
- Quantity – the number/dimensions (e.g. length, area) of the asset as required by type.
- Unit Cost - standard replacement cost for the asset based on valuation procedures.
- Life - the asset's expected total useful life (TUL) defined by original design or standardised expectations, and remaining useful life (RUL) at the time of valuation.

Table 4- 8 Confidence Grades

Grade	Label	Description	Accuracy
A	Highly Reliable	Data based on sound records, procedures, investigations and analysis, documented properly and recognised as the best method of assessment. Dataset is complete and accuracy is high.	±5-10%
B	Reliable	Data based on sound records, procedures, investigations and analysis, documented properly but has minor shortcomings (e.g. old data, some missing documentation, reliance placed on unconfirmed reports and extrapolations). Dataset is complete and accuracy is good.	±10-15%
C	Uncertain	Data based on sound records, procedures, investigations and analysis which is incomplete or unsupported, or extrapolated from a limited sample. Dataset is substantially complete but accuracy requires improvement.	±15-25%
D	Very Uncertain	Data based on unconfirmed verbal reports and/or cursory inspection and analysis. Dataset may not be fully complete and most data is estimated or extrapolated with low accuracy.	±25-40%

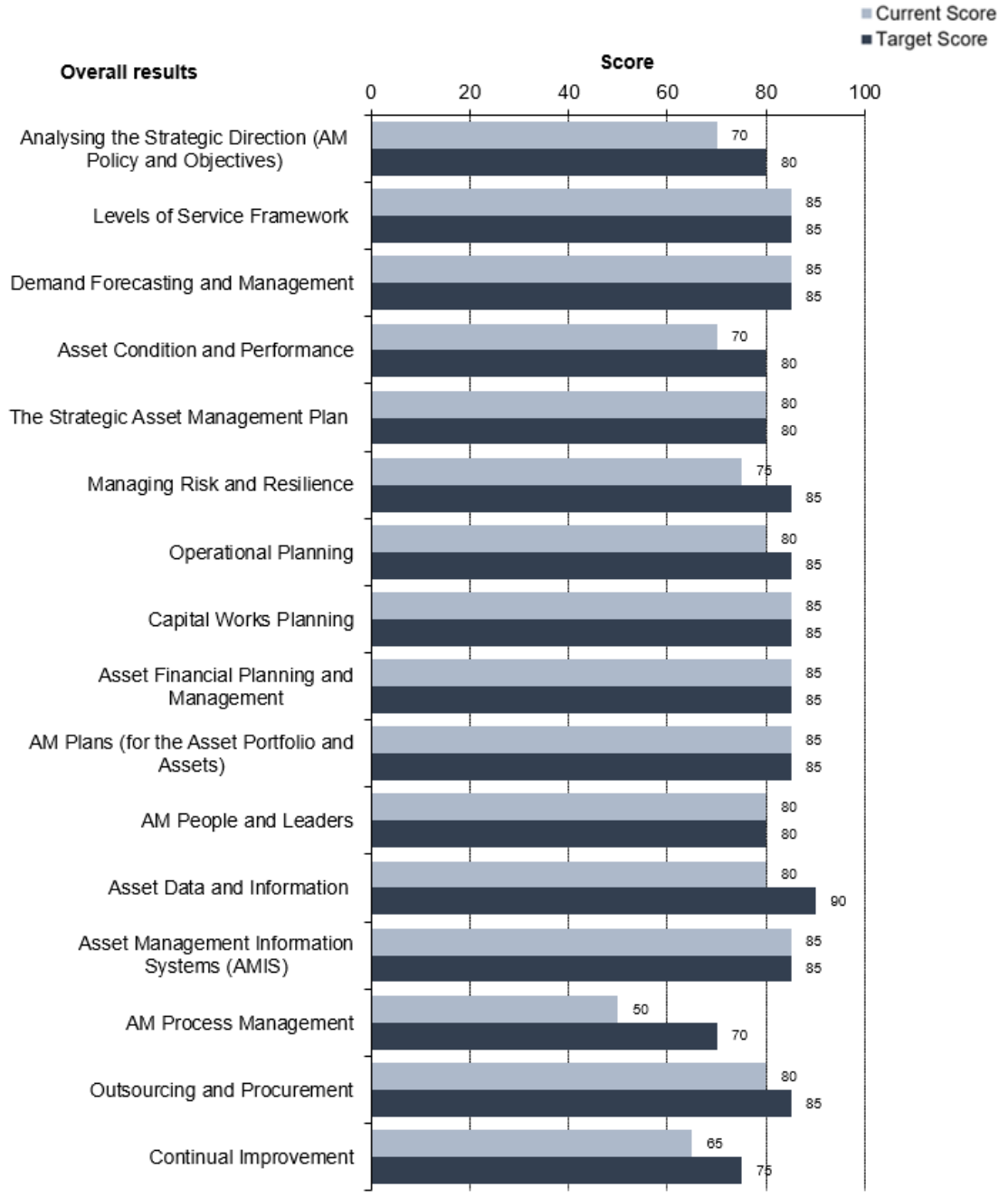
Table 4- 9 Assessment of Confidence Grades

Asset	Location	Quantity	Unit Cost	TUL/RUL
Berms	B	C	B	C
Bridges	A	A	B	B
Drainage	B	C	B	C
Footpaths	A	A	B	B
Islands	B	B	C	C
Minor Structures	B	A	B	B
Railings	B	B	C	C
Retaining Wall*1	C	C	C	C
Signs	B	C	B	C
Street Lights	A	A	C	C
Surface Water Channels	A	B	B	C
Traffic Facility	B	B	B	C
Traffic Signals*1	A	A	A	A
Formation	A	A	B	B
Pavement*2	A	B	C	C
Top Surface	A	B	A	C

*1 These Assets are not valued from their RAMM inventory data and as such the confidence ratings refer to the actual data sourced for their valuation results.

*2 The Quantity source assessed is the Replacement asset rather than the existing asset.

4.10. Asset Management Maturity Assessment



Aware	Basic	Core	Intermediate	Advanced
0-20	21-40	41-60	61-80	81-100

Figure 4- 12 Asset Management Maturity Assessment score

ADC's AM maturity score is 78 (Intermedial level) and the Target is 83 (Advanced) with a 5 of maturity gap. For most criteria the AM maturity is fit for purpose, however, the formal AM processes need to be documented (ex. AM Plan and Policy) and regularly reviewed.

5. Levels of Service

5.1. Overview

Levels of Service (LOS) describe the outputs Council intends to deliver to customers and other stakeholders. They enable monitoring and management of the quality of activity delivery. The LOS should focus on key aspects of the delivery and prescribe the direction, standard, and provide a measure for the overall expected quality of the activity. The setting of LOS requires a balance between cost and quality that includes and reflects customer consultation and acknowledgement.

5.2. Customer Expectations

The present road network was established many decades ago and has been maintained and slowly upgraded to its current standard. Based on the annual ratepayer satisfaction surveys, CRM comments and general public feedback it is evident that the community expects an increasing level of service that will require a significant focus on network maintenance and ongoing renewal.

This expectation for increasing level of service across the network has to be managed carefully as Council needs to balance level of service demands with the funding available both locally and through NZTA subsidies.

5.3. Foundation

The Levels of Service applied to transportation activities are informed by both the Council Long Term Plan and the One Network Road Classification. Over the 2024-27 period, the One Network Framework will begin to introduce additional parameters for Levels of Service.

5.3.1. Long Term Plan

The Ashburton Long Term Plan includes the following levels of service

- We provide quality transportation services for the district
- Council contractors respond to transportation network failures and requests within required response times
- The majority of residents are satisfied with Council's transportation services

In 2014 the Department of Internal Affairs (DIA) produced a set of mandatory performance measures for all territorial authorities to report on, along with guidance for their measurement. These performance measures do not provide a defined level but rather show how the Council is performing, i.e. the number of complaints received.

Section 5.4 shows the performance measures and latest results.

The reporting of LTP performance measures is formally documented within the Council's Performance Management Framework document. The framework outlines the measures and how they are measured. The performance measures are reported every four months and within the Council's Annual Report.

5.3.2. One Network Road Classification

The ONRC is a national categorisation of roads based on their functions to provide;

- Parameters for customer levels of service, performance measures and targets
- Comparative data to assist with local, regional and national funding decisions

The ONRC provides much more detail than the LTP LOS. It has, as data has improved and expanded, provided nationally comparative information with true indicators for gap analysis and network performance.

ONRC performance measures are provided in the Performance Measures Reporting Tool (PMRT) – an online website that details annual achievements in multiple facets of asset management. This information is used for national comparative reporting, as well as informing RCAs of areas that need further work or analysis.

While ONRC has become well embedded in asset management practices, Council expect NZTA to liaise with both DIA and Audit NZ to ensure duplicated or conflicting performance measures are removed.

Currently, ONRC is being used in the network maintenance contract (defining maintenance levels and response times) and pavement renewals (providing preliminary exclusion parameters). It is also used in general forward planning to assist with ensuring focus and prioritisation, where needed, is appropriate.

Details of the current ONRC levels of service, performance measures and comparative results are supplied in Appendix A – One Network Road Classification

The introduction of the ONF may affect Levels of Service in the future, but it is unclear at this stage exactly how or to what extent.

5.4. Gap Analysis

To understand where gaps exist between current and desired performances we compare measured outcomes. The following table compares current and desired LTP performance measure outcomes, and states the actions required;

Table 5- 1 2022-2023 End of Year Performance Update

Performance Measure	2021/22 Results	2022/23 Target	2022/23 Results	Comments/Improvement Action
Level of Service: We provide a quality roading network for the district				
The sealed local road network is smooth [MANDATORY]	96%	90%	97%	Target achieved
The sealed local road network is well maintained [MANDATORY]	5.3%	4.00%	4.90%	Target achieved
Volume of metal replaced on unsealed roads [Three-year rolling average]	55,357 m3	≥ 48,000 m3	36,545 m3	Target not achieved
Residents are satisfied with Council's unsealed roads	46%	60%	46%	Improve maintenance and renewal outcomes and better communicate council's programmes and intent.
Residents are satisfied with Council's sealed roads	24%	45%	26%	
Roading service requests are responded to within 5 working days [MANDATORY]	90%	75%	98%	The results are using a five working days measure (ignoring working type and location).
Level of Service: We provide a footpath network that is fit for purpose and well maintained				
The footpath network is well maintained [MANDATORY]	99%	85%	99%	Target achieved
Footpath service requests are responded within 5 working days [MANDATORY]	90%	75%	98%	The results are using a five working days measure (ignoring working type and location).
Level of Service: We provide a transportation network to reduce risk of harm of others				
Reduction in fatalities on local roads [MANDATORY] [The change in the number from the previous financial year]	-3	Decrease from previous year	-2	Road Safety strategies and works programmes will be enacted where they can improve road safety
Reduction in serious injury crashes on local roads [MANDATORY] [The change in the number from the previous financial year]	0	Decrease from previous year	4	

Where targets have been achieved but results could still be improved, investigation of the target itself should be undertaken. This is to ensure the target is reasonable and matches AMP intents, as well as wider Council goals or policies.

5.4.1. Road Safety

Ashburton District Council is committed to regional and national strategies to decrease road crashes. Section 4.6 provides details of Council's safety commitments and plans.

The image below shows the death and serious injuries (DSI) that have occurred in the past seven years. More than half of all fatal and serious injury crashes are grouped as loss of control or head-on movements, on both straights and bends. The majority of DSIs have occurred on Primary and secondary roads; NZTA audit 2021 have identified that ADC rural intersection have the highest road safety risk.

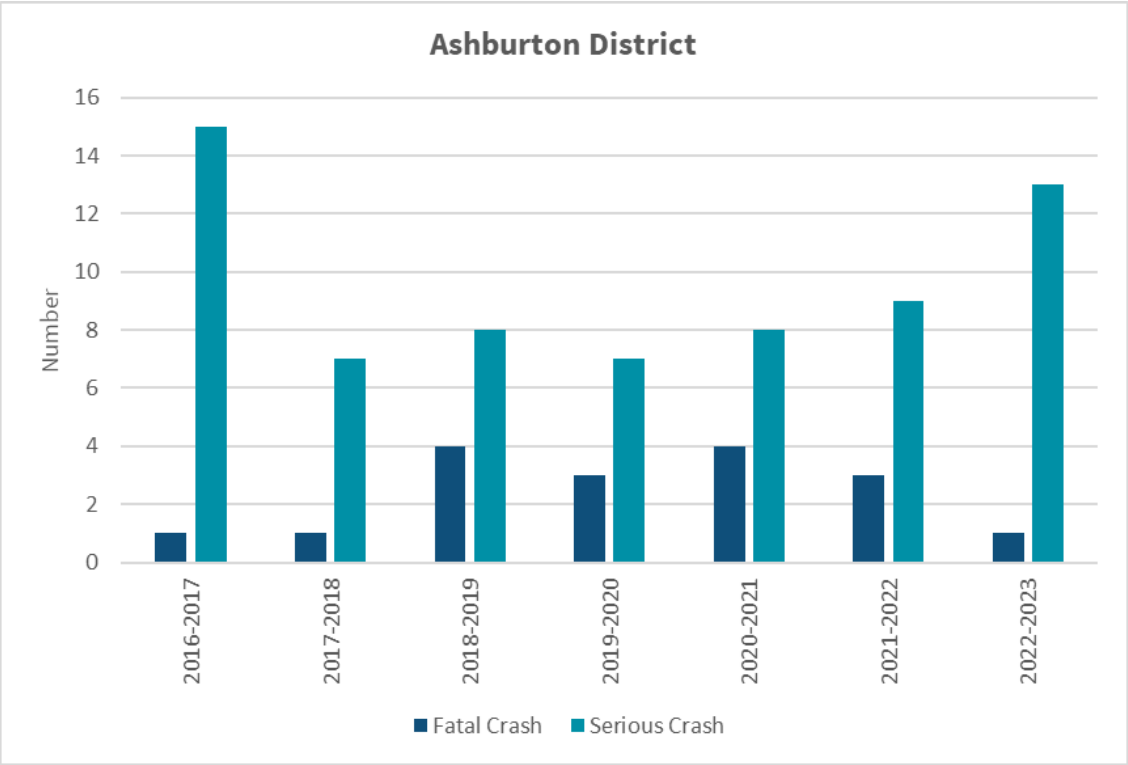


Figure 5- 1 Fatal & Serious Injury 2016-2023

Safety interventions such as improvement or installation of signage, markings and traffic control devices, road layout changes, speed environment management and user education are employed through renewals and Low Cost Low Risk programmes.

5.4.2. Smooth Travel Exposure

Smooth Travel Exposure (STE) is the proportion of Vehicle Kilometres Travelled (VKT) each year on roads defined as “Smooth”. A “Smooth” road is one with roughness levels at or below a set criteria which varies depending on traffic volumes and road type. NZTA set the criteria and the specific details are available in the annual NZTA RAMM Reports and through NZTA website information. An increase in STE means that more kilometres are being travelled on “Smooth” roads.

Referring to Figure 5- 2 below, rural roads show consistently good results for STE where urban road STE is improving. Urban areas are always more problematic for roughness due mainly to density of utilities and higher traffic volumes.

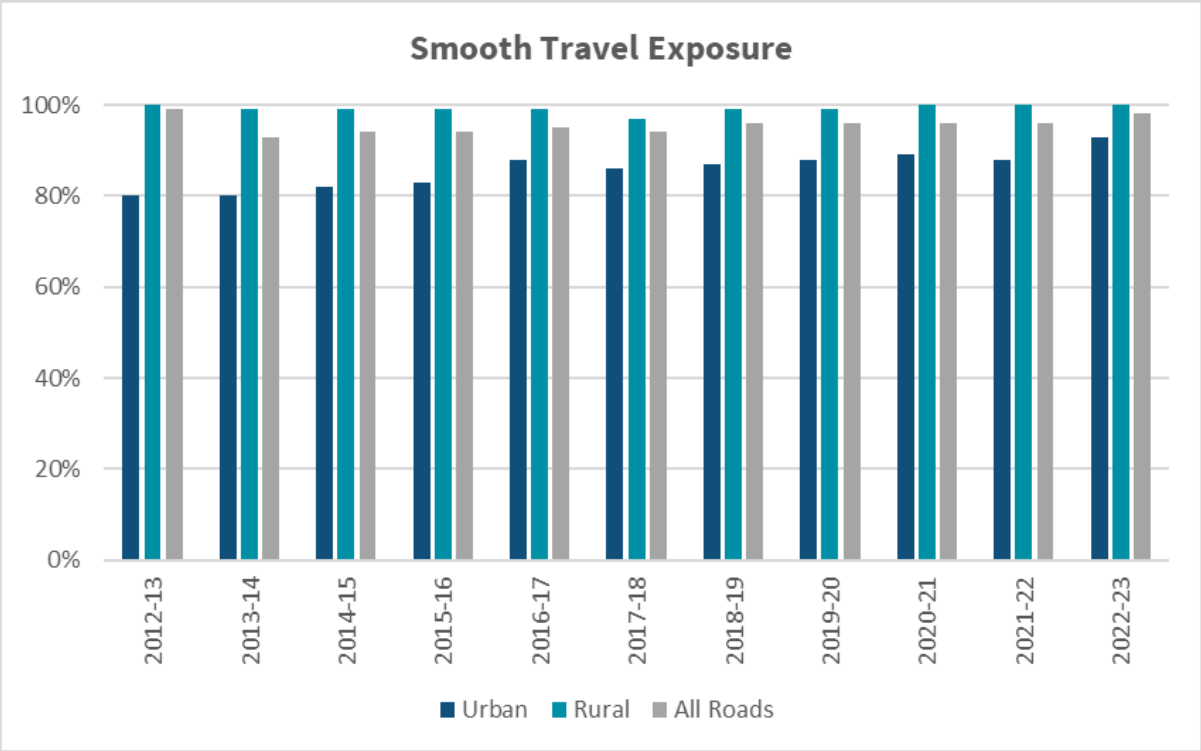


Figure 5- 2 Smooth Travel Exposure 2012-2023

5.4.3. Sealed Road Resurfacing

Council included rehabilitation of sealed roads as a renewal activity in the 2011-12 programme using a portion of the budgeted resurfacing funds for this activity, as additional rehabilitation funding requested was declined by NZTA. Since this time the level of funding for resurfacing has remained at this reduced level, although the percentages resurfaced have increased gradually since 2013-14 as a direct result of lower contract rates.

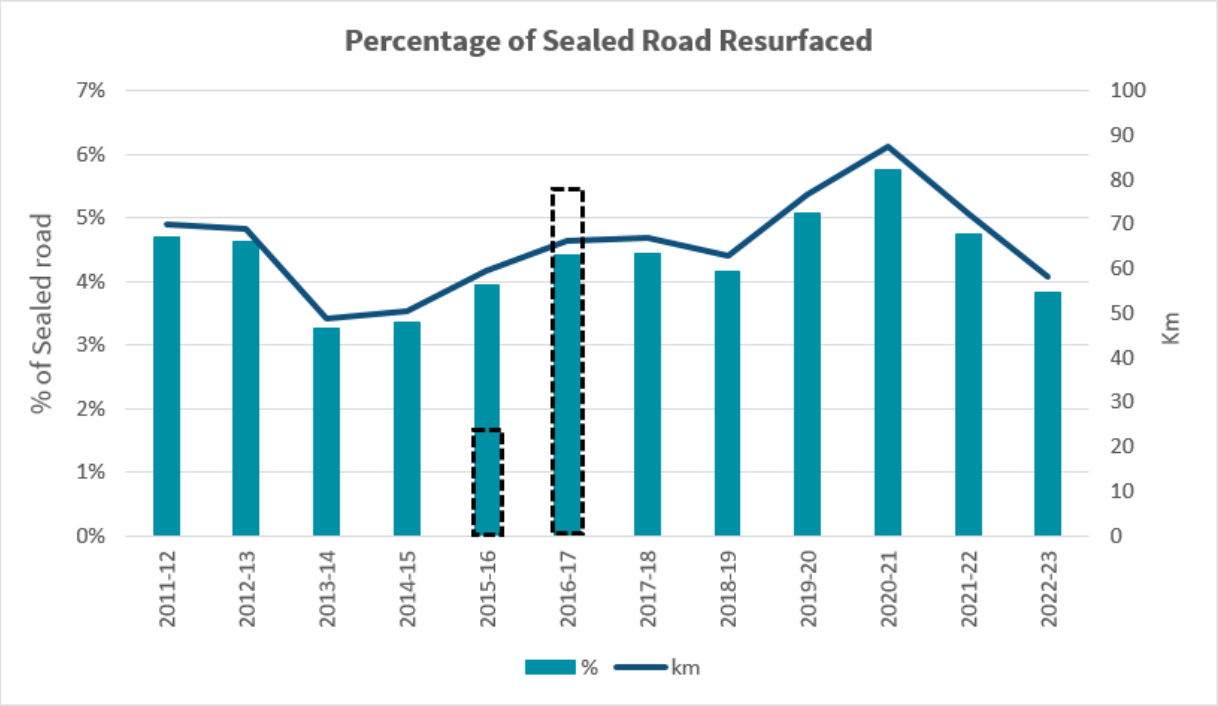


Figure 5- 3 Sealed Road Resurfaced 2011-2023

Note that in Figure 5- 3 above the programmed 2015-16 resurfacing contract (C636) was constructed over two financial years (2015-16 and 2016-17). The outlined areas show the physical construction percentages as opposed to the contracted year percentages in blue.

Council aimed to achieve approximately 80 to 83 km of resurfacing a year to maintain the current level of service. From 2020-21 FY, the resurfacing programme has been greatly shanked due to the substantial increment in bitumen cost and contract rates. In 2022-23 FY, only 58 km of the sealed network was resurfaced.

5.4.4. Unsealed Road Metalling

This performance measure was introduced as a direct response to an Audit NZ recommendation that unsealed road performance should be reported in a quantifiable manner. Figure 5- 4 below shows consistent increases in metal amounts applied.

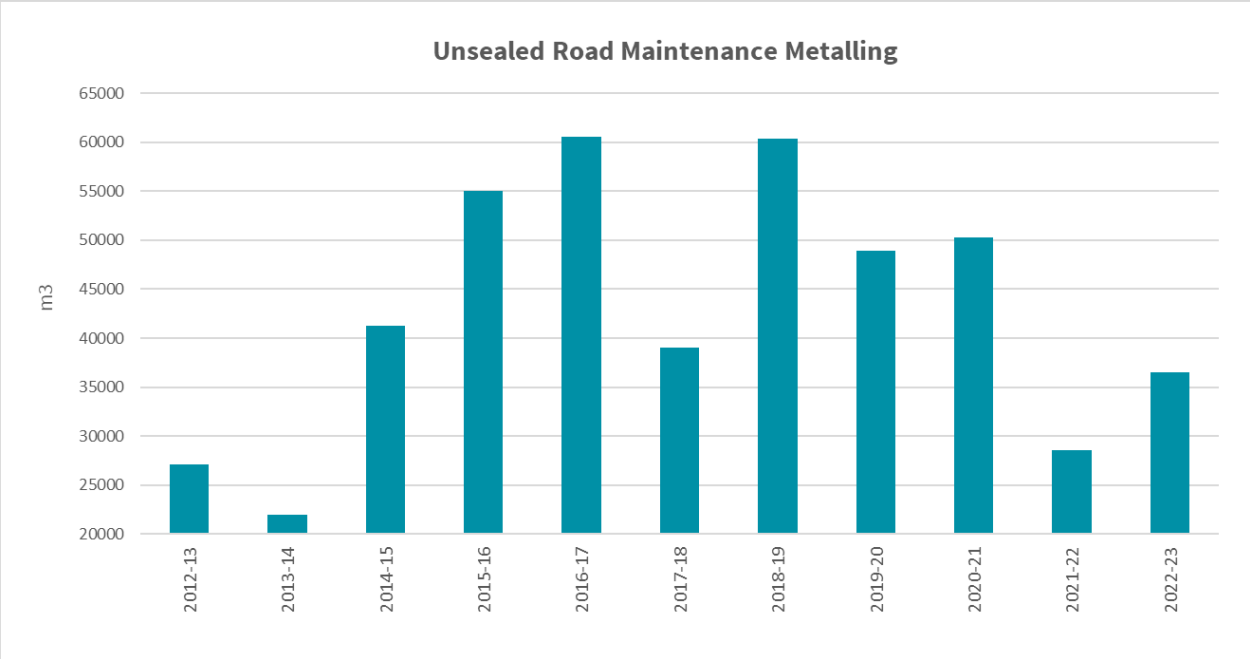


Figure 5- 4 Unsealed Road Metalling 2012-2023

Quantities in themselves do not necessarily provide good indications of the state of the asset. Understanding the maintenance methodology and evaluating specific site performance is essential.

The current maintenance contract includes annually unsealed road all fault survey inspections. This provides fault trend details and history to be able to formulate evidence-based unsealed road forward programming.

5.4.5. Customer Service Requests

Council operates a Customer Service Management system for road users to lodge fault notifications or service requests. Each input is locally referred to as a CRM. Information can be provided via email, council website, phone call, letter, in person at council or mobile application (”Snap Send Solve”).

Figure 5- 5 below shows the 9 asset/fault types (by CRM number) over the past few years.

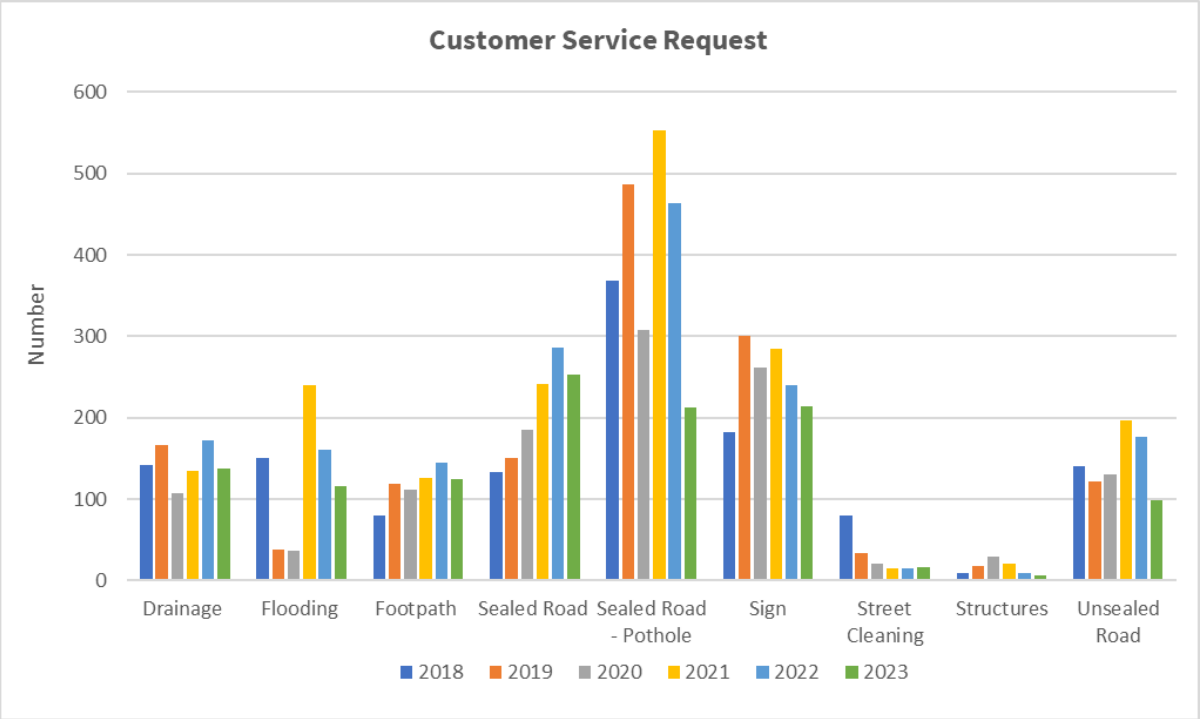


Figure 5- 5 Roading CRMs 2018-2023

Council run a semi-automated procedure where CRMs are directed to the maintenance contractor, who then manage them as Dispatches in RAMM Contractor. CRM Dispatch data is then fed back to the ADC system each night to update the CRM progress and status. Customer services officers are then able to provide current information if customers enquire about progress of their request.

While decreases in numbers of CRMs can be good indicators of asset performance, it is unrealistic to expect very low or zero reports especially with dynamic assets. As ADC is a very large network, we rely on customer reports and feedback to assist our staff and contractors with identification of works required. A better measure is the time it takes to respond to requests.

The LTP annual performance measures was used in the previous maintenance contract response times. These timeframes were inappropriate for a number of reasons; there is a detailed matrix involving road classification and work type which takes considerable time and effort to report on, some of the response times are unrealistic (and have been addressed in the Current maintenance contract), we are not consistent with other councils’ approaches.

To solve these issues and better reflect the intent of the DIA measure, since 2020-21 a standard 5 working days are required response time, with a target of 75% for both road and footpath requests.

5.4.6. Resident Satisfaction

Council undertakes an annual residents' survey. There are two Roading questions;

- Are you satisfied or dissatisfied with sealed roads?
- Are you satisfied or dissatisfied with unsealed roads?

The target for Unsealed and Sealed Road was at 60% and 45% in 2022-23 FY.

Figure 5- 6 below shows the trends in survey results.

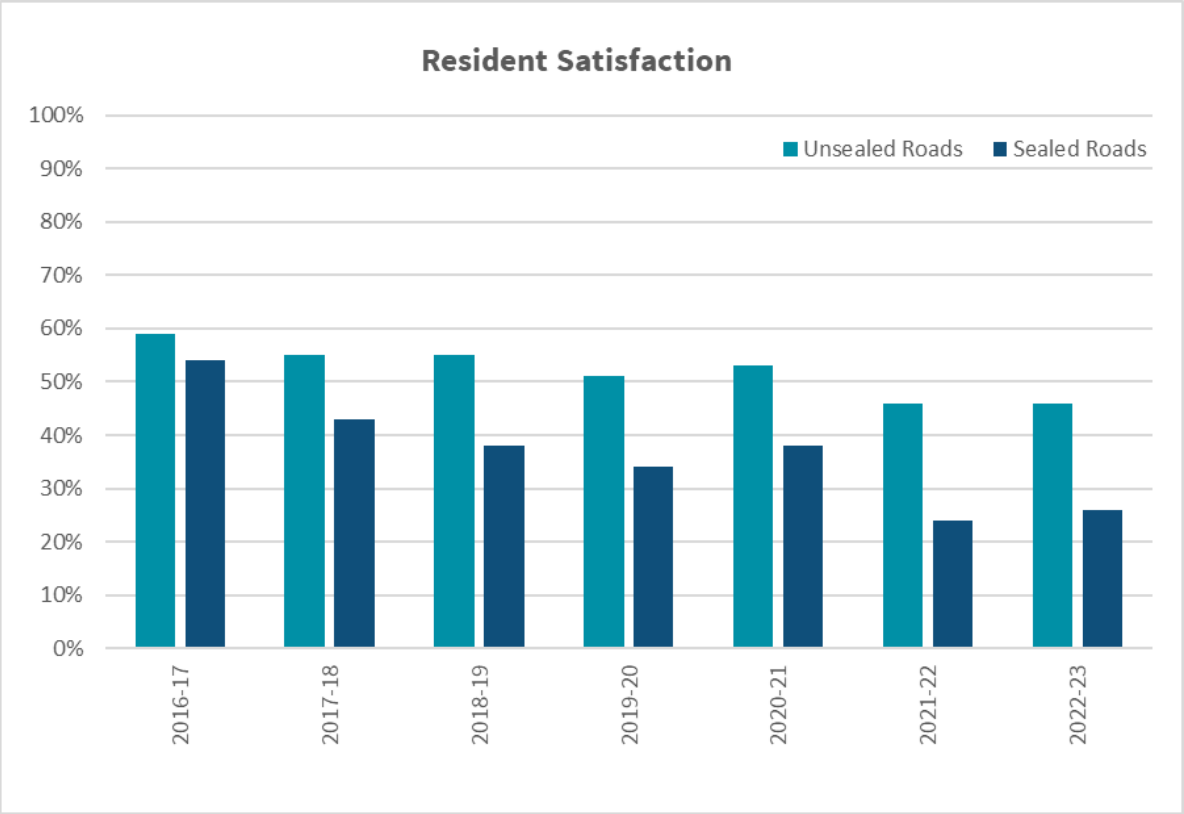


Figure 5- 6 Resident Satisfaction Survey 2016-2023

The trend in reported CRMs for Unsealed Roads (Section 5.4.5) does not seem to reflect the decline in satisfaction with unsealed roads. One reason for the result may be the increasing expectation of residents that unsealed roads should gradually be converted to seal over time. While this is not council policy, it is obvious there is a need to better communicate the levels of service and realistic expectations to residents.

The massive decline in sealed road satisfaction is a reflection of the declining sealed road performance, as evidenced by the CRM trends for Potholes and drainage.

5.4.7. Footpath Condition

Footpath condition is measured from data collected during footpath rating surveys. Council uses the following assessment criteria for footpath walkover inspections.

Table 5- 2 Footpath Condition Rating Criteria

Level		Description
1	Excellent	No observed defects. Footpath well maintained - no work required.
2	Good	Showing wear and tear and minor deterioration. Condition causing minimal influence on performance.
3	Average	Functionally sound but showing some cracking, depression etc. Minor maintenance required.
4	Poor	Functionally useable but showing significant cracking, depression etc. Maintenance or replacement required.
5	Very Poor	Potentially dangerous, may cause pedestrians to trip. Major surface and base problems. Major rehabilitation or replacement required.

Rating levels 1, 2 and 3 are deemed acceptable in terms of level of service.

Several full network footpath condition rating surveys have been completed, 2010/11 (82% of footpaths rated acceptable), 2014/15 (98%), March 2018 (93%) and Jan 2022 (99%). The next footpath condition survey is programmed for 2024.

5.4.8. ONRC Performance Measures

The ONRC Performance Measures have been expanded and refined over the last three years. They provide annual results for various aspects of asset management.

A summary list of ONRC Performance Measures, and 2022-23 Data Quality reports are included in Appendix A – One Network Road Classification.

The overall Data Quality score has increased from 83 (2021-22) to 84 (2022-23). This is due to improvements in RAMM data accuracy and completeness.

6. Growth and Demand

6.1. Growth

Ashburton District's population has increased by 15% since 2012, averaging 1.5% annually. Both urban and rural areas have increased, driven primarily by strong development in the local rural economy.

Ashburton District's GDP growth measured at 5.1% in March 2022, compared to 5.3% national growth.

Expansion of reliable irrigation has underpinned changing land use, mainly to dairying, dairy support and high value crops. This in turn supports the local service industries and value-added manufacturing. The district's transport network is vital to these industries, which deliver nationally significant products to multiple markets.

Logging and quarrying are undertaken in the western area of the district, and manufacturing and construction industries are focussed in the townships.

Other factors, including tourism (ski fields and high country attractions), the Ashburton Business Estate, and post-earthquake population drift from Christchurch may all have contributed to population growth in the District but are thought to be minor influences relative to the strong rural economy.

Vehicle kilometres travelled is a standard roading statistic which combines network length and traffic volumes to provide a unit comparable across varying districts. District context should be noted when analysis is undertaken as a short urban road with intense city traffic can provide the same VKT as a long rural road with sporadic vehicles.

Figure 6- 1 shows Ashburton District VKT increasing by 8% over the last eight years (2015 to 2023). For the period from 2013 to 2023 this increase was 21%.

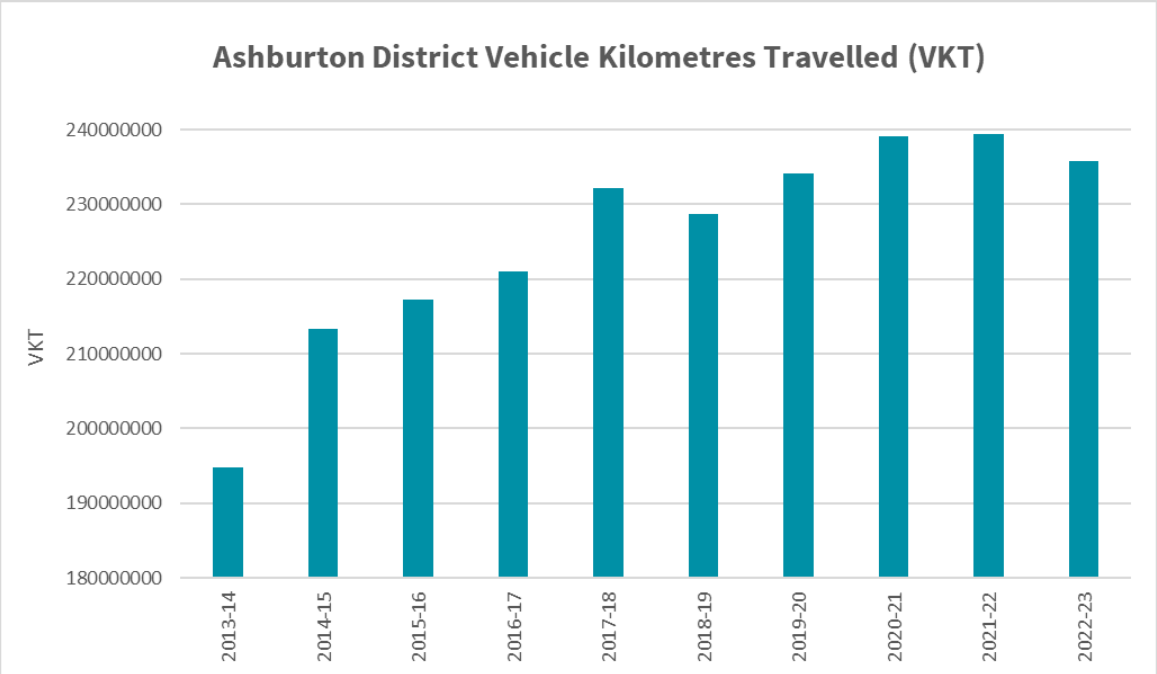


Figure 6- 1 Vehicle Kilometres Travelled 2013-2023

High Productivity Motor Vehicles (HPMV) were first permitted to operate on 1 May 2010. These vehicles are allowed to operate on RCA-approved routes with weights exceeding the gross mass limit, as long as they comply with NZTA rules involving axle configuration and load distribution. Permits are valid for two years and list specific approved routes.

Regional figures for HPMV permits are shown in Figure 6- 2 below.

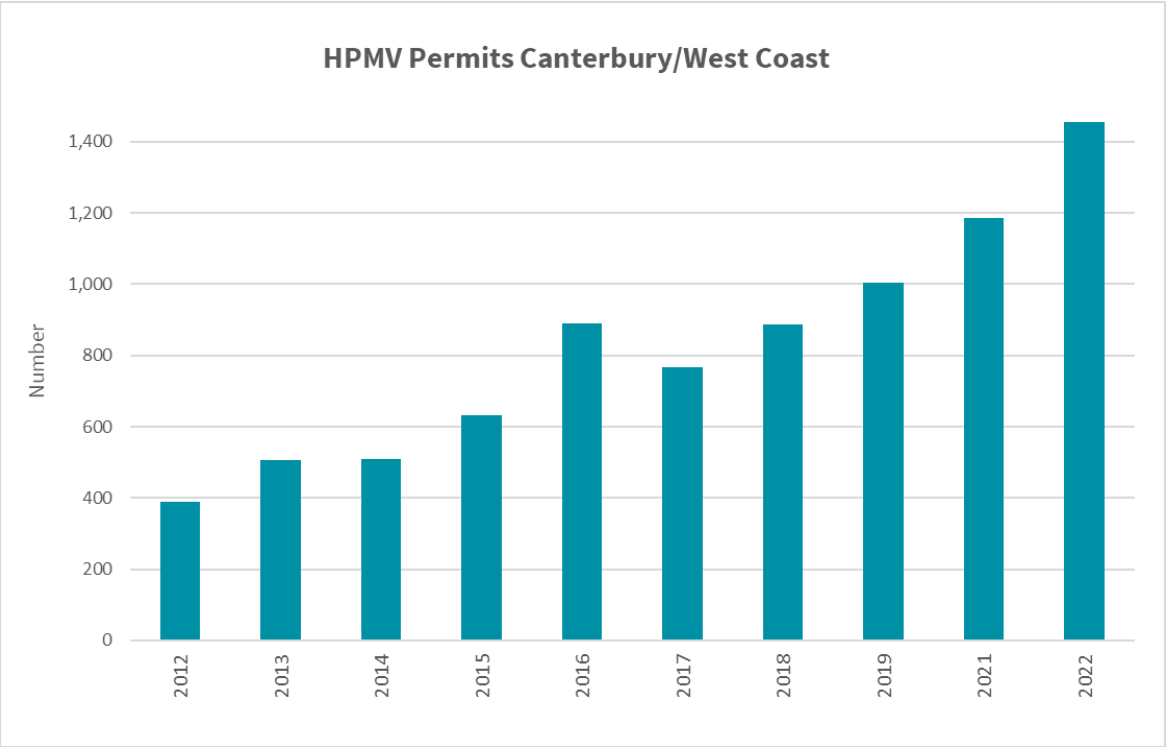


Figure 6- 2 HPMV Permits issued by NZTA for Canterbury/West Coast region

ADC has undertaken traffic counts for over 20 years, but classification counts (where vehicle types are differentiated) have only been standard for less than 10 years. The new Traffic Counting contract (Commencing from July 2024) will improve the survey range and data quality.

Figure 6- 2 reflect the steady HCV growth across the district.

The latest NZTA Weigh-In-Motion (WiM) report (covering the seven national sites, including Rakaia Bridge and Waipara) from 2017 shows HCV volumes decreasing slightly (-0.4%) but total mass increasing (+0.9%). This is likely a result of increasing HPMVs, enabling more mass via fewer vehicles. However another reason is that overloading (where vehicles exceed their maximum standard mass limit) had increased by +0.3%.

While overloading is being recorded at these State Highway sites, there is no evidential data for local roads. Anecdotally it is assumed that operators that overload are more likely to do so where policing is reduced. This is certainly true on local roads with very little, if any, commercial vehicle investigation units undertaking monitoring or checking of HCV weights.

6.2. Demand Drivers

A number of influences shape the community where we live, and in turn, influence the demands on infrastructural assets. Significant influences include changing land use, changing levels of

service and funding (national and local), natural hazards, climate change, changing population and demographics, and procurement of services.

Demand for services provided is generally measured by how much customers use the assets. Increases or decreases in demand can significantly affect what (and how many) assets will be needed. Key demand drivers for the Ashburton District are;

- Population numbers and demographic types
- Land use and development patterns (changing rural land use and growing urban developments)
- Government policy/regulations
- Freight movement trends

The National Freight Demand Study (released in September 2019) forecast future demand in supply driven commodities (milk, logs, wool, livestock, meat, arable etc.) as limited, with stable or possibly declining flows over time.

However, the recent economic downturn (currently predicted to be in effect at varying levels for possibly a decade or more) has produced very large and wide-ranging infrastructure and employment stimulus projects. It is therefore expected that there could well be an increase in related vehicle movements (especially HCVs) in the short to medium term. Long term forecasts at this juncture are tenuous at best.

Rural land use changes (slowed but still increasing) and accelerated farming practices encourage increases in farm machinery size, along with heavier and more frequent loads in and out of farms and commercial sites.

In Ashburton, Methven and Rakaia, light industrial and commercial developments have been steadily growing. On South Town Belt in Rakaia, an area with recent light industrial establishment, over the last five years traffic volumes have grown by 50% and HCVs by 90%.

6.3. Demand Forecasts

Our projected population change is used to inform decision-making and planning, particularly for asset management. Information such as historical trends, resource consent numbers and factors that affect population change such as suburb life cycle were incorporated into the modelling for the projections.

At the small area level, the key factors of population change are the age structure of the existing population, the housing markets attracted to and away from an area and their associated demographic characteristics (fertility patterns, household types etc.) and the supply of dwellings and mix of housing stock in the area.

Between 2022 and 2048, the population for our district is forecast to increase by 5,600 persons (15% growth), at an average annual growth rate of 0.6%. The following table 6-1 is based on the statistical areas used by Stats NZ and does not necessarily align with our rating boundaries.

Council will monitor population trends closely over the coming years to identify any departure from this projection, especially any rapid slowing of growth, ensuring that planning decisions are revised in a timely manner.

Table 6- 1 Ashburton District 2022-2048 Population

Area	2022 Estimate	Forecast population figures				
		2033 Forecast	2043 Forecast	2048 Forecast	Total change from 2022	Avg. annual growth 2022-48
Ashburton District	**36,300**	**38,700**	**40,900**	**41,900**	**5,600**	**0.6%**
Ashburton (incl Lake Hood)	20,590	21,660	22,450	22,800	2,210	0.4%
Methven	1,970	2,190	2,360	2,420	450	0.9%
Rakaia	1,560	1,580	1,630	1,630	70	0.2%
Rural	12,160	13,320	15,060	15,060	2,900	0.9%

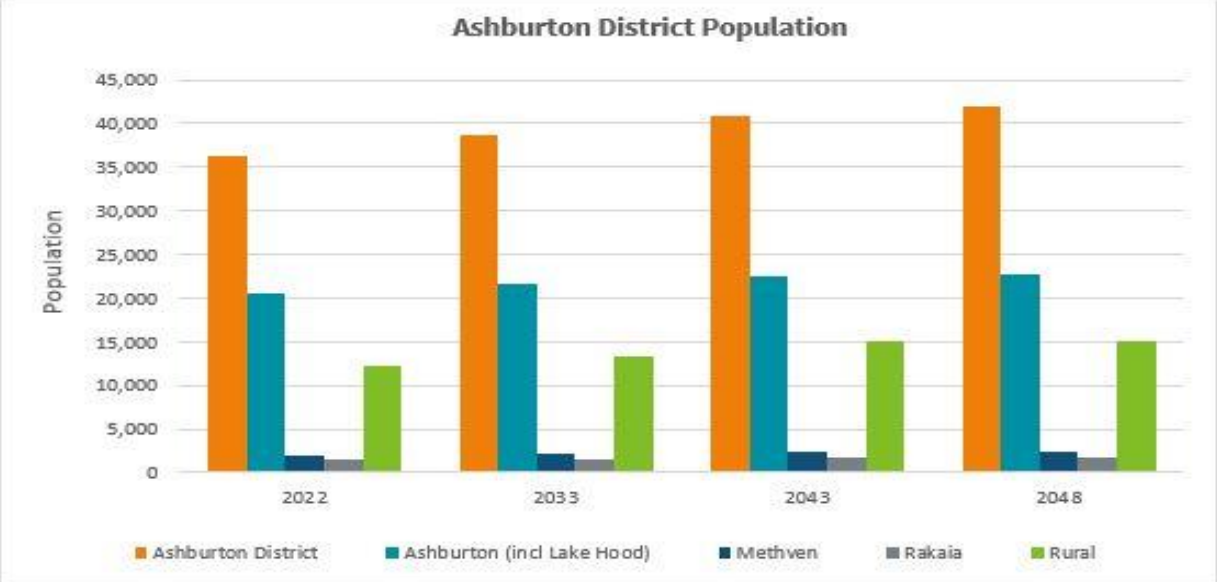


Figure 6- 3 Ashburton District 2013-2048 Population

6.4. Demand Impacts on Assets

By raising permitted allowable loads via HPMVs and increased VDAM limits, it was anticipated that there would be fewer heavy vehicle trips for the same product volumes. The HPMV axle loading configurations are theoretically designed to create no more pavement wear than those previously allowable, but some practitioners are refuting these claims. Irrespective of technical arguments, general economic growth has resulted in higher numbers of HCVs overall, increasing pavement wear and damage.

Population growth in the urban townships involves new dwellings and development of land surrounding existing settlements. This type of urban expansion includes demand for new road, footpath, kerb and channel and other infrastructure that is vested with Council to maintain into the future. Ashburton's growth is a combination of new dwellings within subdivisions as well as in-filling within established urban areas.

The need to upgrade the network to meet the requirements from changes in land use, especially conversions from dry-land sheep farming to irrigated dairying, has been recognised as one of the most significant issues driving future demand on the network. The uncertainty of which areas will be converted over time, as irrigation coverage spreads, raises issues for forecasting where road infrastructure upgrade may be required ahead of the conversions occurring.

The trend towards people wishing to reside in lifestyle blocks has also changed the expectations of the travelling public in the rural sector. These rural roads are no longer used only by local landowners, but now have a much wider range of users who see the smoothness of the road surface and the condition as being increasingly important.

Council is currently under way with the development of a Future Development Strategy (FDS) for the District, which will provide overarching strategies including growth forecasts, and proposed locations and forms of future developments, along with the identification of infrastructure and community amenities needed to facilitate these expectations. The FDS will be complementary to the District Plan, which provides specific requirements for management of land use and development. There could be changes to planning requirements for councils in the future, due to proposed District Plan and Resource Management Act reviews, but the scope and relevance of these to transportation is unknown at this time.

7. Lifecycle Management

7.1. Strategic Objectives

7.1.1. Overview

All of the assets included in this plan are owned and operated by Ashburton District Council. The assets and their operation form part of the overall Council delivery of core services to meet the needs of the people of the Ashburton District. The activities required to deliver these services include the creation, maintenance, operation, renewal and disposal of assets.

Council uses both preventative and reactive maintenance methods to ensure transportation assets are kept in good and reliable condition. This provides our network users with safe and reliable journeys.

Where works are programmed these either; repair, renew or replace an asset; improve the level of service; or facilitate growth or development. Work can be initiated through a number of mechanisms including;

- Demand due to growth
- Site or network Level of Service analysis
- Forward work programme development from deterioration modelling processes

Renewal works are identified in three-year rolling programmes that address those sites where maintenance costs are rising and renewal is considered the best long-term and cost-effective treatment based on both quantitative and qualitative evidence.

Decision-making inputs include current local and central government policy, locally identified maintenance and construction costs, level of service requirements and analysis, and network user feedback and requests. Project assessment and prioritisation procedures use systems and processes generally derived from NZTA. For both subsidised and unsubsidised work these processes will seek value for money projects primarily using the NZTA Business Case principles.

Inherent in this strategy (across all assets and services) is the commitment to strategic drivers within the GPS, RLTP, ONRC and LTP (shown in Table 3- 1, Section 3.1.4). For any capital works specific objectives are stated. For the maintenance and renewal works all strategic objectives are addressed to some extent, especially safety, resilience and accessibility.

7.1.2. Strategic Intervention

- Council's decisions to increase, maintain or reduce investment are based on many elements, including;
    - Legislative, policy and best practice obligations
    - Past activity costs and work requirements
    - Performance and service level requirements
    - Forecast growth and demand
    - Financial restraints (local and national)
- Solutions are derived from pursuing one (or multiple) of the following generalised actions;
    - "Stop it" target or seek to remove the root cause Cause
    - "Improve it" target efficiency or productivity Process
    - "Fix it" treat the effect of the problem Effect
- Maintaining or increasing investment is Council's preferred policy. Where significant decreases in maintenance or renewals are proposed, there can be serious negative consequences to condition and structure. Planned asset deterioration may be a correct decision based on current business case justifications, but the cost to rebuild or repair in the future is almost always more expensive than maintaining the asset in the present. Practical minor investment reduction in specific areas, where previous spending levels are now unwarranted, is a valid and necessary element of financial planning.
- The maintenance contractor has developed a Maintenance Intervention Guideline, which will provide parameters to be used to identify appropriate treatments for various faults or failure modes per asset type. The faults severity scale of 1 to 5 has been selected and this is consistent with the "Priority" rating in RAMM (5 for Urgent and 1 for Routine). The Fault type and Servite scale will be reviewed and updated according to the RIMS fault standardization project.
- ADC is part of the Aoraki Roading Collaboration (ARC) along with the Timaru, Mackenzie and Waimate District Councils. ARC seeks to improve the effectiveness and efficiency with which each council's asset management and network operations are undertaken, by engaging in collaboration across various activities where applicable. These activities include shared delivery, resource capability, maintenance work consistency coordination, road safety coordination and process reviews.
- Council liaises with internal departments (Utilities, Open Spaces, Development, and Planning) and third-party utility operators (power undergrounding/new streetlights, irrigation schemes, and telecommunications) to ensure projects are not in conflict, and assets are not prematurely damaged or altered unnecessarily. Council also regularly meet with NZTA's State Highway managers and ARC partners to discuss adjacent or strategically-aligned projects requiring liaison. In some cases projects may be joint contracts or cooperative efforts to optimise cost and reduce network disruption.
- All works are programmed with adjacent asset lives and condition taken into account, so combined-asset schemes may be brought forward or delayed dependent on the whole-of-site status.
- Bridge weight restrictions and inadequate seal widths are the main limitations to Council's intent of providing maximum network access for HPMVs.

  The Council has a five-year traffic count programme, currently contracted to AgFirst Consultants. The contract period is from June 2019 to June 2024 and includes a total of

891 counts, made up of annual, biennial and five-yearly frequencies, over 691 separate count sites. This data is crucial to ONRC, forward work programming and network analysis.

ADC will increase the traffic count surveys and count frequency in the upcoming traffic counting contract (Commencing 2024/25 FY) to improve the network coverage. The map below shows the network's traffic volumes as of July 2023.

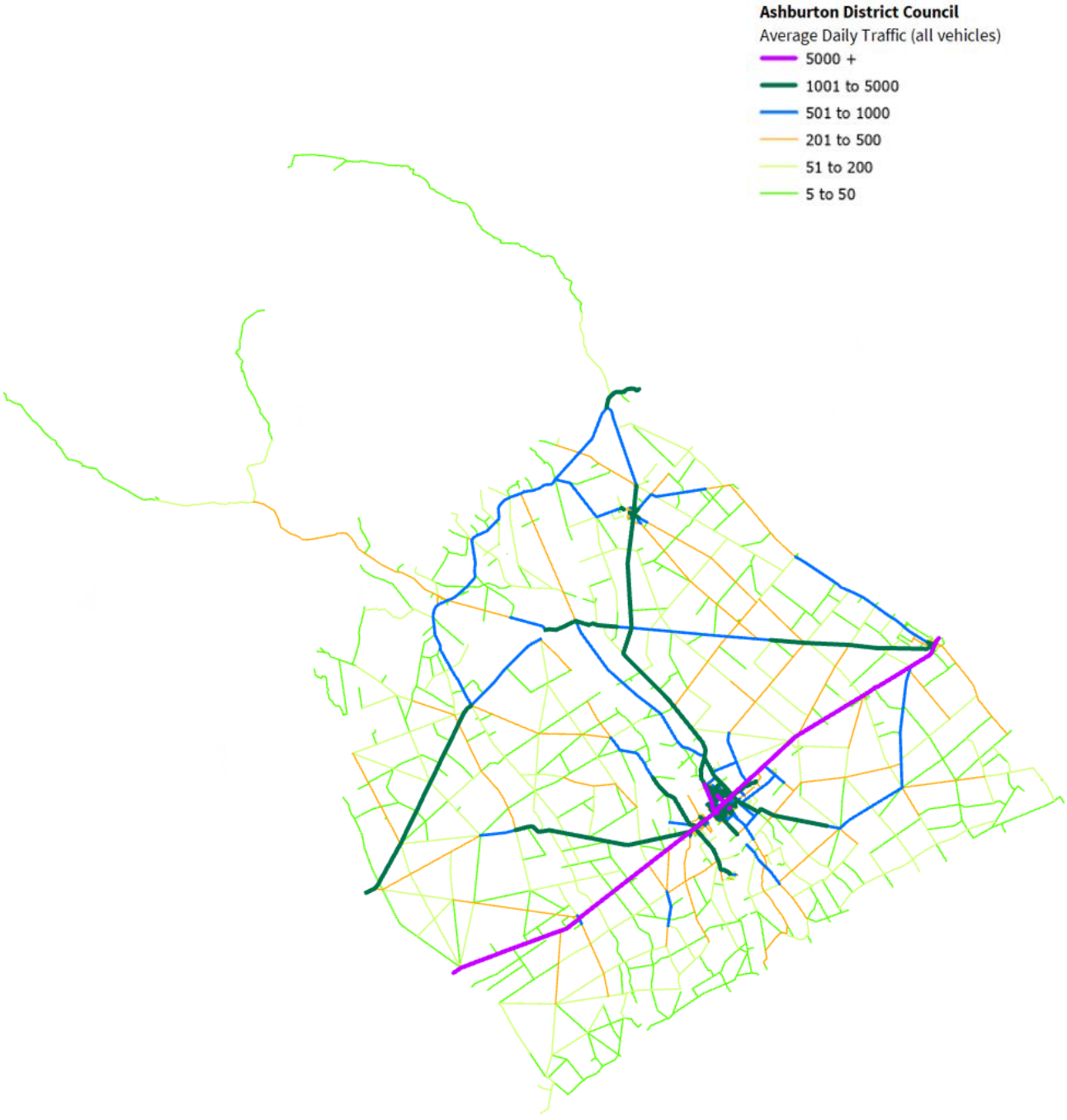


Figure 7- 1 Ashburton District Traffic Volumes (all vehicles)

7.1.3. Performance and Condition

General network performance and condition can be gauged through the following information;

- Customer feedback;
    - With such a large network to monitor, road user feedback provides valuable assistance to the roading team reporting road condition and faults. Road user opinion and input is essential to the customer-centric principle.
    - CRM data can provide additional history and background information that helps with fault repair decisions.
- Maintenance data;
    - The maintenance contract provides assistance for performance indicators and forward planning through maintenance costs and programmed works.
    - The associated fields for maintenance costs (cost groups, activities, faults and failure modes) and work descriptions (asset types and fault descriptions) must be in combinations and categories that are valid for all uses (modelling, monitoring, reporting etc.).
    - This should also be nationally standardised to ensure fair comparisons.
- Quantifiable network performance indicators;
    - Footpath condition rating surveys are targeted for three-year cycles.
    - Sealed road roughness – measures longitudinal smoothness. The roughness measure is intended to reflect the general road surface ride – not provide specific fault types or quantities.
    - Sealed road condition rating – measures the quantity of NZTA-defined faults within a percentage sample. These faults include shoving (major pavement material displacement), rutting (in wheeltracks), flushing (bitumen on the surface) scabbing (chip loss), edge break (and edgebreak patches), potholes (and pothole patches), and various types of cracking (alligator, longitudinal and transverse, and joints). ADC has altered the NZTA-prescribed 10% sampling to provide fit-for-site outputs.
    - ONRC performance measures – these provide data quality and nationally comparative information.

Roughness and rating surveys are undertaken for all sealed roads in the district as per NZTA requirements. The network is split into south and north areas (to spread the survey costs) and each area is surveyed every other year.

Road condition rating surveys have been modified so instead of the NZTA –prescribed 10% sampling on a 500m rating section, a variety of sampling percentages and section lengths have been used based on the ONRC of the road. This provides better coverage and data confidence.

There are two indices that provide a ready reference of surface and pavement condition; Surface Condition Index (SCI) and Pavement Integrity Index (PII). They are derived from calculations using the following inputs;

- SCI area of alligator cracking, number of potholes, number of pothole patches, area of flushing, area of scabbing, surface age and design life

- PII area of alligator cracking, number of potholes, number of pothole patches, length of rutting, length of shoving, and the value of roughness

This data is collected via the annual roughness and condition rating surveys, and from surface records. The lower the number resulting from the calculation, the better the condition.

Figure 7- 2 and Figure 7- 3 below show the results from the last Six years. While showing an overall improvement in road condition (decrease in index), the PII for sealed rural roads shows a worsening condition. As pavement dropping their performance and levels of service, this corresponds with the increase in pothole and dig out repairs, refer to Section 3.2.1.

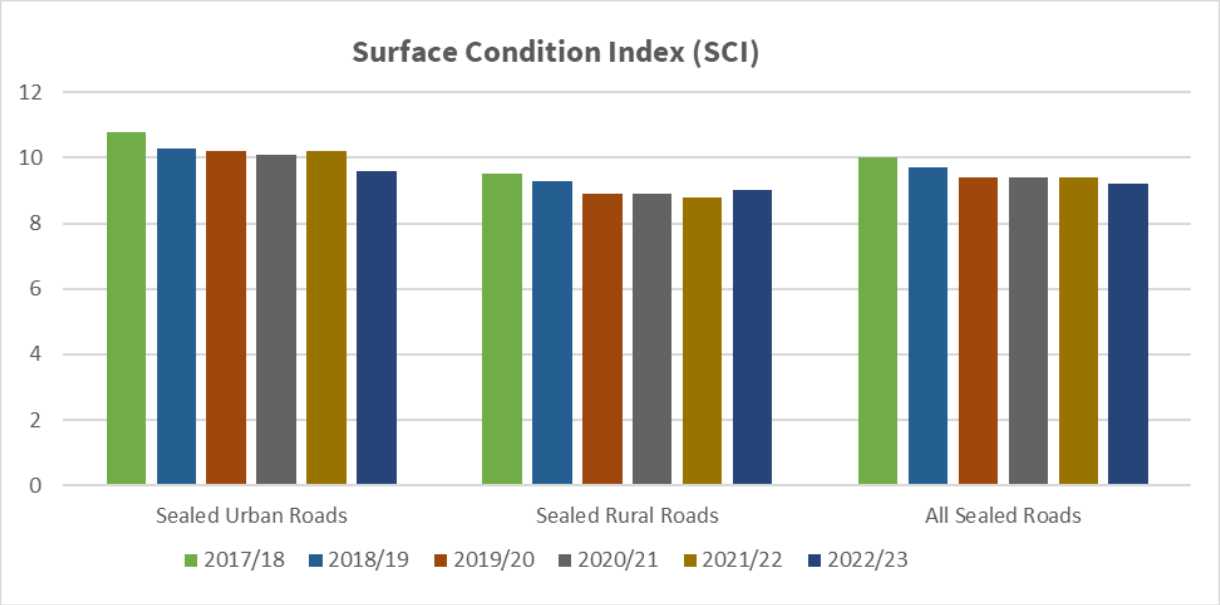


Figure 7- 2 Surface Condition Index 2017-2023

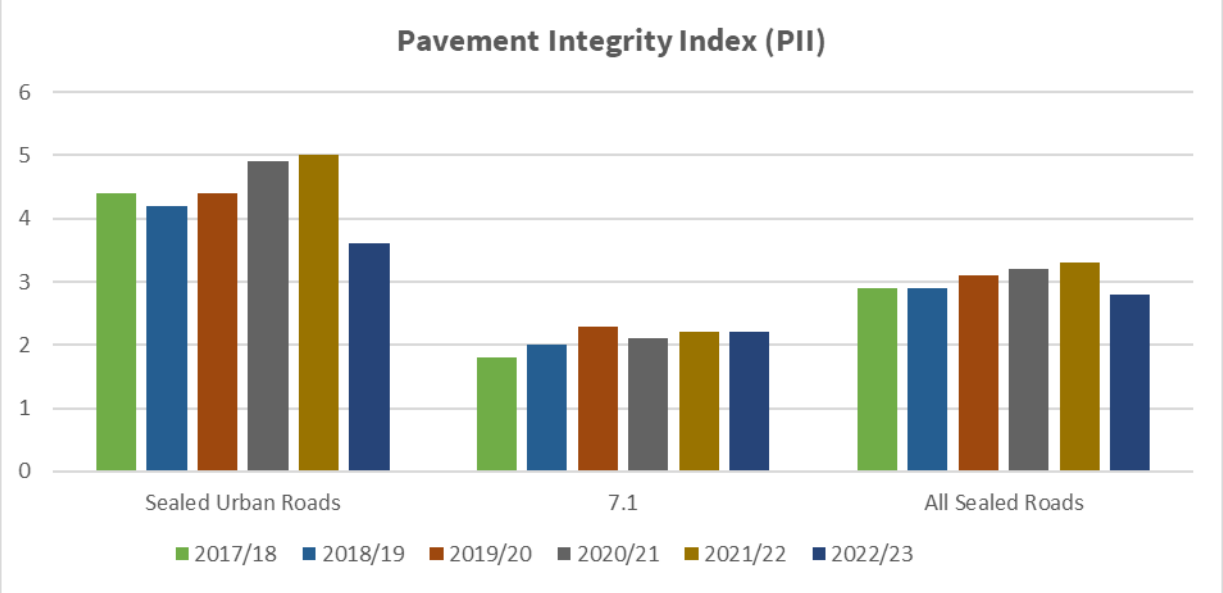


Figure 7- 3 Pavement Integrity Index 2017-2023

The council sets the desired level of service indications to achieve the targeted community-driven fit-for-purpose services. Constant network deterioration over the period creates a negative impact on community safety and satisfaction as revealed in the below figure (assumed targets 70% till 2017/18 FY).

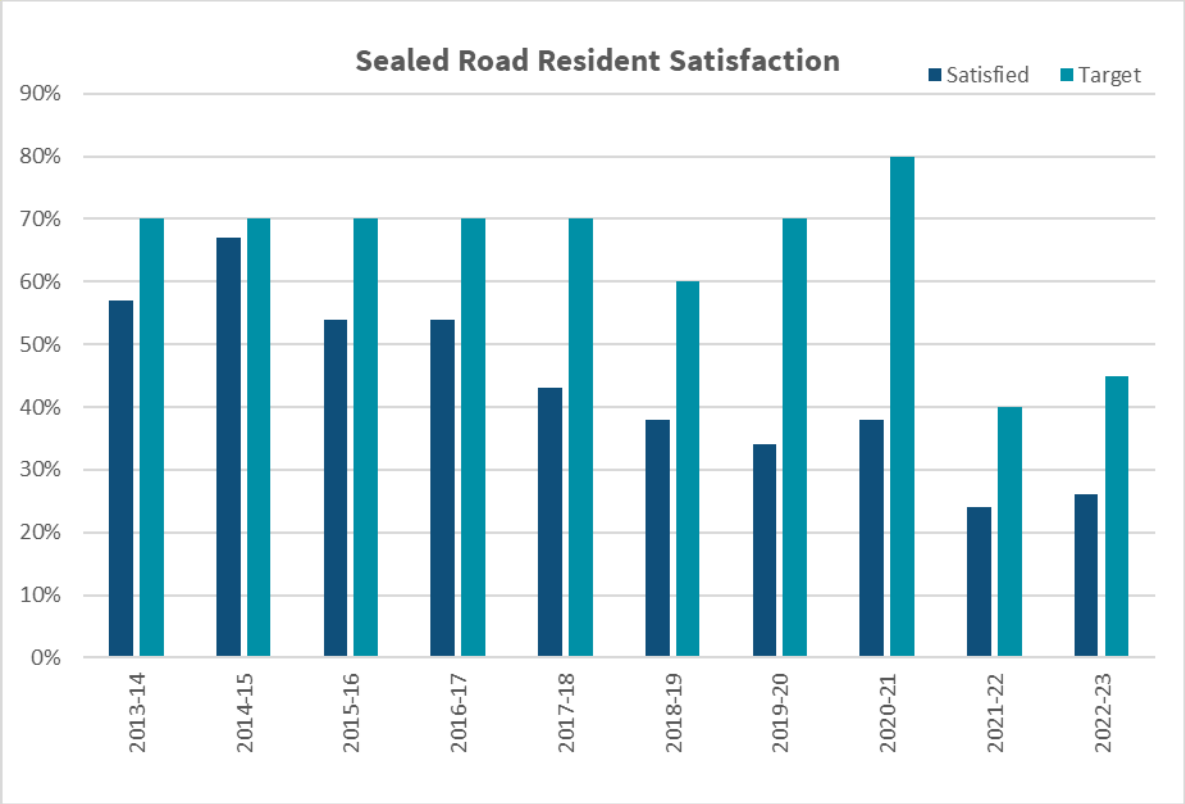


Figure 7- 4 Sealed Road Customer Satisfaction

As technology and modelling practices improve and modify to align with changing practical requirements and customer expectations, it is important that ADC ensure their pavement condition collection methods and outputs remain fit for purpose and value for money.

The Consistent Condition Data Collection (CCDC) project will Implement new requirements for sealed pavement condition inspections (roughness, rutting, texture, cracking and geometry), standards, and specifications. This project will improve the asset management decision-making process and establish consistent data collection methods to maintain data confidence and accuracy across New Zealand.

The implementation will begin during the 2024-27 period, ADC will perform ongoing data collection works till June 2024, the national requirement and contracts delivery model is expected to be in action from 1 July 2024.

7.1.4. Cost Efficiency

Ensuring value for money in all aspects of network management is vital, especially as costs rise and funding sources are increasingly strained. Council strive to ensure that funds sourced from the network users (local rates and national taxes and duties) are utilised to produce the most effective and productive outcomes.

Figure 7- 5 below shows the monthly costs for the most recent network maintenance contract (C144). The variation over this period is caused by seasonal faults, work restrictions, and predominately high-cost emergency events. The trendline increase reflects both an increase in costs and required work.

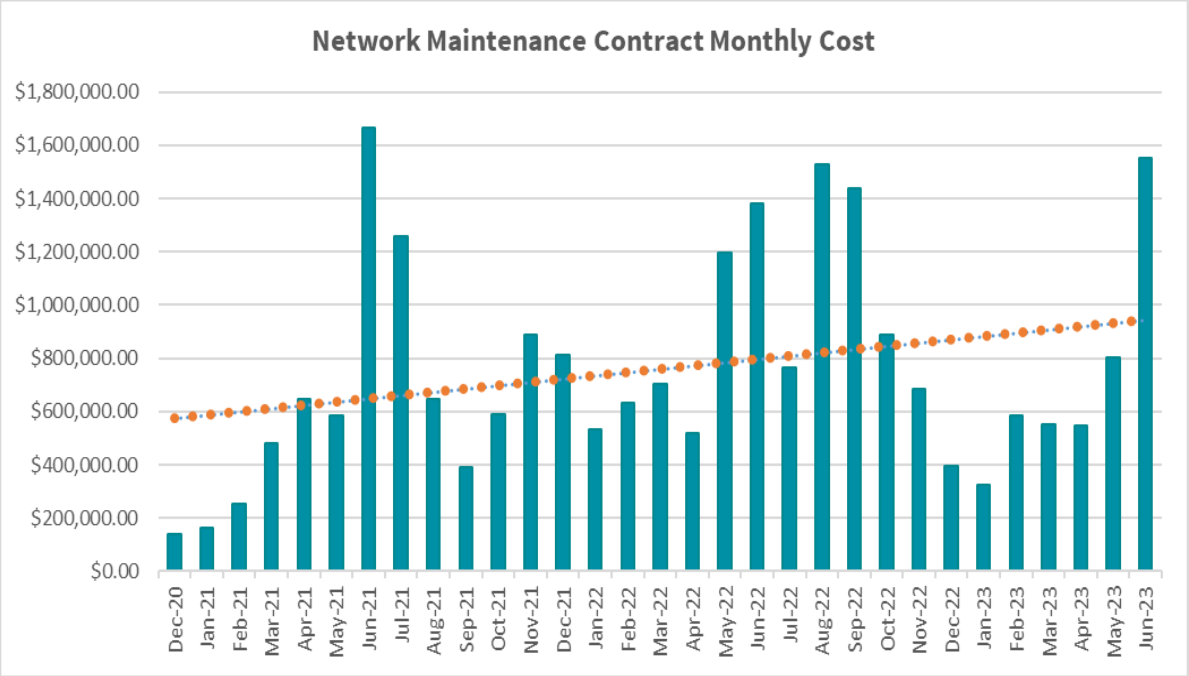


Figure 7- 5 Maintenance Costs – December 2020 –June 2023

Figure 7- 6 below show the substantial rise in the maintenance contract cost escalation causing extensive stress on existing budgets. As of May 2023, approximately $1.7 million has been spent on cost escalation which is more than the current sealed pavement maintenance annual budget.

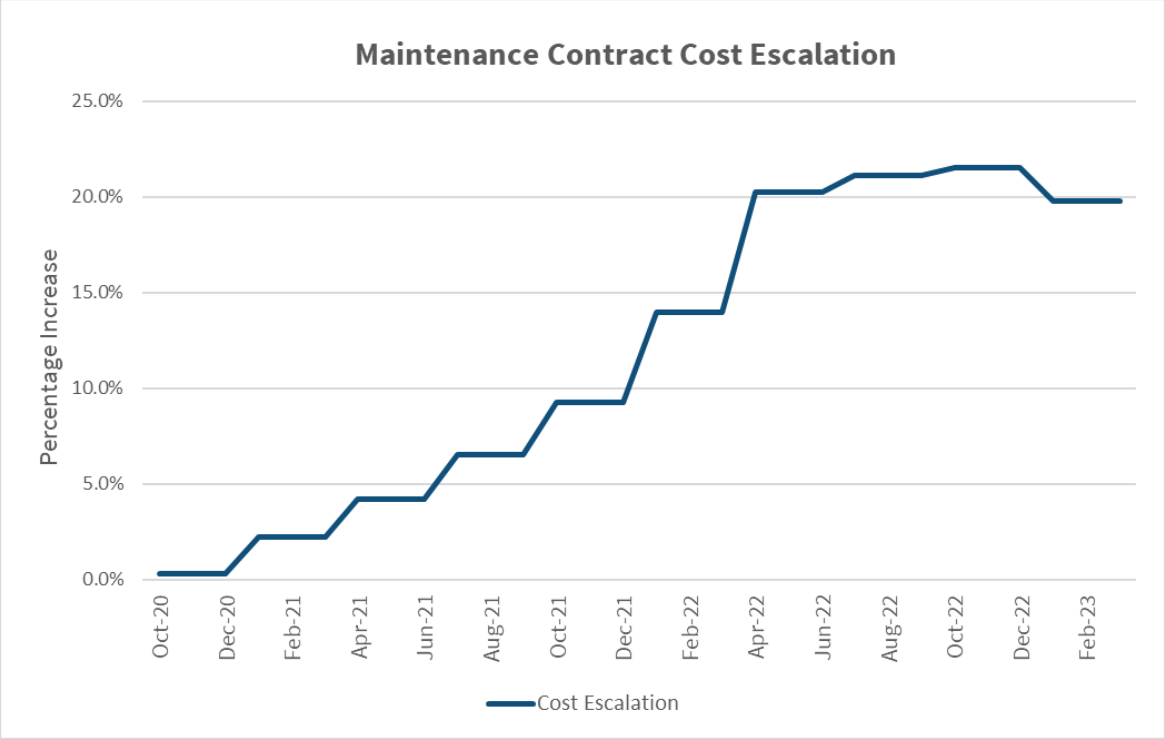


Figure 7- 6 Maintenance Contract Cost Escalation

Figure 7- 7 below shows the resurfacing and rehabilitation total financial year cost per kilometre. The kilometre cost of rehabilitation increases thus the kilometre length of rehabilitation treatment decreases, the fluctuation in kilometre cost of resurfacing is solely the effect of the bitumen cost difference each financial year.

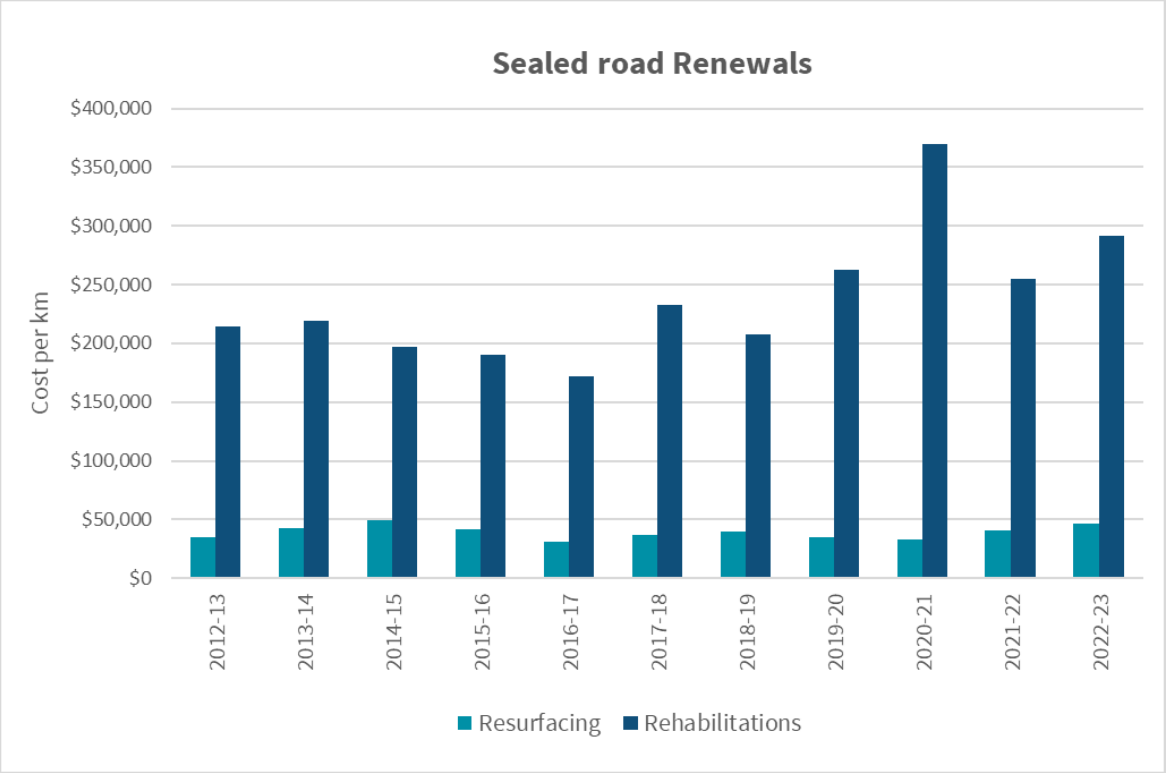


Figure 7- 7 Renewal Costs per km – 2012-2023

7.2. Pavement and Surfacing – Sealed Roads

7.2.1. Maintenance

The network maintenance contract provides maintenance levels and response times for various surface faults based on the ONRC, the fault type and a safety priority level.

Historically, maintenance methodology has been predominantly reactive. For some aspects of the contract this will remain as such, due to the immediacy of some faults, and the obligation to maintain a safe and reliable network. However, to promote improvements in condition and resilience, proactive works will be increased to ensure value for money and fit for purpose solutions are applied where appropriate.

To better ascertain the current state of the network and support future programmes and plans, the contract includes annual All Fault Sealed Road surveys which identify and log fault types, quantities and locations. These surveys provide crucial information for maintaining short-term rolling forward programmes, and informing long-term planning and deterioration modelling.

7.2.2. Key Points

- Sealed road maintenance and renewals are, from a customer perspective, the minimum works expected for Council roading services. They are perceived as business as usual items in funding submissions but nationally there can be large differences in service levels and work content. Council must demonstrate to customers, funding partners and stakeholders that they are committed to implementing realistic, long-term roading solutions that provide value for money. Innovation is sought where practical and collaboration with neighbouring RCAs provides useful neutral feedback and learnings. The maintenance contractor's experience in other networks also provides valuable insights into what may or may not work in practice.
- A large proportion of the District's urban and rural road network has evolved from tracks on the existing land materials. Over time these tracks of minimal structure and foundation have been improved primarily through widening and overlay to provide the current network layout and pavement structures. There are legacy issues of varying construction techniques and quality that are consistently being exposed as we perform maintenance repairs. The pavement structure varies but often comprises minimal basecourse with a seal surface well short of full pavement construction depths currently employed in road construction within New Zealand.
- Heavy commercial vehicles are now traversing sections of the network previously carrying very low traffic volumes. VKT has grown 38% across rural sealed roads since 2010.
- Council maintains good access across the district to high quality metalcourse materials sourced from its own pits and local rivers for use in roading construction. Gravel pit designation and suitability needs to be well-documented and regularly updated.
- With renewal lengths over the last decade not keeping up with damage caused by increased traffic volumes (for ADC more specifically HCVs) Council is currently in effect attempting to arrive at, rather than maintain optimal road condition. Council has been recently increasing renewal quantities (Invested Unsubsidized funds in 2021-22 and 2022-23 FY) to bridge the gap and reach a more acceptable correlation between road condition and repair timing, frequency and extent.

- Prioritisation of roads for subsidised renewal work is based on ONRC, level of deterioration, safety concerns and any related or affected works. The shift from asset to customer focus in the 2018-21 LTP period means that generally any movement beyond the stated levels of service for each classification would require unsubsidised funding sources. Unsubsidised roading projects have been carried out over the last few years but this is not assured to continue as it depends on annual council funding availability.
- The District Plan requires accessways on sealed rural roads to be sealed to the boundary. This minimises distribution of loose metal onto the roadway (decreasing safety) and reduces damage to road seal edges. To facilitate a reasonable implementation rate, any unsealed accesses are sealed either;
    - as part of rehabilitation works - at Council's cost;
    - within reseal work extents – where the owner agrees costs are equally shared between Council and the owner (refer to the Major and Minor Accessway projects in the LCLR schedule)
    - or where new construction is taking place on the relevant property (identified through building consents) - at the owner's cost

7.2.3. Renewals Plan

7.2.3.1. *Network Renewals*

Resurfacings and Rehabilitations are undertaken through tendered contracts complying with Council and NZTA procurement rules, to ensure competitive pricing thus efficient funding spend. Construction periods aim to take advantage of optimum construction weather, generally from October to March.

Surface treatments are chipseal, with areas of AC in urban or high stress areas. The average achieved life of sealed surfaces is 12 years.

Council is committed to optimised investment decision-making and producing efficient and effective programmes of works. Along with the local understanding of network drivers and demands, the JunoViewer deterioration model indicates funding requirements to achieve the appropriate level of service, see Section 7.2.3.2. ADC will undertake advance condition survey (Multispeed Deflectometer) and utilise for network modelling, resurfacing and rehabilitation FWP Planning. The field inspection tool will be set up for programmed site validation.

7.2.3.2. JunoViewer Network Analysis

The deterioration model indicates the projected rates of pavement renewal and maintenance as well as associated budgets required to provide acceptable levels of service for the ADC's sealed road network. A total of 1518 km sealed network length was taken into model analysis, the model was analysed over a 10-years (2022 to 2032) period based on the four different funding scenarios as follows,

- **Open Budget Scenario:** allows almost twice as much as of amount available for the Base Budget (current) Scenario. This is not a true open budget but a realistic budget with enough spending to improve the network while keeping the treatment rate within limits of operational ability.
- **Upper Budget Scenario**: allows for a 40% increase in funding compared to the Base Budget Scenario.
- **Base Budget Scenario**: assumed as a current funding situation (2022-2023 FY) and represents funding that would allow for approximately 3.8% resurfacing (57km length with 2.7M funding), 0.5% (7.8km length with 2.2M funding) rehabilitation and 1.2% (17.9km length with 0.5M funding) of presale repairs. The preseal repairs are considered costs third portion of the current maintenance budget.
- **Lower Budget Scenario:** reduces the Base Budget by 30%. Historic resurface quantities calculated over the past five years are approximately aligned with this scenario.

The resulting treatment length and funding demands for preseal repairs, resurfacing and rehabilitation according to each budget scenario are shown in the table below.

Table 7- 1 JunoViewer Model Analysis Funding Scenarios

		Funding Scenarios			
	Treatment Category	Open	Upper (+40%)	Base (Current)	Lower (- 30%)
Average Spending ($-million)	Preseals Repairs	0.8	0.7	0.5	0.3
	Re_Surface	5.4	3.8	2.7	2.0
	Rehabilitation	7.1	2.9	2.2	1.6
Percentage of Network (Annually)	Preseals Repairs	2.0%	1.6%	1.2%	0.8%
	Re_Surface	7.5%	5.4%	3.8%	2.7%
	Rehabilitation	1.8%	0.7%	0.5%	0.4%
Average Annual Length (km)	Preseals Repairs	30.5	25.0	17.9	12.3
	Re_Surface	114.4	81.5	57.6	41.6
	Rehabilitation	27.7	11.0	7.8	6.0

The data was extracted from the ADC's RAMM table along with condition rating and roughness data, maintenance cost history, budget parameters and pavement strength information. The all-network distresses are set in a uniform normalised scale for quantifying different distress types in a way that they can be grouped and combined. The model uses the Pavement Distress Index and Surface Distress Index to summarise the overall network severity of structure and surface distress based on a scale of zero to four. The lower the number resulting from the calculation, the better the condition. Predictions with respect to modelled parameters for the different budget scenarios are summarised below.

Pavement Distress Index (PDI): The PDI provides an indication of severity and extend distresses related to pavement structure. The Pavement distress index is made up by the weighted contributions of the four distresses including Structural/Shear Failure, Structure Cracks, Deformation and Potholes. The PDI distress value scaled from 0 (less or no structural distress) to 4 (significant structural distress).

The Figure 7- 8 shows the percentage of the sealed road network that is above a PDI value of 3 for different budget scenarios. Which means in the first analysis year 2022, approximately 14% of network has PDI value above 3.

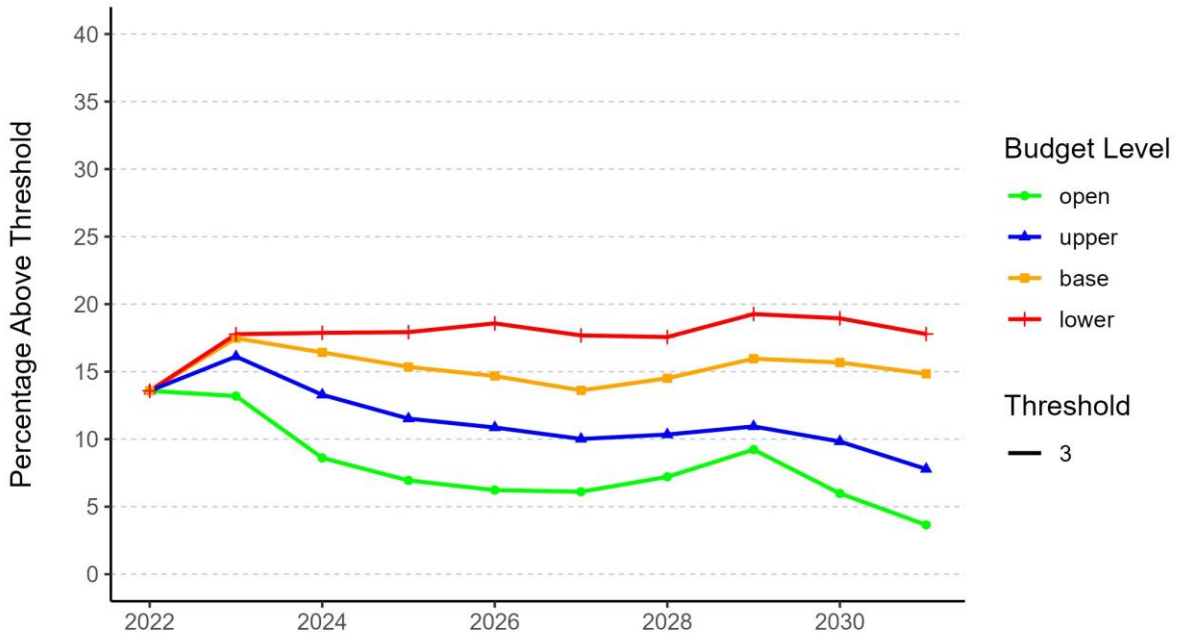


Figure 7- 8 Pavement Distress Index Trend

With the current (base) investment level, the percentage of networks with a PDI value above 3 will remain where it is with very little notable change over the 10 years analysis period. It is evident that if the aim is to have approximately 10% of the network above the PDI threshold, the investment level should be just below that of the Upper Budget Scenario.

Surface Distress Index (SDI): The SDI provides an indication of the severity and extent of distresses related to the pavement surface. The Surface Distress Index is made up by the weighted contributions of the four distresses including Surface defects, General cracks, Structural cracks and Potholes. The SDI value scaled from 0 (less or no surface distress) to 4 (significant surface distress).

The Figure 7- 9 shows the percentage of sealed road network that is above a SDI value of 3 for different budget scenarios. Which means in the first analysis year 2022, approximately 7% of network has SDI value above 3.

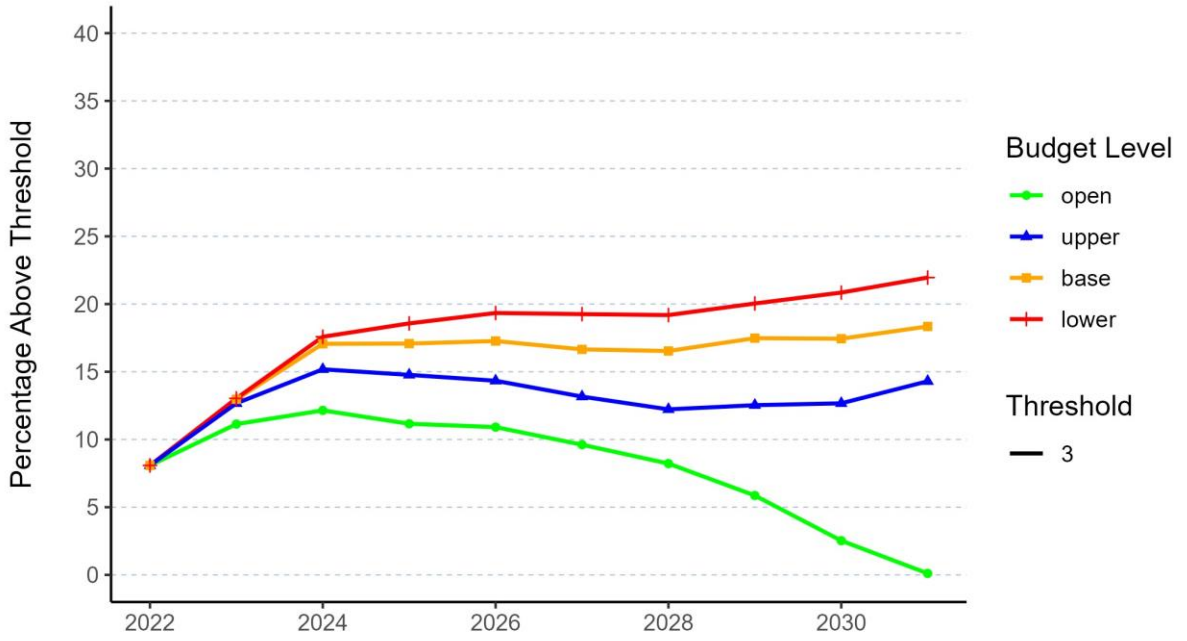


Figure 7- 9 Surface Distress Index Trend

With the current (base) investment level, more than 15% of network will have SDI value more than 3 over the end of analysis period. It is evident from this graph that if the aim is to have approximately 10% of the network above the SDI threshold, the investment level should be between that of the Upper and Open Budget Scenarios.

It in can be concluded that to maintain the structural and surface integrity of the network and improve the network towards where only 10% of the network length will have moderate to severe distress in 10 years' time, the investment level will have to be at least that of the Upper Budget Scenario (5.4% resurfacing and 0.7% rehabilitation), see Table 7- 1 JunoViewer Model Analysis Funding Scenarios

7.2.3.3. Seal Widening

Some core haulage roads are not wide enough for HCVs to pass other vehicles without either or both encroaching on or past the edge of seal. This causes unnecessary road and berm damage and reduces safety.

Road user safety is reduced where one or both vehicles move off the sealed road surface. This occurs where the road width will not accommodate both vehicles, or where drivers do not feel there is enough room to pass safely without pulling off the road.

An optimal sealed road width for safe and comfortable two-way vehicle passage is 7m. "RTS 16 Guide to heavy vehicle management" recommends minimum 3.5m lane widths on two-lane two-way roads. The following table shows current width distribution on rural sealed roads;

Table 7- 2 Rural Sealed "Narrow" Roads by ONRC

Rural Sealed Roads			
ONRC	**Length (Km)**	**Width < 7m (Km)**	**Width < 7m (%)**
Primary Collector	131	13	10%
Secondary Collector	510	439	86%
Access	534	505	94%
Low Volume	128	115	90%
Total	**1303**	**1072**	**82%**

82% of the total Ashburton Districts rural network has sealed road width below 7 metres, and 42% of them are Primary and Secondary collector routes. Around 43% of the network has sealed road width below 6.5 metres with 43% are Primary and Secondary collector routes.

High classified route sites (Primary Collector and Secondary Collector) were identified and programmed for the 2021-24 period, with prioritisation based on analysis of the HCV traffic volume percentage, historical maintenance costs (edgebreak and berm repairs), crash data and road user feedback. Where possible, road seal widening was included in the rehabilitation works. However, budget constraints these projects have been deferred to undertake in the 2024-27 period. See Low Cost Low Risk Schedule in Appendix B – Low Cost, Low Risk Schedule 2024-27(Item number 28 & 29).

7.3. Pavement and Surfacing – Unsealed Roads

7.3.1. Maintenance

Maintenance of unsealed roads is largely confined to grading and metalling, but there are specific unsealed road rehabilitations also undertaken at specific sites where this is judged to be the most cost effective long-term treatment. The success of the standard unsealed road maintenance of metalling and grading is dependent on;

- the existing road's condition, material and geometry
- the additional material's composition, strength and durability
- operator skill and judgment
- weather conditions
- traffic volumes and classification
- location of suitable aggregate relating to cartage distance and costs

Some components can be controlled by Council to varying extents, and where this is the case management and planning processes are monitored to ensure best practice is achieved.

The dynamic nature of unsealed roads drives a more reactive than proactive approach to maintenance, although there are long-term trends that inform annual programmes.

To better ascertain the current state of the network and support future programmes and plans, the contract includes annual All Fault Unsealed Road surveys which identify and log fault types, quantities and locations. These surveys provide crucial information for maintaining short-term rolling forward programmes, and informing long-term planning and deterioration modelling.

Grading frequencies are defined per road section and are based on traffic use and condition history. They are reviewed annually using performance results, road user and grading operator feedback.

7.3.2. Key Points

- Unsealed roads make up 43% of the network length but only 7% of the vehicle kilometres travelled (VKT), consequently requiring cost-effective and innovative practices. Unsealed roads need to be fit for their customer requirements but this must be balanced with acknowledgement of their low user rates.
- The prevalent summer northwest wind dries the surface and erodes the lighter particles of fine aggregate from the surface, reducing its binding properties. Trafficking of the remaining loose surface metal creates further grinding effects on the underlying surface and the deterioration process is then intensified by further wind effects.
- Many unsealed roads have poor shape and crossfall, and are lower than the surrounding berms and land, thus turning into ad hoc drains in large flood or heavy rain events. Roads running east-west are particularly vulnerable owing to the general flow pattern across the district. This problem can really only be remedied by large-scale earthworks, which for most of Council's unsealed roads is an uneconomic proposition. Works are undertaken where traffic volumes warrant or where mitigation of the resulting flood damage is essential.
- There are unsealed roads with carriageway widths exceeding that which is practically required. Apart from requiring effectively unnecessary grading and metalling this can

cause problems with the road shape, drainage, shoulders and berms. The maintenance contractor has experience in other districts with reducing road widths that give effect to maintenance and renewal cost reductions, while still maintaining a safe driving environment. Council will take advantage of this experience and investigate where this treatment can be actioned.

At intersections and bridge approaches, short sections of unsealed road (generally a 100m length) are sealed for safety reasons. These reasons include providing safe braking and acceleration lengths, reduced maintenance of corrugations on unsealed roads and minimising distribution of loose metal onto the adjacent sealed areas. These sections are commonly referred to as sealbacks. Where sealbacks have been installed in the past but are appreciably shorter than the preferred 100m, these may be extended where it is deemed a necessary improvement. The seal extension project will be undertake in the 2024-27 period. See Low Cost Low Risk Schedule in Appendix B – Low Cost, Low Risk Schedule 2024-27(Item number 21).

7.3.3. Renewals Plan

Council has undertaken specific unsealed road rehabilitations since 2004 at various sites. Overall the treatments have not been cost-effective, but at well-trafficked locations where existing maintenance costs are high (mainly via grading and metalling) the rehabilitations have been both economically and structurally successful. Therefore, future unsealed rehabilitations will be undertaken on a site-specific basis.

Various material additives have been tried over the years – lime, clay and basalt. The basalt has proven to be the most effective, and we have been able to share our experience with other councils interested in finding similar solutions.

Council is aware that alternative long-term remedies continue to be sought by contractors and are always ready to utilise practices that achieve good results at reasonable cost.

7.4. Bridges and Structures

7.4.1. Maintenance

Bridges have long useful lives and ongoing attention to routine maintenance will ensure these are fully realised. Council uses posted weight limits with relevant signage to protect vulnerable structures. Regular re-analysis of bridge strengths are completed to ensure appropriate safe loadings can be sustained. Currently Council has three posted weight-restricted bridges, and 32 with 50MAX restrictions as a precaution.

All structures are currently routinely visually inspected under the current maintenance contract. As a result of these inspections, minor maintenance works are carried out, such as painting, guardrail replacement, approach road reinstatement or erosion control to protect the road and abutments.

Council's bridge consultants (WSP) carry out structural inspections (Including bridges, culverts, stock underpasses and retaining walls) with specialised engineers on a 3-year cycle. This inspection ensures they are safe to use, allows Council to programme actions required to maintain their bridge stock (or renewals), and also identifies or updates weight and/or speed restrictions where required.

As recommended further investigation of structure inspections, WSP also has undertaken a barrier screening exercise (May 2022) to identify the high-risk sites and reduce the likelihood and consequence of a crash occurring.

7.4.2. Key Points

- ADC manages a total of 188 bridges yet from the past 2 LTP only $400k budget have been approved for the structure maintenance and component replacement work category. It has created a massive gap in providing an appropriate level of service to sustain ADC bridge stocks.
- 50Max and HPMV vehicles are excluded from specific bridges identified by the Council's bridging consultant, but no network wide assessment has been completed for the impact of these loadings over time on acceptable bridges. The most vulnerable structures are the bridges that are included in the renewals programmes.
- The Wills Street rail footbridge in Ashburton township was built in 1917 (listed as a category 2 historic place), the bridge is in poor condition and has several significant ongoing maintenance issues including decay in the timber and corrosion of the cast iron truss. The component replacement and maintenance work are estimated to cost more than $1M and is scheduled for the 2025/26 FY. WSP has developed a Conservation Management Plan to provide the importance and significance of the Will Street footbridge.

7.4.3. Renewals Plan

ADC have recognised the timber bridges are all nearing the end of their useful lives and have adopted a bridge replacement/renewal strategy targeted at reducing the number of timber bridges on the ADC network.

Renewal recommendations are included in the three-year inspections and ADC uses these to inform their programming. The general replacement strategy is driven by condition surveys and

advised loading restrictions. Two timber bridges (Mayfield Hinds Bridge -151 and Lake Stream -49) have included in the 2024-27 period bridge renewals programme.

Bridge repair and maintenance costs with Priorities and timeframes suggested by the bridge consultant are mentioned in Appendix C – Bridge Repair and Maintenance Works.

The road safety barrier Improvement and component Improvement project identified in Low Cost Low Risk Schedule in Appendix B – Low Cost, Low Risk Schedule 2024-27(Item number 30).

7.5. Drainage

7.5.1. Maintenance

Drainage channels, culverts and urban stormwater structures are inspected under a routine maintenance regime by the maintenance contractor. This includes all side drains and swales in rural areas, and kerb and channel and sumps in urban areas. The frequency and extent of repair/maintenance is specified within the contract. The current maintenance contract also performed the high-lip (high shoulder) removal programme in rural sealed roads.

Minor repairs are carried out under the maintenance contract but if the contractor identifies critical deterioration of any asset during these inspections, this is brought to the attention of the roading team for further investigation, and possible inclusion in renewal programmes.

Where a storm event causes large amounts of damage to the drainage assets and the road can't be opened, the site is made safe and the scale and cost of the remedial works are documented. Council staff then prepare and submit an application to NZTA for Emergency Works funding if it complies with current work category parameters.

7.5.2. Key Points

- Existing road drainage systems in place are in need of improvement works and in some locations across the district there is no formal road drainage. The current methods for draining water are in some cases no longer efficient and these require attention to prolong pavement life and prevent unnecessary flooding. Drainage capacity (including culverts crossing the road) will be vulnerable to higher intensity rainfall events.
- In the main townships of Ashburton, Methven and Rakaia there are deep dish concrete channels that function as both stormwater and race water conduits. These were initially installed as an expedient solution to the difficulty of moving rain event water volumes along very flat topography without creating overflows. They are now regarded as hazards to pedestrians and vehicles due to their depth, and Council undertakes programmed replacement of these channels, with priority on locations with more vulnerable road users such as schools and shopping areas.
- Construction of new kerb & channel is undertaken in urban areas where increased use or land use growth requires this type of drainage management.
- Some rural landowners have modified existing overland flow paths through either specific or inadvertent landscaping works. This can cause flooding of adjacent properties and/or roads in certain rain events. This issue would historically have been addressed via the Drainage Boards, which were incorporated into the regional councils. ECAN however does not undertake remedial works where they do not rate, so in some cases where these issues occur there is effectively no overseeing regulatory body. To mitigate effects on Council

roads, some projects are included in Low Cost Low Risk programme to improve the drainage resilience. See Appendix B – Low Cost, Low Risk Schedule 2024-27 (Item number 26).

7.5.3. Renewals Plan

A long-term programme of kerb and channel upgrade will be developed to reflect RAMM recorded condition, and then prioritisation based on ONRC and related activities or projects, mindful of funding limitations.

Culverts and drains/swales are renewed when identified as under capacity, beyond standard repair or requiring upgrading in relation to adjacent projects.

These works are generally undertaken in the maintenance contract but may also be included in rehabilitation contracts or Footpath renewals contracts.

7.6. Footpaths, Walkways and Cycleways

7.6.1. Maintenance

Maintenance work is reactive (based on CRMs, Council instructions and maintenance contractor inspections) but repairs and faults are monitored to ensure renewals are undertaken where maintenance levels become uneconomic.

7.6.2. Key Points

- Council's Walking and Cycling Strategy will be a key factor in general planning and ongoing maintenance. The objectives of safety, connectivity, integration and accessibility can be met in part by undertaking good maintenance and renewal practices, and ensuring the strategy as a whole is integral to capital works and network planning.
- Council policy dictates that all new or renewed footpaths are constructed with asphaltic concrete (AC). There are exceptions where the footpath is also a commercial vehicle crossing and requires a more robust construction material - generally reinforced concrete.
- Due to the light traffic load (in comparison to roads) the critical component of these assets is the surfacing rather than the underlying aggregate layers. The surfacing should provide appropriate skid resistance and smooth travel for pedestrians and cyclists.
- Footpath condition data is updated from condition surveys and also as changes are identified from the footpath resurfacing contract, vested assets or issues identified through the maintenance contract and CRM system. The current data shows 6% of footpaths are in poor, very poor or unknown condition.

7.6.3. Renewals Plan

Footpath renewals and construction are carried out through tendered competitive contracts ensuring best use of funding. Council is now using an excavate and resurface inlay approach to footpath resurfacing that replaces existing chipseal with AC while ensuring the thickness of the AC does not cause issues at the kerb or boundary side.

Resurfacing activity is distributed around the townships of the district and prioritised using the condition rating information stored in RAMM along with Council staff input. Condition rating surveys will follow a 3 year cycle – the last was undertaken in 2022.

The renewal programme includes replacing existing full width surfaced footpaths with a combination of AC (1.5m wide surfaced path) and grass (remainder). This approach allows a more cost-effective transition from chipseal to the more expensive AC, while minimising future footpath surface maintenance and increasing urban stormwater catchments. The berm also acts as an easily renewed corridor for utility works.

A long-term programme of footpath renewals will be developed to reflect RAMM recorded condition, and then prioritised within funding limitations.

7.6.4. Capital Works

The bulk of new assets are constructed through third party works (new subdivisions etc.) and then vested to council.

Council-led new installations are based on increased or enhanced user requirements. These generally result from increased residential, retail and commercial developments, and also through expanded community activities. Works may be undertaken as stand-alone contracts or within other council contracts if this is appropriate.

7.6.5. Funding

The footpath funding (excluding subsidies) was targeted through four separate rating areas (Ashburton, Rakaia, Methven and Rural) till 2021-24 LTP period. From 2024-27 LTP, council's footpath funding will be soused from the general rates.

7.7. Traffic Services

7.7.1. Maintenance

General maintenance practice for signs, markings and railings is reactive. Where changes to standards are enacted these will generally be undertaken as old stock reach the end of their useful life, unless specific legislative or safety requirements mandate immediate replacement.

Road markings have short lives, less than one year, and are not considered for renewal but are dealt with on an annual replacement basis through the road marking contract.

7.7.2. Key Points

Traffic services covers a wide area of assets (signs, markings, railings and traffic signals) with varying life cycles.

- The warranted life for reflectorized materials on signs is generally 10 years. Sign reflectivity and therefore the visibility of the sign at night, drops rapidly as the surface material deteriorates.
- Sign upgrades have often been performed in blocks so a large number of signs of a similar type, or at a similar location, may reach the end of life together.
- The maintenance contract includes validation and condition surveys of all signs and railings, to update the inventory data and provide more accurate and robust information for forward planning. At-risk sites such as intersections and curves will receive increased scrutiny to ensure appropriate and compliant delineation is in place. There are 2024-27 LCLR projects that encompass this intent see Appendix B – Low Cost, Low Risk Schedule 2024-27 (Item number 14 &15).
- A delineation strategy is developed within ARC to enable consistency and sharing of practices and resources.
- WTOC (Wellington Transport Operations Centre) is currently managing ADC's Traffic signals, previously managed by Christchurch Transport Operations Centre (CTOC) while options for the future are explored. Technical consultation for traffic signal component replacements and improvements is provided by Traffic Control Systems (TCS) and is undertaken to ensure life cycle and cost optimisation is achieved.

7.7.3. Renewals Plan

The traffic services activity budget for renewals focuses primarily on the required replacement of signs, sight rails, and traffic signals based on condition assessments carried out through the maintenance contract.

The large numbers of signs on the ADC network mean that an active renewal programme may stretch existing budgets and efforts to extend the useful lives of signs will be required. A programme of sign renewals over the next 10 years will be developed to reflect condition and remaining asset life, and then prioritisation within funding limitations. Sign replacement is principally carried out through our maintenance contract.

7.8. Streetlights

7.8.1. Maintenance

Council's Streetlighting Maintenance and Operations contractor Power Jointing Limited manage these assets on a reactive basis. Their regular inspections and customer CRM inputs provide monthly repair and replacement programmes.

7.8.2. Key Points

- Council carried out a lamp replacement programme in 2017-18 to take advantage of NZTA's temporary FAR increase for installation of Light Emitting Diode (LED) lamps. LEDs have up to five times the useful life, and use approximately 50% of the energy as the conventional high pressure sodium (HPS) lamps for the same light output. This project, along with the fact that LEDs are now the standard new light installation, means that 87% of the network's lights are LED.
- New technology will be investigated and applied if appropriate and value for money. This includes options for variable light intensity, smart metering and alternative energy supply.
- New flag lights will be installed at rural sites (generally intersections) for safety reasons. Candidate sites are identified through public requests and are installed normally in conjunction with Electricity Ashburton working on lines in the area. Flag lights have lower specifications than standard streetlights as they are intended to provide a general alert to an intersection rather than fully illuminate the site. See Appendix B – Low Cost, Low Risk Schedule 2024-27 (Item number 22).

7.8.3. Renewals Plan

As of June 2023, only a fewer urban centres streetlights remain on utility (mostly power) poles.

Council co-ordinates the programme of streetlight renewal and upgrades with EA's undergrounding of overhead power lines within urban areas, and Council's footpath renewals.

Where changes in height, angle, location, light spread and intensity etc. are required to comply with Council policy, these will be co-ordinated with the renewals programme, unless safety concerns require immediate attention.

7.9. 2024-27 Funding Request

The table below shows a summary of the 2024-27 NZTA funding request in comparison with 2021-24 costs per work category.

Table 7- 3 2024-27 NZTA Funding Request

Waka Kotahi NZTA Work Category		"B"	Average	"A"	Change "B" to A"	
Code	Activities	2024/27	2024/27	2021/24	$	%
111	Sealed Pavement Maintenance	$6,700,000	$2,233,333	$4,896,727	$1,803,273	37%
112	Unsealed Pavement Maintenance	$2,600,000	$866,667	$2,295,300	$304,700	13%
113	Routine Drainage Maintenance	$1,530,000	$510,000	$1,375,494	$154,506	11%
211	Unsealed Road Metalling	$3,600,000	$1,200,000	$3,319,208	$280,792	8%
212	Sealed Road Resurfacing	$9,300,000	$3,100,000	$8,414,140	$885,860	11%
213	Drainage Renewals	$1,650,000	$550,000	$1,203,139	$446,861	37%
214	Sealed Road Pavement Rehabilitation	$7,320,000	$2,440,000	$7,420,664	-$100,664	-1%
Subtotal - Local Road Pothole Prevention Activity Class		**$32,700,000**	**$10,900,000**	**$28,924,672**	**$3,775,328**	13%
114	Structures Maintenance	$1,000,000	$333,333	$288,886	$711,114	246%
121	Environmental Maintenance	$2,060,000	$686,667	$1,738,017	$321,983	19%
122	Traffic services Maintenance	$2,790,000	$930,000	$2,500,858	$289,142	12%
123	Operational Traffic Maintenance	$54,000	$18,000	$36,915	$17,085	46%
131	Level crossing warning devices	$111,000	$37,000	$106,523	$4,477	4%
140	Minor events	$300,000	$100,000	$235,789	$64,211	27%
151	Network and Asset Management	$3,300,000	$1,100,000	$3,032,016	$267,984	9%
215	Structures Component Replacements	$1,300,000	$433,333	$107,490	$1,192,510	1109%
221	Environmental Renewals	$0	$0	$0	$0	0%
222	Traffic services Renewals	$572,217	$190,739	$501,145	$71,072	14%
Subtotal - Local Road Operation Activity Class		**$11,487,217**	**$3,829,072**	**$8,547,639**	**$2,939,578**	34%
124	Cycle path Maintenance	$18,000	$6,000	$11,471	$6,529	57%
125	Footpath Maintenance	$965,480	$321,827	$1,000,730	-$35,250	-4%
224	Cycle Path Renewal	$0	$0	$0	$0	0%
225	Footpath Renewal	$1,838,600	$612,867	$1,839,000	-$400	0%
Subtotal - Walking and Cycling Activity Class		**$2,822,080**	**$940,693**	**$2,851,201**	**-$29,121**	-1%
Grand Total		**$47,009,297**	**$15,669,766**	**$40,323,512**	**$6,685,785**	**17%**

7.10. Low Cost, Low Risk 2024-27

A number of projects within the district are carried out annually to maintain the existing levels of service, hit key performance measures and/or improve safety.

These are outside of the standard maintenance, operations and renewals programmes and are included in the NZTA Low Cost, Low Risk (LCLR) programme which allows for a maximum value of up to $2,000,000 per project. With the recent changes in the activity classes, WC 216 Bridge and structure Renewals have shifted to the low cost low risk programme under the local road improvement activity class.

LCLR works are updated in alignment with the three-year funding and budget periods, to re-prioritise works not yet undertaken, and add any newly identified projects.

The projects can be broken down into the following improvement types;

- **Bridge and Structures**

  Bridge and Bridge Component replacements (due to age, condition or restrictions), culvert extensions (to mitigate roadside hazards) and stock underpass installations (to remove stock from the road for both safety and road deterioration reasons) are included in these improvements. See Appendix B – Low Cost, Low Risk Schedule 2024-27(Item number 13)

- **Delineation and Traffic Services**

  These works aim to increase user safety by improving the network delineation through various means which may include installation or upgrade of; markings, signs, islands, layout etc. Speed limit reviews and revision are also included. See Appendix B – Low Cost, Low Risk Schedule 2024-27 (Item number 14, 15, 17)

- **Drainage and Resilience**

  Kerb and channel, rural swales, soakpits, sumps and culverts are included in these projects. The intent is to increase user safety and road resilience by decreasing flooding extents and pavement damage by improving or installing appropriate drainage solutions. See Appendix B – Low Cost, Low Risk Schedule 2024-27 (Item number 5, 6, 7, 8, 18, 26)

- **Intersections**

  These works are a variety of traffic engineering solutions to improve safety for road users specifically at intersections. They include design/layout changes, traffic calming devices and priority changes. Sites are chosen based on Crash Analysis System (CAS) data, Customer Request Management (CRM) requests and reported safety issues identified by Roading Reference Groups, the maintenance contractor and ADC Engineers/ Safety Technician through safety inspections. See Appendix B – Low Cost, Low Risk Schedule 2024-27 (Item number 19, 20, 31)

- **Lighting**

  These projects include Installation of new rural flag lights, and new lighting poles when power is undergrounded (where power poles are the light supports). See Appendix B – Low Cost, Low Risk Schedule 2024-27 (Item number 22, 23)

- **Railway Crossings**

These works will increase user safety with improved railway crossing access and surface quality. They include funding assistance for Kiwirail's programme of improvements to level crossings throughout the district. See Appendix B – Low Cost, Low Risk Schedule 2024-27 (Item number 24, 25)

- **Road Widths and Surfaces**

  These projects will result in improved user safety and reduced pavement deterioration, through increasing braking distances and seal widths, and strengthening of shoulders. See Appendix B – Low Cost, Low Risk Schedule 2024-27 (Item number 21, 24, 27, 28, 29, 30)

- **Walking & Cycling**

  New footpaths, improved markings, signage and lighting, and better network planning for cycle and pedestrian routes and networks are included in these works. The ADC Walking and Cycling Strategy is a key driver for these projects. See Appendix B – Low Cost, Low Risk Schedule 2024-27 (Item number 1, 2, 3, 4, 9, 10, 12)

7.11. Capital Project (Ashburton-Tinwald Connectivity)

See Section 3.2.4 Ashburton-Tinwald Connectivity problem statement for the project background.

State Highway 1 Ashburton River bridge is in the urban centre and carries around 24,000 vpd (Vehicle Per Day). Although events such as earthquakes and floods have low probabilities, they have high consequences. The May 2021 flood event highlighted how susceptible the transport network and regional economy are to any event that either closes the SH1 bridge (even for a short period) or restricts the types of vehicles that can use the bridge. The nearest alternative river crossing involves an 80km diversion along local rural roads. However, in the May 2021 event, this alternative route was also not open, being equally affected by the same flood event. This meant that either people took a detour that involved a trip via the west coast of the South Island, or in most cases, the trip simply did not take place. In worse circumstances under any closure or situation, the emergency services are unable to attend to incidents in Tinwald in time.

Preferred Option

The identification and assessment of options and alternatives for the most practical solution were made by the evidence base, an engineering review of bridge options, and feedback from ADC and the wider stakeholder group. In October 2021, Ashburton District Council and NZ Transport Agency endorsed the technically preferred programme and proposed location for the second bridge.

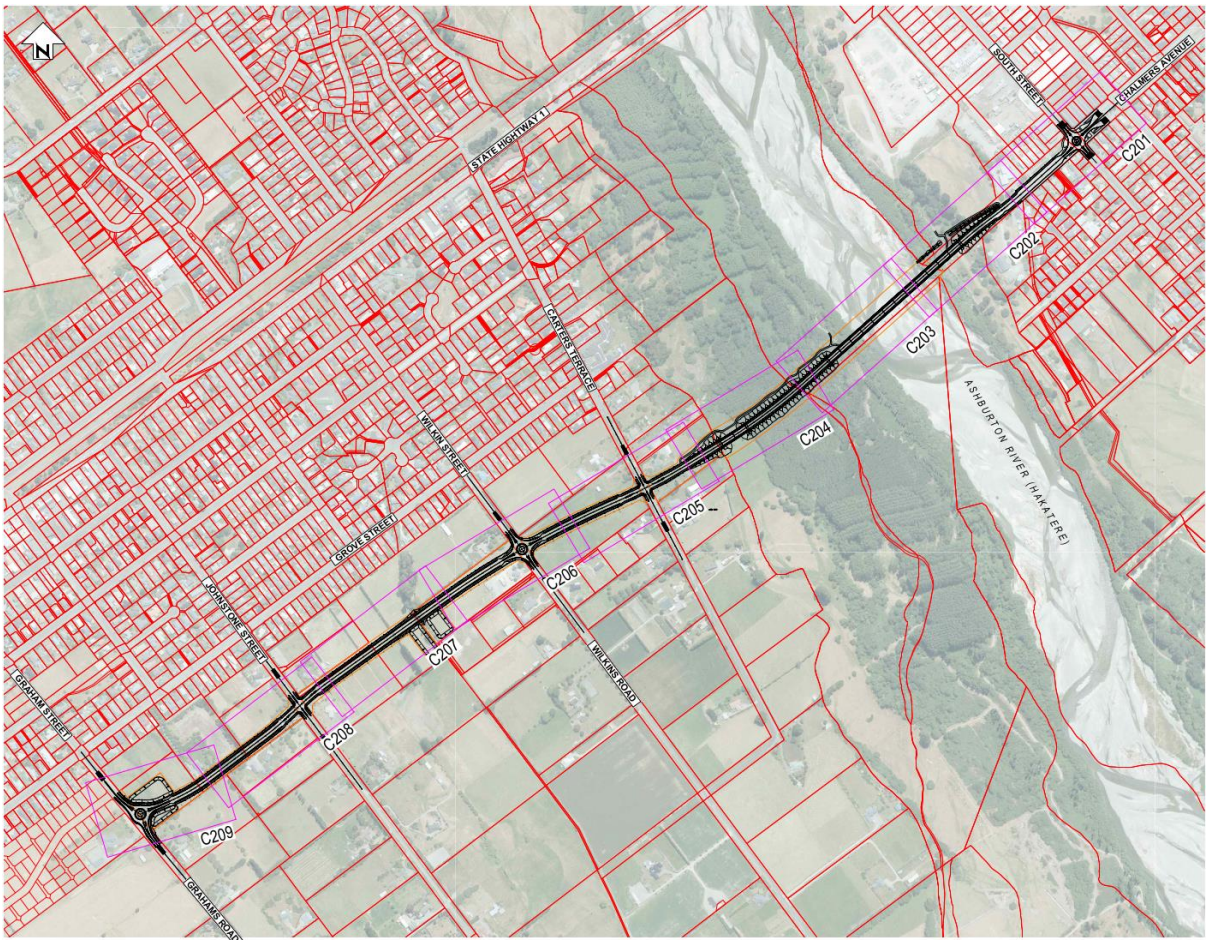


Figure 7- 10 Proposed Second Bridge Crossing Site-Layout

As shown in Figure 7- 10, the proposed new bridge crossing the Ashburton River approximately 800mm downstream of the existing State Highway 1 bridge. The second bridge connect to Chalmers Avenue in Ashburton and new road will connect the bridge through to Grahams Road in Tinwald. This project includes the construction of three roundabouts (South Street, Wilkin Street and Grahams Road), two priority intersections along with around 400 metre long second bridge.

The Government Policy Statement on land transport (GPS) 2024 has identified the Ashburton second bridge project as a Road of Regional Significance. The project will deliver strong benefit (both traditional and Wider Economic Benefit (WEBs) and presents good value for money with a BCR of 1.3 (inc. WEBs). Also, provides greater resilience across the South Island.

Timeframe

The DBC timeframe for this project to design and constructed are as table below,

Table 7- 4 Ashburton Second Bridge Project Timeframe

Activity	Timeframe
Detailed Business Case (DBC) development	Start of 2022 - Mid 2023
DBC funding approval	Mid 2023 - End 2023
Detailed design and consenting	Start 2024 - Mid 2025
Procurement	Mid 2025 - End 2025
Bridge construction	2026-27 (potentially 2028)

Financial

The estimated cost for construction of second bridge and new road is approximately over $100 million. Ashburton District Council seeking a 62% Funding Assistance Rate (FAR) from NZ Transport Agency; including 51% of standard FAR, 7% contribution based on crash reduction on State Highway and an additional 4% based on wider GDP resilience benefit.

For more detailed, see DBC on Transport Investment Online (TIO) Link

7.12. Network Management

In addition to physical works there are many other services and tasks required to provide a fit-for-use transportation network.

With changes in health and safety legislation and expectations, NZTA funding and investment proofing requirements, multiple performance measure obligations, and the move to more robust and evidential forward planning, these activities have grown (and are expected to continue to) in scope and cost.

The introduction of ONF has required substantial time from asset management staff to ensure it was correctly established. The same (if not more) will be required for AMDS implementation.

There is expected to be an increase in project business case processes and performance measure reporting requirements.

Changes to COPTTM/NZGTTM requirements are expected to result in greatly increased costs.

Moves to improve and update Consistent condition data collection (CCDC) and analysis are currently under investigation. National approach to data collection and requirement will change the data collection methods, and this could also increase the cost to work category 151 Network and Asset Management budgets.

National directives relating to speed limit rules may require increased reviews and consultation processes.

The activities required to ensure best practice general network management include;

- Corridor Management:
    - Corridor Access Request reviews and approvals
    - Work Approval Permit reviews and approvals
    - Temporary Traffic Management plan reviews and approvals
    - Road user permit reviews and approvals (HPMV, overweight and over-dimension)
    - Resource and building consent requests and processing
- Traffic Counts:
    - Programming
    - Surveys (including pedestrians and cyclists)
    - Data updates and analysis
- Speed Management:
    - Reviews
    - Analysis
    - Consultation and recommendations
- Data Collection:
    - Asset condition and validation surveys
    - Roughness and condition rating surveys
    - High Speed Data (HDS) surveys
    - Pavement strength testing
    - Safety and fault network inspections
- Analysis and Programming:
    - Pavement deterioration modelling

    - Treatment selection analysis
    - Programme field validation/ground truthing
    - Forward Work Programmes
    - Utility and Third Party liaison
- Data Management:
    - RAMM maintenance
    - Inventory validation and updates
    - Compliance with required standards
- Plans and Strategies:
    - Activity Management Plan reviews and updates
    - Walking & Cycling Strategy reviews and updates
    - Safe System Management reviews and updates
- Reporting:
    - Council departmental reports
    - Project feasibility reports
    - Annual reports
    - Annual asset valuation and capitalisation
    - NZTA reports and claims
    - Performance measure collation and provision (local and national)
    - TIO Annual Achievement Returns collation and provision
- Liaison and collaboration:
    - Technical Officers Group (TOG)
    - Aoraki Roading Collaboration (ARC)
    - Canterbury Regional Council (ECAN)
    - New Zealand Transport Agency (NZTA)
    - Road Controlling Authority forum
- Promotion and information activities (network user information)
- Special road maintenance, renewal or improvement related studies

The majority of these tasks are currently undertaken or managed by Council staff. External providers are engaged where resource capability or capacity is inadequate, but it is key to ensure the core principles of asset management best practice are retained within council through its staff's skill sets. This ensures business continuity and knowledge ownership.

7.13. Resilience

Resilience has become a key issue for the New Zealand transportation sector in recent times, due largely to the aftermath of major earthquakes, storms and rain events in the last decades.

Being resilient means having the capability to;

- withstand disruption
- absorb disturbance
- act effectively in crises
- adapt to changing conditions (including climatic)
- grow over time

Factors that affect resilience include;

- natural disasters
- global impacts (economic and social)
- declining populations and resources
- changing demographics and social trends
- loss of technical expertise

Resilience is tested the most when a low probability/high consequence event occurs. Many organisations accept the risk of such events, but underinvest in mitigation which would reduce or limit the impact. Consequently, reconstruction or repair costs can be very high, possibly to the extent where reinstatement to pre-event status is impossible. It is generally accepted that service and asset failure will occur with extreme events, so emphasis should be on "safe" failure and fast recovery. Resilience projects associated with heavy rain events destruction identified in Low Cost, Low Risk Schedule in Appendix B – Low Cost, Low Risk Schedule 2024-27 (Item number 26).

Resilience levels of service should be defined taking account of critical customers and their minimum requirements, since the standard levels of service are for "business as usual". Both technical and organisational principles should be considered when assessment is carried out.

Table 7- 5 Resilience principles

Factor	Principle	Explanation
Technical	Robustness	Strength or ability to withstand damage without losing function
	Redundancy/backup	Asset can be quickly replaced or retained to minimum function
	Modularity/flexibility	Independent components or easily modified/improved systems
	Safe-to-fail	Design to allow controlled, planned failures
Organisational	Change readiness	Awareness of potential issues and plans in place to address them
	Networks	Communication and relationships established across all stakeholders (internal and external)
	Leadership and culture	Council's mind-set open to change and adaptation

7.14. Sustainability

Council has an obligation to monitor and manage its Transportation assets and network to minimise environmental impacts and comply with current legislative obligations. Delivering a sustainable network where heritage values and visual amenity are preserved or enhanced is a priority.

At a national level, compliance with the following documents (including amendments) guides Council activity:

- Resource Management Act 1991 (RMA)
- Land Transport Management Act 2003 (LTMA)
- Government Policy Statement on Land Transport 2021 (GPS)

Most important is that Council operates within accepted best practice and maintains and complies with current Resource Consents pertinent to Transportation operational and maintenance activities.

7.15. Climate Change

The March 2004 amendments to the RMA 1991 require Councils to consider the effects of climate change. Conclusive evidence both nationally and internationally shows that the climate is changing, and the Council needs to be aware of, and plan for the possible effects.

These include;

- More frequent and intense storms which could change flood protection design levels, increase erosion impacts, increase coastal storm effects, and increase run-off from upper catchments leading to an increase in sediment transport to lower catchment rivers and coastal areas.
- More frequent extreme rainfall events in township areas which can impact stormwater drainage capacity requirements for existing and new works to remain efficient and effective.
- Reduced annual mean precipitation and increased drought conditions affecting soil permeability reducing the efficiency of roadside swale drainage.
- Increase in mean annual temperature which increases the drying effects on unsealed roads leading to surface material wind erosion.
- Sea level rise which will decrease coastal flood protection levels of service and with increased coastal erosion may degrade coastal roads.

Climate changes are expected to create both opportunities and risks for the Canterbury region and Ashburton District in particular. Agricultural and horticultural industries may see benefit in production levels with less frost and increased mean temperatures leading to longer growing seasons. Warmer winters will decrease ice and snow hazards over the season, but extremes of drought, floods and storms may occur with greater frequency and severity.

Extreme weather events represent a threat to people and property, including both public and private infrastructure. Flooding and storm damage is a major risk given the proximity of many urban settlements and productive farmland to rivers and waterways. There is also risk that the Ashburton, Rakaia or Rangitata river bridges are unable to be crossed, cutting off transportation

links across our district and to other districts as seen in 2021 when the Ashburton Bridge was damaged during a severe rain event.

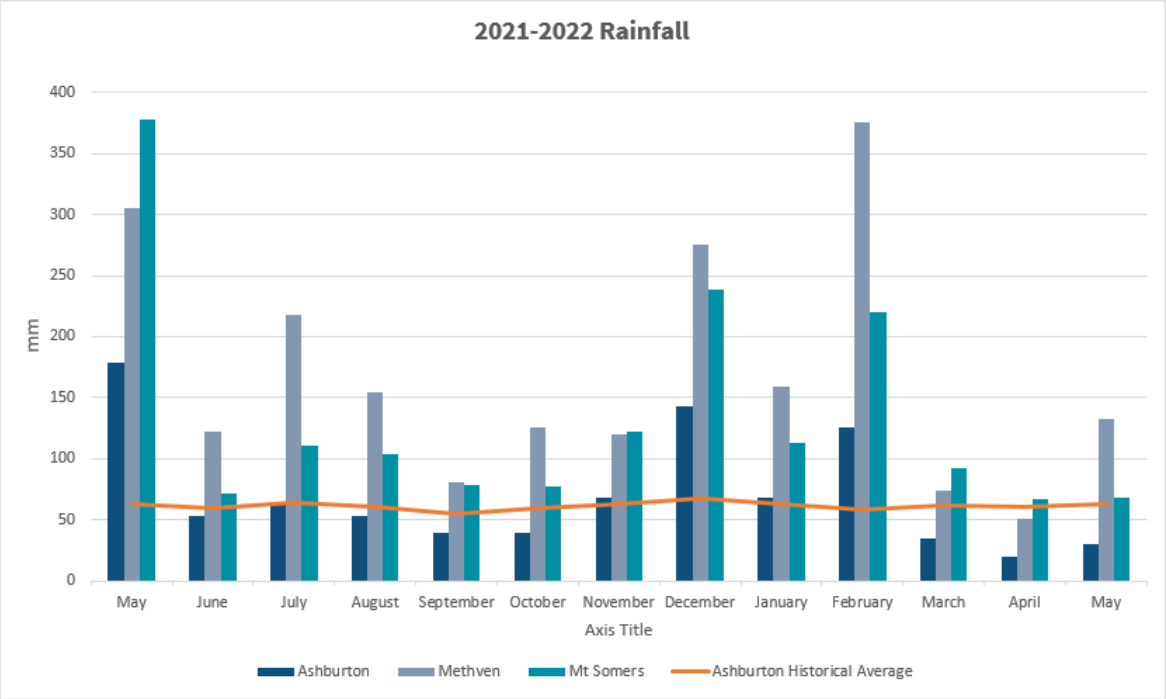


Figure 7- 11 Ashburton District 2021-22 Rainfall

The above figure shows the growth in 2021/22 rainfall as compared to the historic rainfall. The majority of rivers and waterways in the district were severely affected, including Hinds River South Branch, Hinds River North Branch, Bowyers Stream, Taylors Stream, Ashburton River South Branch, Ashburton River North Branch, Pudding Hill Stream, Dry Creek, and the many creeks and tributaries on the mountains and hills in the high country. This event led to district-wide major damage and cost approximately $5M for traffic management and reinstatement. A map showing the extent of damage is in Appendix F – Flood Map (May 2021)

Council adopted the Climate Change policy in 2019 and reviewed it in 2022. Also produced Climate Resilience Plan in 2022 to provide more clarity about Council's activities, together with accountability measures and the pathway Council will follow to implement the policy.

Climate change effects are built into the design of new assets and on replacement of existing assets, and Council will continue to use the latest guidance for various asset design parameters. Some assets may need additional capacity. It is assumed that guidance will continue to be readily available, and Council will adapt as new or updated information from credible sources is produced.

8. Risk

8.1. Context

8.1.1. Policy

The Council's Corporate Risk Policy provides the context and framework for how risks to ADC are to be managed, as risk is inherent in the Council's operations.

The objective of the process is to identify, analyse and evaluate realistic possible risks faced by Council. The Council is committed to managing risks that may harm staff or residents, impact on the delivery of its activities and services and/or have implications on the Council's legal obligations.

The Council is exposed to many risks on a daily and ongoing basis. Risk is inherent across all areas of activity in the Council's operations including but not limited to, procurement, contract management, employment, health and safety, regulatory and enforcement, management, financial, procedural, service delivery, emergency management and business continuance.

The Council is committed to keeping its risk management framework relevant and applicable to all areas of operation by using the AS/NZ ISO 31000:2009 Risk Management Standard as its basis.

Risk management is an integral part of day-to-day operations and not a separate function.

8.1.2. Objectives

The main objectives of the Council's Corporate Risk Policy are to:

- Record and maintain a risk management framework aligned with the AS/NZS ISO 31000:2009 standard;
- Define the roles of staff and managers within the risk management framework;
- Enhance ADC's ability to achieve business objectives and deal successfully with risks and issues as they occur
- Maintain the integrity of services
- Safeguard assets, people, finances and property
- Identify opportunities to reduce risk
- Create a culture where all employees accept responsibility for managing risk
- Demonstrate transparent and responsible risk management processes which align with and demonstrate good governance
- Utilise risk management process outputs as inputs into Council decision-making processes

8.2. Identification

8.2.1. Risk Profiles

Council maintains a Corporate Risk Register relating to internal and external services and activities. Risk profiles have been created for different aspects of Council responsibility;

- Community Safety
- Operational
- Reputational
- Financial
- Environmental
- Our people
- Legal

Each profile includes specific identified risks along with their assessed likelihood and impact and resultant risk level. Each risk is then further developed to document the controls in place to manage the risk, and what (if any) further controls may be required.

8.2.2. Criticality

At the asset network level the following critical areas/assets have been identified:

- Pavement condition and life
- Bridges with timber beams (failure) and/or restrictions (weight/speed)
- Rural highspeed Intersections
- Availability/affordability of resources (people, materials, plant, equipment)
- Route safety/ security/resilience
- Failure of hazard identification/warnings
- ONF – impact on programming and funding thus long-term road condition

8.3. Assessment

Risk assessment aims at understanding the level of significance of a risk by assessing its likelihood and consequences or impact, and taking into account the processes and controls to mitigate it.

8.3.1. Consequence

The impact descriptors in Table 8- 1 indicate the level of possible consequences for a risk.

Table 8- 1 Risk Consequence Ratings

Consequence		Interpretation					
Code	Name	Image, Reputation and Public Trust and Council Trust	Financial Direct Costs (Repair, Lost Revenue, 3rd party damage, legal costs)	Economic impacts on users and businesses	Environmental and Legal Compliance	Public Health and Safety	Service Level/ Effectiveness
1	Insignificant	No media attention or damage to reputation.	< $10,000	Equivalent to < $10,000	No breaches	No health or safety impact.	One-off minor failure to meet levels of service
2	Minor	No media attention, but minor damage to image to a small group of people.	$10,000 to $50,000	Equivalent to $1,000 to $50,000	Minor breaches affecting very small part of the network	Minor safety impact on small number of people.	Minor failures to meet levels of service.
3	Moderate	Negative local media coverage, community concerned about company performance.	$50,000 – $200,000	Equivalent to $50,000 – $200,000	One-off major breach, affecting a small part of the network	Serious safety impact on small number or minor impact on large number of people.	One-off major failure or widespread minor failures.
4	Major	Negative national media coverage, major decrease in community support.	$200,000 – $1,000,000	Equivalent to $200,000 – $1,000,000	Several major breaches affecting a significant part of the network	Extensive injuries or significant safety impacts, single or several fatalities.	Some major performance failures.
5	Extreme/Catastrophic	Negative international media coverage, Significant political outfall, loss of community support, loss of several key staff.	>$1,000,000	Equivalent to > $1,000,000	Widespread and major breaches of standards, failure to meet legislative requirements over most of system area / network	Widespread safety impacts; large numbers of fatalities.	Major, widespread, unacceptable performance failure.

8.3.2. Likelihood

The likelihood ratings identify how likely, or often, a particular event is expected to occur, these are shown in Table 8- 2 below. The descriptors are not a mandatory category requirement, but act as a guide to assist in ranking the probability in line with the nature of each risk.

Table 8- 2 Risk Likelihood Ratings

Likelihood		Interpretation	Probability
Code	Name		
1	Rare	Could occur only in exceptional circumstances	0.05
2	Unlikely	Could occur at some time in the next 10 years	0.2
3	Possible	Could occur annually	0.4
4	Likely	Could occur a few times a year	0.6
5	Almost Certain	Is expected to occur monthly	0.8

Binomial Distribution: Pe = (1 – (1 – 1/T)^n where T = Return period and n = number of years

8.3.3. Rating Matrix

The Council uses a qualitative approach to the assessment of risks on its transportation network in which risk is "calculated" using a matrix that links the likelihood and consequence of an event. The inputs to this matrix are the assessed likelihood and consequences of each event.

Table 8- 3 Risk Rating Matrix

		Consequences				
		1	2	3	4	5
Likelihood		Insignificant	Minor	Moderate	Major	Extreme or Catastrophic
1	Rare	L	L	M	M	H
2	Unlikely	L	M	M	M	H
3	Possible	L	M	M	H	E
4	Likely	M	M	H	H	E
5	Almost Certain	M	H	H	E	E

Key:

- E - Extreme Immediate action required to reduce risk
- H - High Senior management attention needed to manage risk
- M - Medium Specify management responsibility and review risk controls
- L - Low Manage by routine procedures

8.4. Management

Once the risks have been assessed and rated, the most significant risks (for example, those of extreme or high risk) are isolated for treatment or control. These may include, for example, strengthening key infrastructure or installing new assets.

8.4.1. Treatment Options

Treatment options mitigate the assessed risk to acceptable tolerance levels. The treatments or controls are aimed at reducing either the likelihood or the consequence identified. No specific significant project expenditure is currently scheduled for risk mitigation.

Treatment options could involve applying existing or implementing additional controls, and will entail one of the following conditions;

- Risk Accepted: Consider and implement treatment/control options
- Risk Reduced: Decrease either the likelihood of occurrence or the negative consequences
- Risk Transferred/Shared: Pass the risk in part or whole to others (e.g. insurance or third party)
- Risk Retained: Retain the risk if the impact is found to be minimal

The effectiveness of assigned controls needs to be evaluated to define the residual risk. Residual risk is that left after the risk treatment process has been performed and controls applied. Table 8-4 provides the effectiveness rating.

[Likelihood x Impact = Inherent Risk – Control Effectiveness = Residual Risk]

Table 8- 4 Control Effectiveness Rating

Effectiveness	Description	Score
Non-existent	Controls are ineffective and urgent attention is needed to implement new controls	0
Unacceptable	Controls manage only some of the risk and attention is required	1
Adequate	Controls manage risk at face value but there are no checks or balances	2
Good	Majority of risks are managed but there is potential for failure	3
Very Good	Controls are good but there is room for improvement	4
Excellent	Controls in place mitigate risk to the maximum level	5

8.4.2. Action Plans

Action plans will comply with the Council Corporate Risk Policy and are detailed in the Risk Schedules in Appendix E – Risk Schedule

8.5. Monitoring and Review

Risks are constantly changing due to the Council's operating landscape. Therefore, risks must be monitored and reported on a regular basis to ensure they are current.

Furthermore, risk owners and control owners have key risk, control review and updated responsibilities to ensure the information pertaining to those risks are current. The Council's risk register undergoes a periodic review to ensure the information captured is current.

The effectiveness of the Council's risk management framework is periodically monitored and reviewed. The review process helps refine the Council's risk management framework to facilitate continuous improvement and overall risk maturity within the organisation.

9. Finance

9.1. Overview

The financial aspects of delivering the Transportation AMP are developed and managed with support and collaboration between Council's Business Support and Infrastructure Services staff.

This section summarises the funding and financial aspects of delivering the Transportation activity. The forecasting included here is required to remain consistent with multiple Council strategies, policies and obligations including;

- Long Term Plan (LTP)
- 30 Year Infrastructure Strategy
- Annual Plan budget
- NZ Transport Agency funding submission
- Accounting requirements to balance income and expenditure
- Separation of NZ Transport Agency subsidised and unsubsidised works

Across the transportation activity funds are invested to address the following categories of work:

- Operations and maintenance
- Renewal (Replacement)
- Capital (New)
- Disposal

9.2. Asset Valuations

Each year a review and update is completed that adjusts the asset valuation and reissues the Annual Roading Asset Valuation Report. This report allows for the annual changes that have occurred in:

- Value of Unit rates for asset replacement
- Review of asset lives for each asset involved
- Addition of assets from Capital Improvements
- Removal of Assets due to Disposals
- Any other changes to the Asset register (RAMM Database)

The valuation is performed to meet New Zealand accounting standards asset valuation best practice using RAMM database inputs as the basic current Asset Register. Other external Excel spreadsheet information not held in RAMM is also considered where it is able to be attributed to specific transportation assets.

The Council uses a straight line depreciation model where total annual depreciation is based on the annual consumption of the useful life of each asset. Full details can be found in the 2022-23 FY Annual Roading Asset Valuation Report. A summary is shown in Table 9- 1 below.

Table 9- 1 Ashburton District Council Roading Valuation 2022-23

ASSETS as at 30 June 2023	OPTIMISED REPLACEMENT COST	OPTIMISED DEPRECIATED REPLACEMENT COST	ANNUAL DEPRECIATION
Berms	$4,701,377	$4,701,377	NO DEPRECIATION APPLIED
Bridges	$98,485,839	$47,259,488	$988,364
Drainage	$38,072,206	$19,405,852	$444,295
Footpath	$39,127,779	$21,839,038	$905,487
Islands	$1,522,729	$488,029	$60,631
Minor Structures	$584,442	$266,378	$11,927
Railing	$3,251,206	$521,823	$100,389
Retaining Wall	$5,964	$4,970	$102
Signs	$1,644,985	$426,404	$115,298
Street Light - Bracket	$1,198,532	$413,624	$52,110
Street Light - Light	$2,643,502	$1,596,957	$185,642
Street Light - Pole	$6,550,673	$3,713,930	$161,758
Surface Water Channel	$34,005,962	$16,185,458	$419,446
Traffic Facility	$41,746	$12,921	$2,982
Traffic Signals	$734,969	$705,657	$29,312
Formation	$48,416,228	$48,416,228	NO DEPRECIATION APPLIED
Subbase	$85,208,228	$85,208,228	NO DEPRECIATION APPLIED
Basecourse	$138,132,014	$83,416,139	$1,493,905
Top Surface	$70,318,956	$31,411,053	$4,111,378
TOTAL for ROAD ASSETS	**$574,647,337**	**$365,993,555**	**$9,083,027**

9.3. Funding Sources

The range of activities covered by this Transportation AMP have a variety of different sources of funding. Council's rates income is supplemented for the roading and associated facilities activity by central Government subsidy through NZTA. In some situations Council can charge fees in line with its annually reviewed fees and charges structure. For the remaining work proposed on unsubsidised activities Council raises a mix of General and Targeted rates income. The funding sources outside Council do not fund all activities and their funding is usually conditional on meeting specific requirements:

- Nationally distributed funds (NZ Government financial assistance)
- Local rates funding
- Developer contributions

Council subsidy from NZTA is based on an agreed Financial Assistance Rate (FAR). This rate is reviewed and applied each year by NZTA as part of the agreement of the Council's NZTA budget submission process. Following a review of the FAR subsidy, new subsidy rates have been allocated to Road Controlling Authorities (RCA) for the future. Ashburton Council's level of subsidy is 51% - unchanged from the 2018-21 period.

9.4. Forecasts

The financial forecasts for the coming 10 years are established and set-out within this AMP. Since the AMP is linked closely to a number of other Council documents as indicated in Section 3.1.4.3 these forecasts are consistent with Council's:

- Long Term Plan projections
- Annual Plan budget
- Agreed investment levels within the NZ Government (NZ Transport Agency) assistance programme

The AMP forecasts then indicate a balance between funding and expenditure over time such that investment levels are clear, consistent and where justified Projects are expected to be implemented.

9.5. Development and Financial Contributions

Council is required to have a policy on development contributions or financial contributions (the Policy) under section 102 (4) (d) of the Local Government Act 2002 (LGA). Section 198 of the LGA gives Council the power to require a contribution for developments. Development Contributions provide Council with the means to initially fund infrastructure construction and also maintain these additional assets.

The current Policy does not include a requirement for development contributions for Transportation. However, Council does directly liaise with developers and in some situations an equitable cost share is agreed for specific assets. The type and quantity of asset, and extent of the developer's financial contribution is site-specific and usually based on the land use and connected environment. Most often, it is kerb and channel and/or footpath on connecting roads that is the subject of these agreements.

Where developments are undertaken in areas not immediately adjacent to existing transportation infrastructure (generally footpaths and kerb and channel) this may create safety or access issues in the local environment. Practical and fit for purpose connecting assets are required to ensure developments are adequately and appropriately integrated into the wider transportation network.

The Resource Management Act 1991 allows Councils to collect financial contributions from subdivisions for new or upgraded transportation assets to address the environmental effects of developments. ADC enact this provision in some situations. Developers can object to these requirements and if required Council will work with the developer to explain the issues and explore alternatives to address the environmental effects.

9.6. Transportation Funding Forecast 2024-34

The table below is an excerpt from the Ashburton District Council Long Term Plan (LTP) 2024-2034. Specific funding sources and applications can be found in the LTP.

Table 9- 2 Transportation Funding Forecast 2024-34

Funding impact statement

	Annual Plan 2023/24 $000	Year 1 2024/25 $000	Year 2 2025/26 $000	Year 3 2026/27 $000	Year 4 2027/28 $000	Year 5 2028/29 $000	Year 6 2029/30 $000	Year 7 2030/31 $000	Year 8 2031/32 $000	Year 9 2032/33 $000	Year 10 2033/34 $000
Operating Funding											
Sources of operating funding											
General rate, UAGC*, rates penalties	269	244	251	254	287	312	333	356	378	403	440
Targeted rates	9,086	10,739	11,318	12,170	13,088	13,518	13,822	14,098	14,257	14,707	14,614
Subsidies and grants for operating purposes	-	4,588	3,855	7,400	7,413	7,564	7,721	7,890	8,015	8,200	8,352
Fees and charges	-	-	-	-	-	-	-	-	-	-	-
Internal charges and overheads recovered	-	-	-	-	-	-	-	-	-	-	-
Local authorities fuel tax, fines, infringement fees and other receipts	358	460	472	482	492	503	515	527	539	551	563
Total sources of operating funding	9,713	16,030	15,895	20,306	21,280	21,897	22,391	22,872	23,188	23,861	23,970
Applications of operating funding											
Payments to staff and suppliers	7,058	9,929	9,703	10,589	11,519	11,789	12,070	12,361	12,622	12,930	13,212
Finance costs	215	431	531	712	664	614	553	487	425	352	272
Internal charges and overheads	1,826	1,813	1,839	1,859	1,898	1,924	1,951	1,991	1,970	2,007	2,030
Other operating funding applications	-	-	-	-	-	-	-	-	-	-	-
Total applications of operating funding	9,099	12,172	12,072	13,160	14,081	14,327	14,573	14,839	15,017	15,288	15,514
Surplus/(deficit) of operating funding	614	3,858	3,823	7,146	7,199	7,571	7,818	8,033	8,171	8,572	8,456

* Uniform Annual General Charges

	Annual Plan 2023/24 $000	Year 1 2024/25 $000	Year 2 2025/26 $000	Year 3 2026/27 $000	Year 4 2027/28 $000	Year 5 2028/29 $000	Year 6 2029/30 $000	Year 7 2030/31 $000	Year 8 2031/32 $000	Year 9 2032/33 $000	Year 10 2033/34 $000
Capital Funding											
Sources of capital funding											
Subsidies and grants for capital expenditure	7,424	6,446	68,101	71,970	6,276	6,414	6,561	6,713	6,867	7,024	7,179
Development and financial contributions	-	-	-	-	-	-	-	-	-	-	-
Increase (decrease) in debt	2,039	2029	3,881	(1,401)	(1,410)	(1,592)	(1,648)	(1,630)	(1,547)	(1,731)	(882)
Gross proceeds from sale of assets	-	-	-	-	-	-	-	-	-	-	-
Lump sum contributions	-	-	-	-	-	-	-	-	-	-	-
Other dedicated capital funding	-	-	-	-	-	-	-	-	-	-	-
Total sources of capital funding	9,463	8,475	71,982	70,569	4,866	4,822	4,913	5,083	5,320	5,294	6,297
Application of capital funding											
Capital expenditure											
- to meet additional demand	-	-	-	-	-	-	-	-	-	-	-
- to improve the level of service	2,245	4,305	67,296	68,995	2,384	2,436	2,492	2,549	2,608	2,668	2,727
- to replace existing assets	7,655	8,334	8,745	8,800	9,922	10,140	10,373	10,613	10,856	11,106	11,350
Increase (decrease) in reserves	177	(306)	(237)	(80)	(240)	(183)	(134)	(47)	26	92	676
Increase (decrease) in investments	-	-	-	-	-	-	-	-	-	-	-
Total applications of capital funding	10,077	12,333	75,805	77,715,	12,065	12,393	12,731	13,115	13,491	13,866	14,753
Surplus/(deficit) of capital funding	(614)	(3,858)	(3,823)	(7,146)	(7,199)	(7,571)	(7,818)	(8,033)	(8,171)	(8,572)	(8,456)
Funding balance	-	-	-	-	-	-	-	-	-	-	-

Operating expenditure by activity

	Annual Plan 2023/24 $000	Year 1 2024/25 $000	Year 2 2025/26 $000	Year 3 2026/27 $000	Year 4 2027/28 $000	Year 5 2028/29 $000	Year 6 2029/30 $000	Year 7 2030/31 $000	Year 8 2031/32 $000	Year 9 2032/33 $000	Year 10 2033/34 $000
Roading	15,805	18,971	19,373	21,626	23,638	23,506	25,408	26,357	27,254	28,269	29,268
Footpaths	1,451	1,466	1,541	1,619	1,825	1,920	2,017	2,118	2,218	2,326	2,434
Total operating expenditure	17,256	20,437	20,913	23,245	25,464	26,426	27,425	28,475	29,471	30,595	31,702
Less depreciation	8,157	8,265	8,841	10,085	11,382	12,099	12,851	13,636	14,454	15,307	16,188
Total applications of operating funding	9,099	12,172	12,072	13,160	14,081	14,327	14,573	14,839	15,017	15,288	15,514

Capital expenditure by activity

	Annual Plan 2023/24 $000	Year 1 2024/25 $000	Year 2 2025/26 $000	Year 3 2026/27 $000	Year 4 2027/28 $000	Year 5 2028/29 $000	Year 6 2029/30 $000	Year 7 2030/31 $000	Year 8 2031/32 $000	Year 9 2032/33 $000	Year 10 2033/34 $000
Roading	9,378	13,686	76,497	78,843	12,621	12,460	12,859	13,384	13,223	14,006	13,825
Footpaths	522	1,103	1,103	963	1,205	1,232	1,260	1,289	1,319	1,349	1,379
Total capital expenditure	9,900	14,789	77,599	79,807	13,826	13,692	14,119	14,674	14,542	15,355	15,204
Less depreciation	-	2,150	1,558	2,011	1,520	1,116	1,254	1,512	1,078	1,582	1,127
Council funded capital expenditure	9,900	12,639	76,041	77,795	12,306	12,576	12,865	13,162	13,464	13,773	14,077

10. Improvement

10.1. Overview

Ashburton District Council is committed to on-going improvement in the quality of its Transportation asset management practices. Council acknowledges this is a continuous process, and as such is reflected in the current implementation of asset management systems and associated data collection and maintenance requirements.

This AMP has been produced following the guidance provided in the International Management Manual (IIMM) 2015, along with NZTA requirements to include application of their Business Case Approach (BCA).

The IIMM 2015 incorporates ISO 55000 philosophy and asset management approaches. ISO 55000 was released in January 2014 and outlines the requirements for an asset management system for achieving a balance between cost, risk and performance in asset management to help guide asset related decision making and activities.

The BCA is used to guide planning, investment and project development processes. It is a robust, principles-based approach for developing business cases for investment through the NLTP and is based on the New Zealand Treasury's Better Business Cases. Applying key BCA principles and behaviours helps to ensure that business cases are developed in a fit-for-purpose way that provides value for money.

10.2. Improvement Plan

The Improvement Plan is integral to achieving the Council's objectives and fulfilling their responsibilities for the transportation network. The key areas of focus are;

- Information Management: Data (inventory, condition, age etc.) updates and refinements to enhance the effectiveness, efficiency and reporting of the management and operation of the Council's Transportation systems. This includes ongoing cyclic monitoring regimes.
- Network Knowledge: Gaining a thorough understanding of;
    - The factors that affect the network (directly or indirectly);
    - How they can be managed or addressed;
    - The consequences of subsequent actions (or inaction)
- Renewal Strategy: Analysis of physical asset data, performance outcomes and road user information for use in asset deterioration modelling tools, and programming and treatment decisions. This will ensure that asset replacement or upgrading is carried out at the most appropriate time and that the most effective outcome is achieved.
- Criticality and Resilience assessment (reflects the consequence of the asset failing): To allow assets to be managed more proactively in order to mitigate the risk associated with their failure.
- Procurement and Delivery: Council will actively seek to develop and continually improve procurement and methods of service delivery. The intent is to realise efficiency and quality benefit while building resilience into the roading network.

The Roading Team is responsible for implementation of these improvements, whether they are undertaken by Council staff or external suppliers.

The following table summarises specific planned AMP improvements.

Table 10- 1 Improvement Actions

Issue	Improvement Action	Priority	Target
Section 4: Network and Assets			
Asset Data Validation	The roading assets (culverts, signs and railings) data validation survey has been tasked to undertake. This survey is due to be completed by 31st May 2025, with subsequent updating of the relevant RAMM tables to be completed by 31st December 2025.	High	Year 2
Asset Management Data Standard	Monitor requirements of AMDS Implementation. Ensure optimal practices are undertaken especially where collaboration is available (eg. ARC).	Medium	Year 2 - ongoing
Section 5: Levels of Service			
ONRC Performance Meaures	Investigate options for collecting data required for manual entry PMRT measures.	Low	Year 2
One Network Framework	Monitor requirements of ONF Introduction. Ensure optimal practices are undertaken especially where collaboration is available (eg. ARC).	Medium	Year 2 - ongoing
Section 6: Growth and Demand			
Traffic Counts	Increase the traffic count locations and survey frequency to improve the data accuracy in the forthcoming Traffic Count contract.	High	Year 1 - ongoing
Freight Data	Monitor freight use and demand reports to inform long-term planning requirements.	Low	Ongoing
Section 7: Lifecycle Management			
Maintenance Intervention	Revise the Maintenance Intervention Strategy to include Footpaths, structures, signs and marking assets type Maintenance Intervention. This will encompass best practices for forward programming of maintenance work.	High	Year 1
Pavement Condition	Monitor progress of Te Ringa Maimoa Consistent Condition Data Collection progress with emphasis on proposed changes to Waka Kotahi NZTA requirements and funding.	Medium	Year 3 - ongoing
Pavement Modelling	Continue monitoring of pavement deterioration modelling developments. Investigate and implement where required.	Medium	Year 1 - ongoing
Section 8: Risk			
Risk review and monitoring	Ensure risks and mitigation practices are relevant and effective as factors may change in impact and scale (especially economy and climate).	Medium	Ongoing

10.3. Monitoring and Reviews

To ensure this AMP remains up-to-date and addresses Council's current situation in managing the transportation network assets, it should be reviewed, updated, and reissued at minimum every three years. This allows alignment with other council and national policy documents, and notably links with the normal NZTA funding block submission.

The three-year review should not preclude changes being made when required outside this cycle. Reasons for mid-cycle review include;

- Legislation (local and national) amendments - to ensure compliance
- Major policy (local and national) amendments – to ensure alignment
- Project inclusion or change – especially if there are significant financial implications
- Council process or structure change – if this affects AMP intent or outcomes

11. Appendices

11.1. Appendix A – One Network Road Classification

11.1.1. ONRC Information Sheets

The following pages show information sheets providing background and criteria for each classification.

One Network Road Classification: ARTERIAL

Criteria:

Urban AADT	Rural AADT	Daily HCV	Other
5000-15000	3000-10000	300-400	Urban peak buses - 15 buses or 750 people per hour Significant pedestrian/cyclist numbers Linking places of >10,000 population Critical connectivity (no alternative routes) Freight per annum >1 million tonnes Airport passenger numbers per annum >250,000 Significant tourist destinations or scenic routes Access to regional hospitals

These roads make a significant contribution to social and economic wellbeing, link regionally significant places, industries, ports or airports and may be the only route available to some places within the region (i.e. they may perform a significant lifeline function). In urban areas they may have significant passenger transport movements and numbers of cyclists and pedestrians using the road. Two criteria are required, with the" Other" criteria then considered with local 'ground truthing' - this may result in a road moving up or down a category to reflect the function of the road.

ADC Arterial example:

Urban: East Street

Maintenance:

Response times for selected work types;

Sealed Road Potholes	Other Pavement Faults	Footpath Maintenance	Regulatory Signs	Urban Drainage Cleaning	Rural Drainage Cleaning
2 days	1-2 weeks	2 days	8 hours	2 days	1 week

The response time is the maximum time Council regard as reasonable for work to be completed, or requests to be satisfactorily resolved. Urgent work required to ensure network user safety is prioritised. Refer to the current Roading Network Maintenance contract for full details.

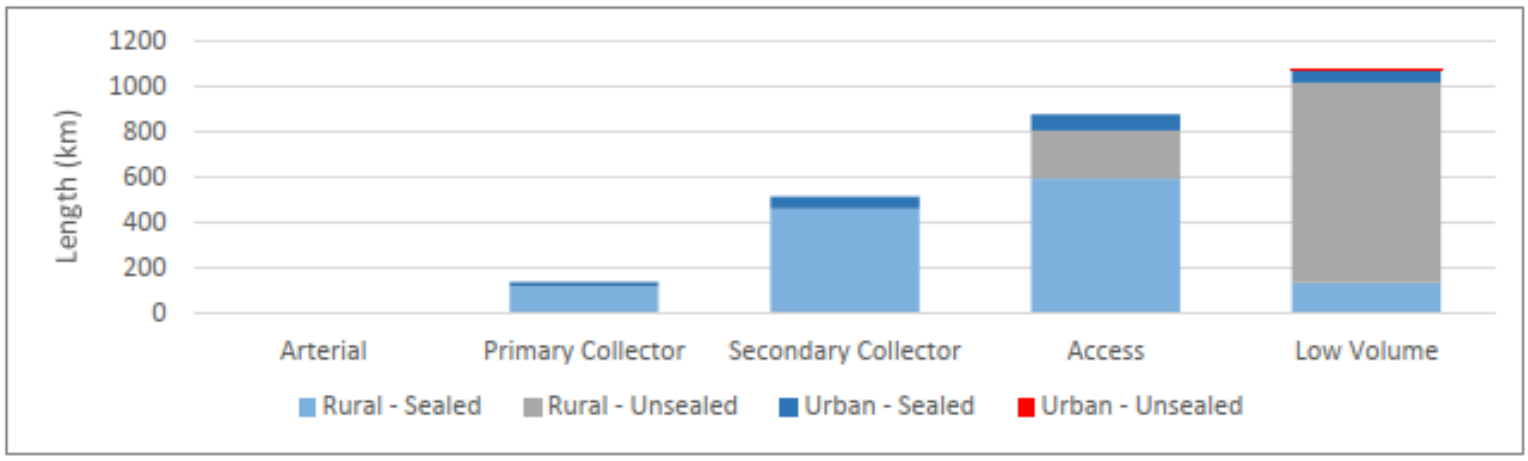
Major flooding and snowfall events are managed by a specific district emergency plan, which accounts for not only priority routes but also lifelines and critical sites.

Renewals:

Pavement Rehabilitations have a high priority within the annual forward works programme.
Resurfacing works have a high priority within the annual forward works programme.

One Network Road Classification: ARTERIAL

Statistics:



ARTERIAL	Rural Sealed	Rural Unsealed	Rural All	Urban Sealed	Urban Unsealed	Urban All	Sealed All	Unsealed All	All
Length (km)	0	0	0	4	0	4	4	0	4
% of Network	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.1%	0.0%	0.1%

Levels of Service:

Travel Time Reliability *The consistency of travel times that road users can expect.*
Generally road users experience consistent travel times with some exceptions in urban heavy peak, holidays, during major events or during moderate weather events.

Resilience *The availability and restoration of each road when there is a weather or emergency event, whether there is an alternative route available and the road user information provided.*
Route is nearly always available except in major weather events or emergency event and where no other alternatives are likely to exist. Clearance of incidents affecting road users will have a high priority. Road users may be advised of issues and incidents.

Optimal Speeds *Indicates the optimal speed for each road. The optimal speed is the speed that is appropriate for road function (classification), design (including safety) and use. Optimal speeds support both safety and economic productivity.*
Higher speeds depending on assessed level of risk. Lower if mixed use, high intersection density, schools, shopping or concentrations of active road users. In urban areas travel speeds depend on assessed level of risk and recognise mixed use, schools, shopping strips and concentrations of active road users.

Safety *How road users experience the safety of the road.*
Variable road standards, lower speeds and extra care required on some roads/sections particularly depending on topography, access, density and use. Road user safety guidance provided at high risk locations. Some separation of road space for active road users in urban areas.

Amenity *The level of travel comfort experienced by the road user and the aesthetic aspects of the road environment (eg cleanliness, comfort/convenience, security) that impact on the travel experience of road users in the road corridor.*
Good level of comfort, occasional areas of roughness. Aesthetics of adjacent road environment reflects journey experience needs of both road users and land use. Urban arterials reflect urban fabric and contribute to local character. Some separation of road space for active road users for amenity outcomes in urban areas. Clean and secure.

Accessibility *The ease with which people are able to reach key destinations and the transport networks available to them, including land use access and network connectivity.*
Some land use access restrictions for road users, both urban and rural. Road user connection at junctions with National, Arterial or Collector roads, and some restrictions may apply in urban areas to promote Arterials. Traffic on higher classified roads generally has priority over lower order roads. Some separation of road space for active road users in urban areas to provide network access and journey continuity. Extra care required around activity centres due to mixed use, including goods vehicles. Provision of quality information relevant to Arterial road user needs.

Arterial 2 of 2

Data correct as at June 2023

One Network Road Classification: PRIMARY COLLECTOR

Criteria:

Urban AADT	Rural AADT	Daily HCV	Other
3000-5000	1000-3000	150-300	Urban peak buses - 6 buses or 300 people per hour Significant pedestrian/cyclist numbers Linking places of >2,000 population Freight per annum <1 million tonnes Airport passenger numbers per annum <250,000 Significant tourist destinations or scenic routes

These are locally important roads that provide a primary distributor/collector function, linking significant local economic areas or areas of population. They may be the only route available to some places within the region and in urban areas they may have moderate passenger transport movements and numbers of cyclists and pedestrians using the road. One criteria is required, with the" Other" criteria then considered with local 'ground truthing' - this may result in a road moving up or down a category to reflect the function of the road.

ADC Primary Collector examples:

Rural: Arundel Rakaia Gorge Road

Urban: Harrison Street

Maintenance:

Response times for selected work types;

Sealed Road Potholes	Other Pavement Faults	Footpath Maintenance	Regulatory Signs	Urban Drainage Cleaning	Rural Drainage Cleaning
3 days	2 weeks	2 days	8 hours	2 days	1 week

The response time is the maximum time Council regard as reasonable for work to be completed, or requests to be satisfactorily resolved. Urgent work required to ensure network user safety is prioritised. Refer to the current Roading Network Maintenance contract for full details.

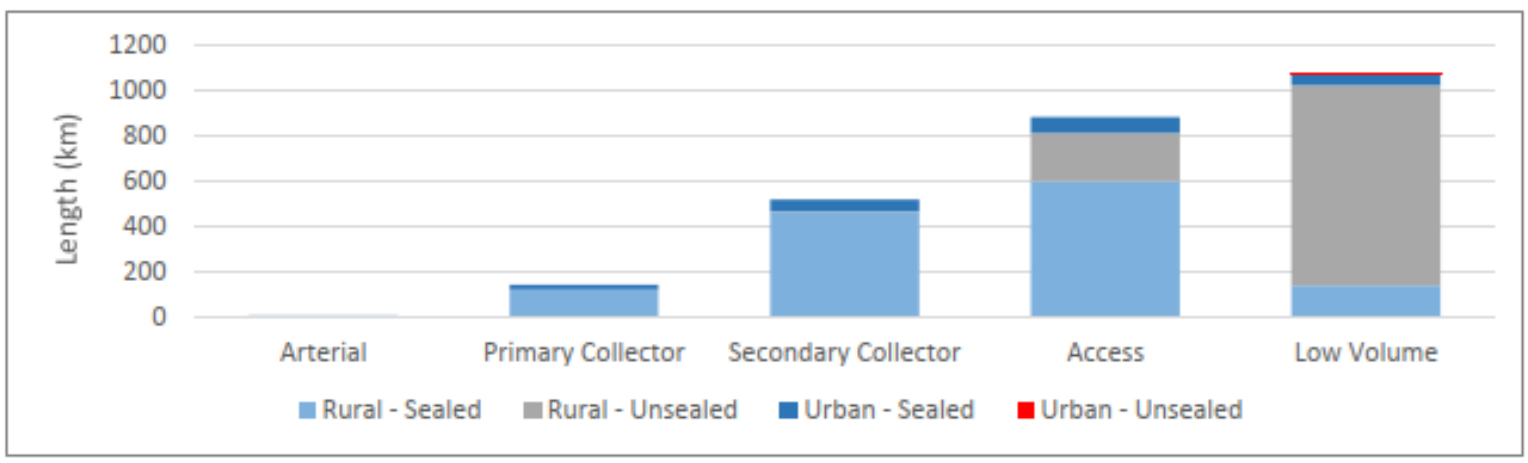
Major flooding and snowfall events are managed by a specific district emergency plan, which accounts for not only priority routes but also lifelines and critical sites.

Renewals:

Pavement Rehabilitations have a medium-high priority within the annual forward works programme.
Resurfacing works have a medium-high priority within the annual forward works programme.

One Network Road Classification: PRIMARY COLLECTOR

Statistics:



PRIMARY COLLECTOR	Rural Sealed	Rural Unsealed	Rural All	Urban Sealed	Urban Unsealed	Urban All	Sealed All	Unsealed All	All
Length (km)	131	0	131	30	0	30	161	0	161
% of Network	5.0%	0.0%	5.0%	1.1%	0.0%	1.1%	6.1%	0.0%	6.1%

Levels of Service:

Travel Time Reliability *The consistency of travel times that road users can expect.*
Generally road users experience consistent travel times except where affected by other road users (all modes) or weather conditions.

Resilience *The availability and restoration of each road when there is a weather or emergency event, whether there is an alternative route available and the road user information provided.*
Route is nearly always available except in major weather events or emergency event and alternatives may exist. Clearance of incidents affecting road users will have a moderate priority. Road users may be advised of issues and incidents.

Optimal Speeds *Indicates the optimal speed for each road. The optimal speed is the speed that is appropriate for road function (classification), design (including safety) and use. Optimal speeds support both safety and economic productivity.*
Travel speeds depend on assessed level of risk and recognise mixed use, schools, shopping strips and concentrations of active road users.

Safety *How road users experience the safety of the road.*
Variable road standards and alignment. Lower speeds and greater driver vigilance required on some roads/sections particularly depending on topography, access, density and use. Active roadusers should expect mixed use environments with some variability in the road environment, including vehicle speed. Road user safety guidance provided at high risk locations..

Amenity *The level of travel comfort experienced by the road user and the aesthetic aspects of the road environment (eg cleanliness, comfort/convenience, security) that impact on the travel experience of road users in the road corridor.*
Moderate level of comfort, occasional areas of roughness. Aesthetics of adjacent road environment reflects journey experience needs of all road users and adjacent land use. Urban collectors reflect urban fabric and contribute to local character. Specific provision where active road users present. Clean, safe and secure.

Accessibility *The ease with which people are able to reach key destinations and the transport networks available to them, including land use access and network connectivity.*
Landuse access for road users generally permitted but some restrictions may apply. Road user connection at junctions with Arterial or Collector roads, and some restrictions may apply in urban areas to promote Arterials. Traffic on higher classification roads generally has priority over lower classification roads. Active road users should expect mixed use environments with some variability in the road environment, including vehicle speed. Provision of quality information relevant to Collector road user needs.

Primary Collector 2 of 2 *Data correct as at June 2023*

One Network Road Classification: SECONDARY COLLECTOR

Criteria:

Urban AADT	Rural AADT	Daily HCV	Other
1000-3000	200-1000	25-150	Significant pedestrian/cyclist numbers Linking places of >250 population Freight per annum <1 million tonnes Airport passenger numbers per annum <250,000 Significant tourist destinations or scenic routes

These are roads that provide a secondary distributor/collector function, linking local areas of population and economic sites and may be the only route available to some places within this local area. One criteria is required, with the" Other" criteria then considered with local 'ground truthing' - this may result in a road moving up or down a category to reflect the function of the road.

ADC Secondary Collector examples:

Rural: Ashburton Staveley Road

Urban: Victoria Street

Maintenance:

Response times for selected work types;

Sealed Road Potholes	Other Pavement Faults	Footpath Maintenance	Regulatory Signs	Urban Drainage Cleaning	Rural Drainage Cleaning
1 week	1 month	2 days	8 hours	2 days	2 weeks

The response time is the maximum time Council regard as reasonable for work to be completed, or requests to be satisfactorily resolved. Urgent work required to ensure network user safety is prioritised. Refer to the current Roading Network Maintenance contract for full details.

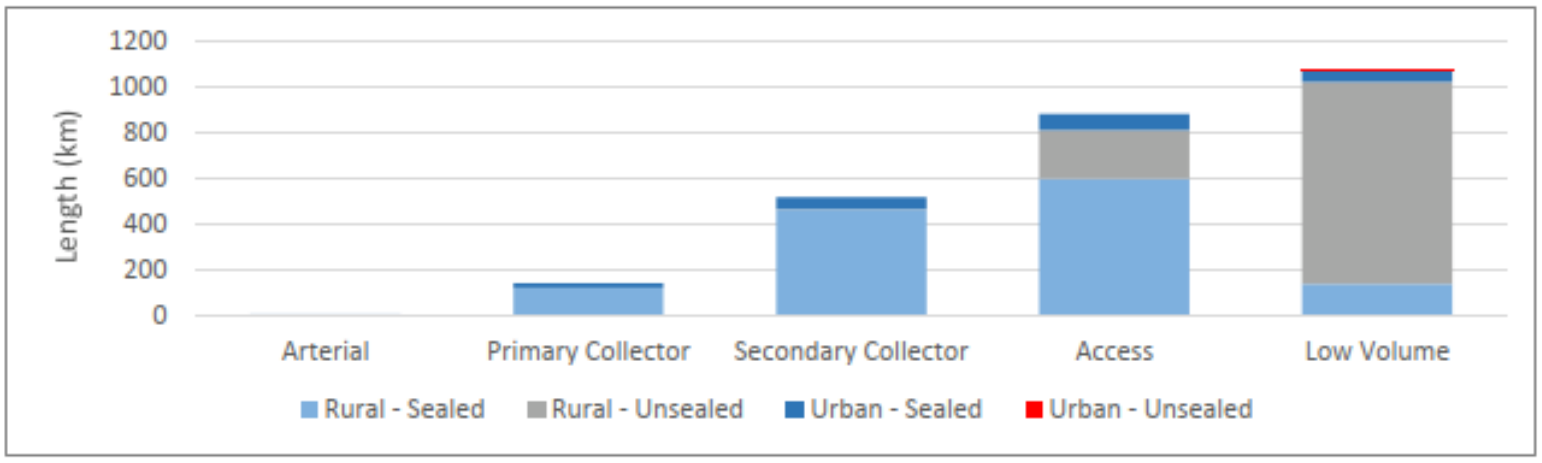
Major flooding and snowfall events are managed by a specific district emergency plan, which accounts for not only priority routes but also lifelines and critical sites.

Renewals:

Pavement Rehabilitations have a medium priority within the annual forward works programme.
Resurfacing works have a medium priority within the annual forward works programme.

One Network Road Classification: SECONDARY COLLECTOR

Statistics:



SECONDARY COLLECTOR	Rural Sealed	Rural Unsealed	Rural All	Urban Sealed	Urban Unsealed	Urban All	Sealed All	Unsealed All	All
Length (km)	510	4	514	55	0	55	565	4	569
% of Network	19.4%	0.1%	19.6%	2.1%	0.0%	2.1%	21.6%	0.1%	21.7%

Levels of Service:

Travel Time Reliability *The consistency of travel times that road users can expect.*
Road users travel times may vary as a result of other road users (all modes), weather conditions or the physical condition of the road.

Resilience *The availability and restoration of each road when there is a weather or emergency event, whether there is an alternative route available and the road user information provided.*
Route is nearly always available except in major weather events or emergency event and alternatives may exist. Clearance of incidents affecting road users will have a moderate priority. Road users may be advised of issues and incidents.

Optimal Speeds *Indicates the optimal speed for each road. The optimal speed is the speed that is appropriate for road function (classification), design (including safety) and use. Optimal speeds support both safety and economic productivity.*
Travel speeds depend on assessed level of risk and recognise mixed use, schools, shopping strips and concentrations of active road users.

Safety *How road users experience the safety of the road.*
Variable road standards and alignment. Lower speeds and greater driver vigilance required on some roads/sections particularly depending on topography, access, density and use. Active road users should expect mixed use environments with some variability in the road environment, including vehicle speed. Road user safety guidance provided at high risk locations..

Amenity *The level of travel comfort experienced by the road user and the aesthetic aspects of the road environment (eg cleanliness, comfort/convenience, security) that impact on the travel experience of road users in the road corridor.*
Moderate level of comfort, longer areas of roughness. Aesthetics of adjacent road environment reflects journey experience needs of all road users and adjacent land use. Urban collectors reflect urban fabric and contribute to local character. Specific provision where active road users present. Clean, safe and secure.

Accessibility *The ease with which people are able to reach key destinations and the transport networks available to them, including land use access and network connectivity.*
Land use access for road users generally permitted but some restrictions may apply. Road user connection at junctions with other Collectors or Access roads. Collector road traffic generally has priority over Access road traffic. Active road users should expect mixed use environments with some variability in the road environment, including vehicle speed. Provision of quality information relevant to Collector road user needs.

Secondary Collector 2 of 2 *Data correct as at June 2023*

One Network Road Classification: ACCESS

Criteria:

Urban AADT	Rural AADT	Daily HCV	Other
200-1000	50-200	0-25	Significant pedestrian/cyclist numbers Linking places of <250 population Freight per annum <1 million tonnes Airport passenger numbers per annum <250,000 Significant tourist destinations or scenic routes

These are all roads remaining after the higher classifications have been assigned. Low volume roads within this category will fall into the Low Volume set. One criteria is required, with the" Other" criteria then considered with local 'ground truthing' - this may result in a road moving up or down a category to reflect the function of the road.

ADC Access examples:

Rural: Back Track

Urban: Cross Street

Maintenance:

Response times for selected work types;

Sealed Road Potholes	Other Pavement Faults	Footpath Maintenance	Regulatory Signs	Urban Drainage Cleaning	Rural Drainage Cleaning
2 weeks	3 months	1 week	24 hours	1 week	1 month

The response time is the maximum time Council regard as reasonable for work to be completed, or requests to be satisfactorily resolved. Urgent work required to ensure network user safety is prioritised. Refer to the current Roading Network Maintenance contract for full details.

Major flooding and snowfall events are managed by a specific district emergency plan, which accounts for not only priority routes but also lifelines and critical sites.

Renewals:

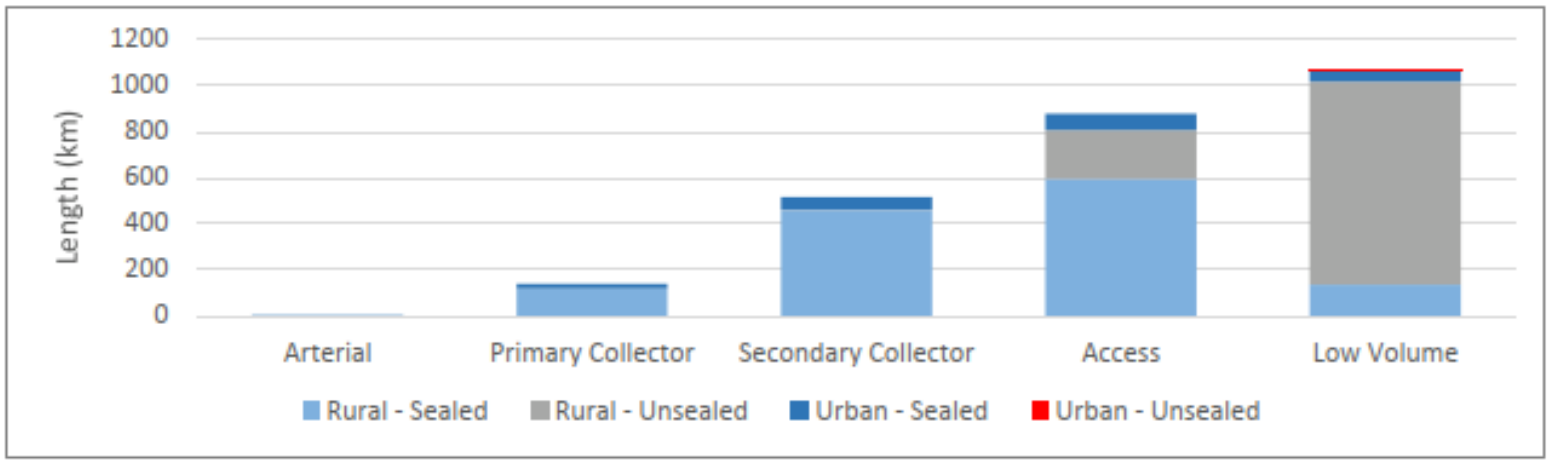
Pavement Rehabilitations have a low priority within the annual forward works programme.
Resurfacing works have a medium-low priority within the annual forward works programme.

Access 1 of 2

Data correct as at June 2023

One Network Road Classification: ACCESS

Statistics:



ACCESS	Rural Sealed	Rural Unsealed	Rural All	Urban Sealed	Urban Unsealed	Urban All	Sealed All	Unsealed All	All
Length (km)	534	217	751	73	2	74	607	219	825
% of Network	20.4%	8.3%	28.6%	2.8%	0.1%	2.8%	23.1%	8.3%	31.5%

Levels of Service:

Travel Time Reliability *The consistency of travel times that road users can expect.*
Road users experience varied travel times as a result of other road users (all modes), weather conditions or the physical condition of the road.

Resilience *The availability and restoration of each road when there is a weather or emergency event, whether there is an alternative route available and the road user information provided.*
Route may not be available in moderate weather events and alternatives may not exist. Clearance of incidents affecting road users and road user information will have a lower priority..

Optimal Speeds *Indicates the optimal speed for each road. The optimal speed is the speed that is appropriate for road function (classification), design (including safety) and use. Optimal speeds support both safety and economic productivity.*
Travel speeds depend on assessed level of risk and recognise access and use values, particularly schools, shopping strips and concentrations of active road users.

Safety *How road users experience the safety of the road.*
Variable road standards and alignment. Lower speeds and greater driver vigilance required on some roads/sections particularly depending on topography, access, density and use. Road users should expect mixed use environments with some variability in the road environment, including vehicle speed. Road user safety guidance may be provided at high risk locations..

Amenity *The level of travel comfort experienced by the road user and the aesthetic aspects of the road environment (eg cleanliness, comfort/convenience, security) that impact on the travel experience of road users in the road corridor.*
Lowest level of comfort, may include extended areas of roughness and unsealed surfaces (on rural roads). Aesthetics of adjacent road environment strongly reflects land use and place function. Strong shared philosophy between active road users (if present) and vehicular traffic. Active road users expect environment appropriate to their needs. Urban areas clean, safe and secure.

Accessibility *The ease with which people are able to reach key destinations and the transport networks available to them, including land use access and network connectivity.*
Access to all adjacent properties for road users. Road user connection at junctions ideally with Collectors and other Access roads. Access road traffic generally has lower priority over traffic on all higher classification roads. Active road users should expect mixed use environments with some variability in the road environment, including vehicle speed. Enhanced accessibility via 'share the road' philosophy (active road users, mobility impaired and drivers), journey connectivity to key destinations via all modes, and provision of quality information.

Access 2 of 2

Data correct as at June 2023

One Network Road Classification: LOW VOLUME

Criteria:

Urban AADT	Rural AADT	Daily HCV	Other
0-200	0-50	0-25	Significant pedestrian/cyclist numbers Linking places of <250 population Freight per annum <1 million tonnes Airport passenger numbers per annum <250,000 Significant tourist destinations or scenic routes

These are all roads remaining after the higher classifications have been assigned. One criteria is required, with the" Other" criteria then considered with local 'ground truthing' - this may result in a road moving up or down a category to reflect the function of the road.

ADC Low Volume examples:

Rural: Drain Road

Urban: Jackson Street

Maintenance:

Response times for selected work types;

Sealed Road Potholes	Other Pavement Faults	Footpath Maintenance	Regulatory Signs	Urban Drainage Cleaning	Rural Drainage Cleaning
2 weeks	3 months	1 week	24 hours	1 week	1 month

The response time is the maximum time Council regard as reasonable for work to be completed, or requests to be satisfactorily resolved. Urgent work required to ensure network user safety is prioritised. Refer to the current Roading Network Maintenance contract for full details.

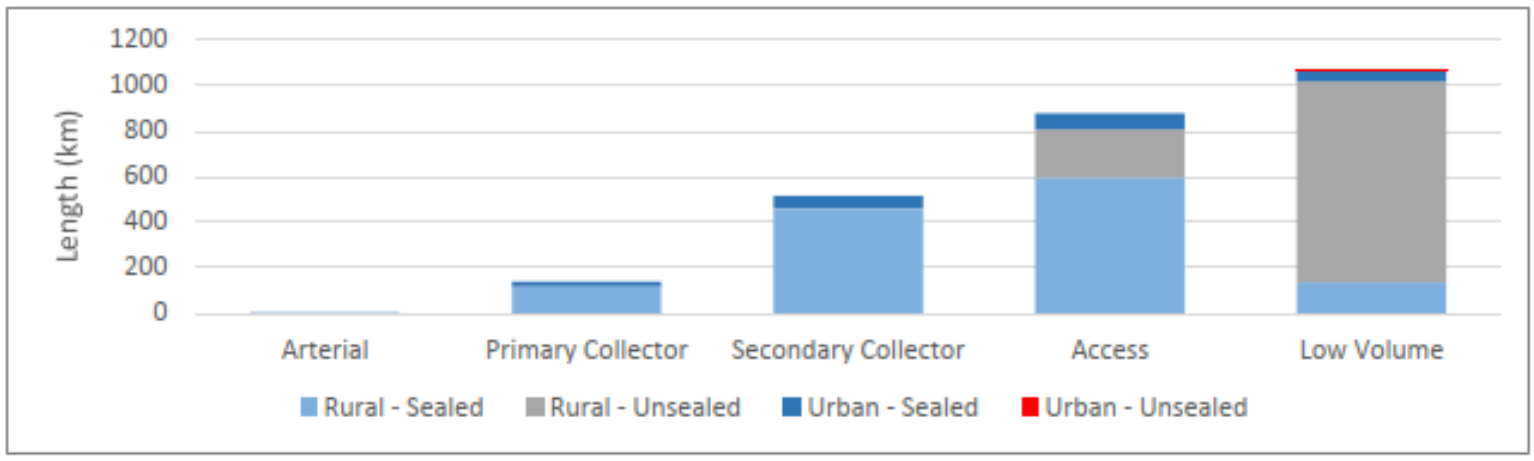
Major flooding and snowfall events are managed by a specific district emergency plan, which accounts for not only priority routes but also lifelines and critical sites.

Renewals:

Pavement Rehabilitations have a very low priority within the annual forward works programme.
Resurfacing works have a low priority within the annual forward works programme

One Network Road Classification: LOW VOLUME

Statistics:



LOW VOLUME	Rural Sealed	Rural Unsealed	Rural All	Urban Sealed	Urban Unsealed	Urban All	Sealed All	Unsealed All	All
Length (km)	129	873	1001	57	5	63	186	878	1064
% of Network	4.9%	33.3%	38.2%	2.2%	0.2%	2.4%	7.1%	33.5%	40.6%

Levels of Service:

Travel Time Reliability *The consistency of travel times that road users can expect.*
Road users experience varied travel times as a result of other road users (all modes), weather conditions or the physical condition of the road.

Resilience *The availability and restoration of each road when there is a weather or emergency event, whether there is an alternative route available and the road user information provided.*
Route may not be available in weather events and alternatives may not exist. Clearance of incidents affecting road users and road user information will have the lowest priority.

Optimal Speeds *Indicates the optimal speed for each road. The optimal speed is the speed that is appropriate for road function (classification), design (including safety) and use. Optimal speeds support both safety and economic productivity.*
Travel speeds depend on assessed level of risk and recognise access and use values, particularly schools, shopping strips and concentrations of active road users.

Safety *How road users experience the safety of the road.*
Variable road standards and alignment. Lower speeds and greater driver vigilance required on some roads/sections particularly depending on topography, access, density and use. Road users should expect mixed use environments with some variability in the road environment, including vehicle speed. Road user safety guidance may be provided at high risk locations..

Amenity *The level of travel comfort experienced by the road user and the aesthetic aspects of the road environment (eg cleanliness, comfort/convenience, security) that impact on the travel experience of road users in the road corridor.*
Lowest level of comfort, may include extended areas of roughness and unsealed surfaces (on rural roads). Aesthetics of adjacent road environment strongly reflects land use and place function. Strong shared philosophy between active road users (if present) and vehicular traffic. Active road users expect environment appropriate to their needs. Urban areas clean, safe and secure..

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Low Volume 2 of 2 *Data correct as at June 2023*

11.1.2. Asset Management Data Quality Report 2022/23

This report is produced via the web-based Te Ringa Maimoa Performance Measurement Reporting Tool, which provides definitions, parameters, results and reports.

2022/23

Ashburton District Council
Asset Management Data Quality Report

Te Ringa Maimoa
Transport Excellence Partnership

The data quality of each RCA is assessed annually against a suite of data quality metrics. Each RCA metric result is compared against an expected standard and the distribution of all RCAs. The intent is for this report to identify potential issues with how the RCA's data is being collected, managed, and maintained. Further analysis will be required to determine if additional action is needed.

This report assesses the Road Asset Maintenance and Management (RAMM) data supporting asset management and associated decision support systems. For three metrics, renewal as-built data in RAMM is compared with the achieved renewal activity reported in the Waka Kotahi Transport Investment Online (TIO) system.

Refer to the following overviews for further information:

- Data quality framework; The intent and purpose of the data quality framework.
- Data quality dimensions; Why the three quality dimensions; accuracy, completeness and timeliness are important.
- Understanding the data quality results; How to read and understand the annual data quality reports.
- Frequently Asked Questions (FAQs) and detailed metric descriptions in Transport Insights.

Score

Overall Results

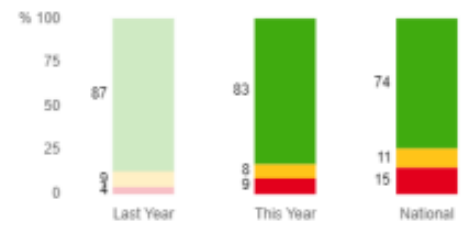
Expected Standard
Minor Issues
Major Issues

Import Date: 28th July 2023

Data Source: This report uses RAMM data from the annual snapshot loaded onto Transport Insights by the RCA and data input into the Waka Kotahi Transport Investment Online (TIO) system by the RCA.

Results by Importance

High



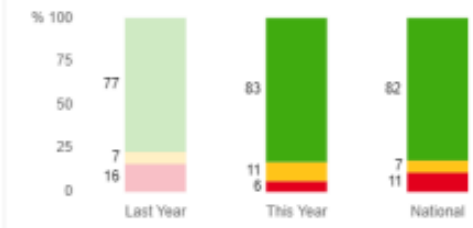
Moderate

Low

Results by Quality Dimension

Accuracy

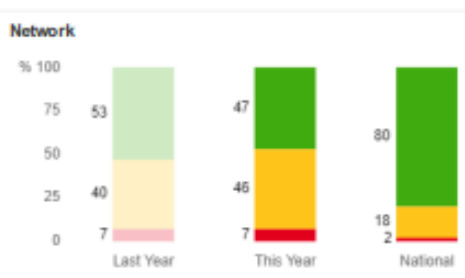
Completeness



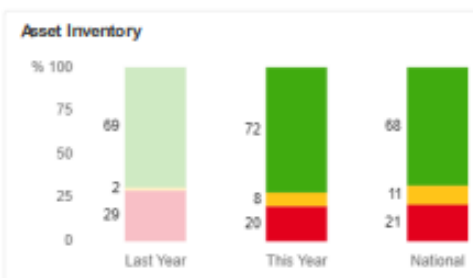
Timeliness

Results by Data Category

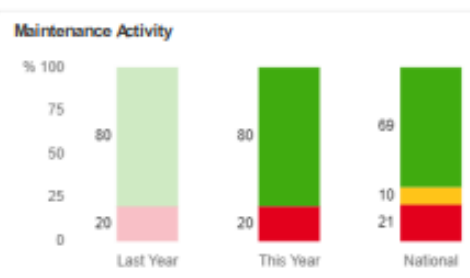
Network



Asset Inventory

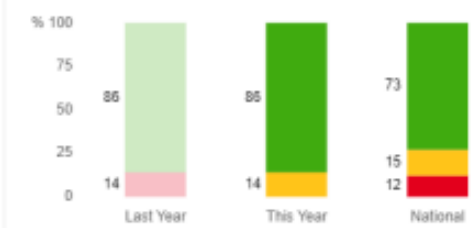


Maintenance Activity



Condition

Demand/Use

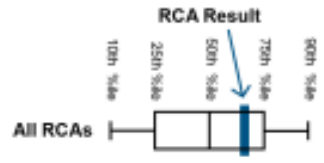


Crash

October 2023 *Page 1 of 4* *Version 8.0*

2022/23

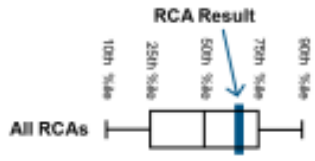
Ashburton District Council
Asset Management Data Quality Report



Cat	Sub	Ref[1]	Metric Description	Dimension	Importance	ONRC Customer Outcome	ONRC Metric	Result	Trend[2]	Major Issues / Minor Issues / Expected Standard
Network	Carriageway	CWAY1	Road network data complete	Accuracy	High	AMENITY, COST EFFICIENCY, SAFETY		99.9	–	95 96 98 100
		CWAY4	ONRC categories are assigned	Completeness	High	AMENITY, COST EFFICIENCY, SAFETY	✓	100.0	–	95 96 98 100
		CWAY7	Sealed/unsealed network correctly defined	Accuracy	High	AMENITY, COST EFFICIENCY, SAFETY	✓	99.0	–	95 96 98 100
		CWAY8	ONF categories are assigned	Completeness	High	AMENITY, COST EFFICIENCY, SAFETY		97.9	–	95 96 98 100
		CWAY2a[3]	Rural number of lanes matches carriageway width	Accuracy	Low	AMENITY, COST EFFICIENCY, SAFETY	✓	100.0	–	95 96 98 100
		CWAY2b[3]	Urban number of lanes matches carriageway width	Accuracy	Low	AMENITY, COST EFFICIENCY, SAFETY	✓	94.9	–	90 95 100
		CWAY6a[3]	Rural carriageways are generally not short	Accuracy	Low	AMENITY, COST EFFICIENCY, SAFETY	✓	79.1	–	75 80 90 100
		CWAY6b[3]	Urban carriageways are generally not short	Accuracy	Low	AMENITY, COST EFFICIENCY, SAFETY	✓	94.4	–	90 95 100
	Treatment Length	TREAT1	Treatment Length dimensions match sealed area	Accuracy	High	AMENITY		98.3	–	90 95 100
		TREAT5	Treatment Lengths match renewals	Timeliness	High	AMENITY	✓	83.5	–	80 85 90 95 100
		TREAT3	Treatment Lengths match major surfaces	Accuracy	Moderate	AMENITY	✓	91.6	–	80 85 90 95 100
		TREAT2a	Treatment Lengths are generally not short	Accuracy	Low	AMENITY	✓	88.1	–	85 90 95 100
		TREAT2b	Treatment Lengths are not too long	Accuracy	Low	AMENITY	✓	72.2	–	70 80 90 100
Asset Inventory	Pavement & Surfacing	PAVE1[4]	Achieved pavement renewal programme as-built	Timeliness	High			103.5	▲	0 50 100 125
		PAVE2[3]	Pavement layer records have valid attribute data	Accuracy	High			91.6	▼	45 60 80 100
		PAVE3[3]	Pavement layer records with Work Origin	Completeness	High			100.0	–	70 80 90 100
		SURF1a[4]	Achieved chipseal resurfacing renewal programme as-built	Timeliness	High			97.9	–	65 80 100 120 125
		SURF1b[4]	Achieved asphaltic concrete resurfacing renewal programme as-built	Timeliness	High			NA	NEW	0 50 100 145
		SURF2	Surface records have valid attribute data	Accuracy	High			100.0	–	95 96 98 100
		SURF3	Surface records correctly located	Accuracy	High		✓	96.6	–	85 90 95 100
		SURF4	Surface records with Original Cost	Completeness	High		✓	100.0	–	90 95 100
		SURF5	Surface records with Work Origin	Completeness	High		✓	100.0	–	95 96 98 100
		SURF6	Surface records newer than pavement	Accuracy	Moderate		✓	96.7	–	85 90 95 100

2022/23

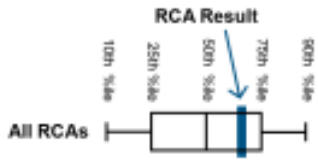
Ashburton District Council
Asset Management Data Quality Report



Cat	Sub	Ref[1]	Metric Description	Dimension	Importance	ONRC Customer Outcome	ONRC Metric	Result	Trend[2]	Major Issues / Minor Issues / Expected Standard
Asset Inventory	Pathways	FOOT3	Footpath data valid	Accuracy	Moderate			95.2	—	5 50 100
		FOOT5	Footpath asset known	Completeness	Moderate			100.0	—	90 95 100
		FOOT2	Footpath asset records maintained	Timeliness	Low			12.0	▲	0 5 10 15
	Drainage System	DRAIN3[1]	Culvert data valid	Accuracy	Moderate			30.6	—	30 40 60 80 100
		DRAIN5[1]	Culvert assets known	Completeness	Moderate			8.9	▲	5 50 100
		SWC3[1]	SWC data valid	Accuracy	Moderate			98.8	—	95 96 98 100
		SWC5[1]	SWC asset known	Completeness	Moderate			100.0	—	30 40 60 80 100
		DRAIN2[1]	Culvert asset records maintained	Timeliness	Low			4.7	▲	0 5 10 15
		SWC2[1]	SWC asset records maintained	Timeliness	Low			7.5	▲	0 5 10
	Traffic Facilities & Streetlights	LIGHTS3	Streetlight replacement activity	Timeliness	Low			6.2	▼	0 10 20 30 40
		LIGHTS4[1]	Streetlights data valid	Accuracy	Low			99.6	—	95 96 98 100
		LIGHTS5[1]	Streetlights assets known	Completeness	Low			90.2	—	0 50 100
		RAIL2	Railing asset records maintained	Timeliness	Low			33.9	▲	0 10 20 30 35
		RAIL3[1]	Railing data valid	Accuracy	Low			99.8	—	95 96 98 100
		RAIL4[1]	Railing assets known	Completeness	Low			13.5	▲	10 50 100
		SIGNS3[1]	Sign replacement activity	Timeliness	Low			3.6	▼	0 5 10 15
		SIGNS4[1]	Sign assets known	Completeness	Low			61.7	▲	30 40 60 80 100
		SIGNS5[1]	Sign data valid	Accuracy	Low			58.4	▼	55 60 80 100
	Structures	RETAIN3	Retaining wall data valid	Accuracy	Moderate			NA	NEW	65 70 80 90 100
		RETAIN5	Retaining Wall assets known	Completeness	Moderate			NA	NEW	50 60 80 100
		RETAIN2	Retaining wall asset records maintained	Timeliness	Low			NA	NEW	5 20 40 60 80
Maintenance Activity	Maintenance Activity	MAINT2	Complete pavement and surface maintenance activity	Timeliness	High	COSTEFFICIENCY	✔	12.0	—	0 5 10 15
		MAINT4	Correctly located pavement, surface, shoulder and drainage maintenance activity	Accuracy	High	COSTEFFICIENCY	✔	99.8	—	90 95 100
		MAINT6	Level of pavement, surfacing, shoulder and drainage maintenance activity known	Completeness	High	COSTEFFICIENCY		100.0	—	95 96 98 100
		MAINT1	Consistency of pavement, surfacing and shoulder maintenance activity units	Accuracy	Moderate	COSTEFFICIENCY		3.0	▼	0 2 4 5
		MAINT3	Pavement, surfacing, shoulder and drainage maintenance activity known	Completeness	Moderate	COSTEFFICIENCY		100.0	—	95 96 98 100

2022/23

Ashburton District Council
Asset Management Data Quality Report



Cat	Sub	Ref[1]	Metric Description	Dimension	Importance	ONRC Customer Outcome	ONRC Metric	Result	Trend[2]	Major Issues / Minor Issues / Expected Standard
Condition	Pavement & Surfacing	RATING1	Road rating data current	Timeliness	High			45.6	▼	0 50 100
		ROUGH1	Roughness survey within 2.5 years	Timeliness	High		✓	98.5	–	80 85 90 95 100
		ROUGH2	Roughness data has valid location	Accuracy	High		✓	100.0	–	95 96 98 100
		RATING2[3]	Rating data locations valid	Accuracy	Moderate			99.7	–	95 96 98 100
		HSD1	HSD rutting survey within 3 years	Timeliness	Low			NA	NEW	40 60 80 100
		HSD2	HSD texture survey within 3 years	Timeliness	Low			NA	NEW	40 60 80 100
		HSD3	HSD geometry survey within 5 years	Timeliness	Low			12.0	–	10 50 100
	Pathways	FOOT4	Footpath condition within 6 years	Timeliness	High	AMENITY		98.6	–	0 50 100
	Drainage System	DRAIN4[1]	Culvert condition within 6 years	Timeliness	Moderate			75.9	–	0 50 100
		SWC4[1]	Surface water channel condition within 6 years	Timeliness	Moderate			8.5	▲	0 50 100
	Structures	RETAIN4	Retaining wall condition within 6 years	Timeliness	Moderate			NA	NEW	0 50 100
Demand/Use	Traffic Count	COUNT1	Well targeted traffic count programme	Completeness	High	AMENITY, COSTEFFICIENCY	✓	41.6	–	25 40 60 75
		COUNT3	Traffic loading understood	Completeness	High	AMENITY, COSTEFFICIENCY	✓	41.5	–	25 40 60 70
		COUNT2	Traffic count programme activity on sealed network	Timeliness	Moderate	AMENITY, COSTEFFICIENCY	✓	14.6	▲	0 10 20 30 35
	Traffic Estimates	ESTIM1	Network has traffic estimates	Completeness	High	AMENITY, COSTEFFICIENCY	✓	100.0	–	95 96 98 100
		ESTIM2a[3]	Traffic estimates are maintained (High Volume to Arterial)	Timeliness	High	AMENITY, COSTEFFICIENCY	✓	82.6	▼	0 50 100
		ESTIM2b[3]	Traffic estimates are maintained (Primary and Secondary Collectors)	Timeliness	High	AMENITY, COSTEFFICIENCY	✓	100.0	–	35 40 60 80 100
		ESTIM2c[3]	Traffic estimates are maintained (Access including Low Volume)	Timeliness	High	AMENITY, COSTEFFICIENCY	✓	100.0	–	45 60 80 100
		ESTIM4	Considered traffic loading	Completeness	High	AMENITY, COSTEFFICIENCY	✓	100.0	–	90 95 100
		ESTIM5	Latest estimates align with counts	Accuracy	High	AMENITY, COSTEFFICIENCY		99.0	–	70 80 90 100
Crash	Crash Data	CRASH1	Crash data is recent	Timeliness	Moderate	SAFETY	✓	0.0	NEW	0 5 10 15
		CRASH2	Crash records with valid location	Accuracy	Moderate	SAFETY	✓	99.6	–	95 96 98 100

Notes:

1 - Metric references denoted with a letter at the end or with a superscript 1 are paired with other metrics. The paired metric results are aggregated to report as a single indicator in the charts on page 1. The Metric Library shows which metrics are paired.

2 - Trend indicators show the relative change in metric results compared to the previous annual report. An up arrow represents an improvement in the metric of at least 5%, a down arrow for a decrease of at least 5%, and a no change indicator if the result change is between a decrease of 5% and an improvement of 5%. An indicator of "New" is displayed for metrics that had no reported result last year, even if the current year's result is 0.0.

3 - Some metrics may not be applicable to a network, ie no new carriageways have been added to the network in the reported period. These will display a result of "NA" and will not be coloured in line with the grading ranges. These also do not contribute to the results on page 1.

4 - A result of "NA" is shown when both the achieved quantity recorded in TIO and the as-built quantity recorded in RAMM are NULL or zero. NA results will not be coloured in line with the grading ranges and do not contribute to the results on page 1.

11.2. Appendix B – Low Cost, Low Risk Schedule 2024-27

Item No.	Improvement Type	Activity Name	Location Description	Activity Description	2024/25	2025/26	2026/27	TOTAL
1	Walking & Cycling	New Footpaths - Ashburton Township	Allens Rd, Maronan Rd, Kermode St East, SH 77 RS O Ashburton to Braemar, William St, Dobson St West	Construction of new footpaths to meet levels of service	$115,000	$65,000	$130,000	$310,000
2	Walking & Cycling	New Footpaths - Methven Township	Kilworth St, Hobbs Rd	Construction of new footpaths to meet levels of service	$27,000	$100,000		$127,000
3	Walking & Cycling	New Footpaths- Rakaia Township	Elizabeth Avenue 03 Railway, Micheal St East, Railway Terrace East, Rolleston St East , Rolleston St West, SH1 RS 401 Rakaia to Chertsey, Bowen St East, Cridland St, Tancred St, SH 1 RS 401 Rakaia to Chertsey	Construction of new footpaths to meet levels of service	$126,000	$75,000	$65,000	$266,000
4	Walking & Cycling	New Footpaths- Rural Township	Bennett St, Cracroft St, David St, Fairfield Ave, John St, Pattons Rd, Robert St, Waymouth st, Deans St, Gray St, Waymouth St, Maldon St, Reed St, Rogers St	Construction of new footpaths to meet levels of service	$257,000	$140,000	$180,000	$577,000
5	Drainage	New Kerb & Channel - Ashburton Township	Allens Rd, Maronan Rd	Installation of appropriate kerb & channel to council standards	$183,000			$183,000
6	Drainage	New Kerb & Channel - Methven Township	Kilworth St	Installation of appropriate kerb & channel to council standards	$42,000			$42,000
7	Drainage	New Kerb & Channel - Rakaia Township	Chapman St, Fergusson St, Normanby St West, Rolleston St West, Dridland St, Tancred St	Installation of appropriate kerb & channel to council standards	$200,000	$35,000		$235,000
8	Drainage	New Kerb & Channel - Rural Township	Bennett St, Cracroft St, Fairfield Ave, Deans St, Waymouth St, Maldon St, Rogers St	Installation of appropriate kerb & channel to council standards	$75,000	$107,000	$138,000	$320,000
9	Walking & Cycling	Urban Cycle Lane Marking Improvements	Urban streets and Intersections	Installation of green cycle lane marking Chalmers Ave, Walnut Ave, Harrison St, Oak Grove.	$25,000	$25,000	$25,000	$75,000
10	Raised Safety platforms	Raised Pedestrian crossing	Urban streets	Upgrade pedestrian crossings to raised platforms (2 per year)	$60,000	$60,000	$60,000	$180,000
11	Travel Demand Management	Urban Cycle Network Planning	Ashburton township	Review existing network in line with Walking & Cycling Strategy projects, and create specific plans			$50,000	$50,000
12	Walking & Cycling	Urban Cycle Route Delineation Improvements	Ashburton township	Installation of signs and markings on and directing towards			$5,000	$5,000
13	Hazard Removal	Roadside Hazard Mitigation - Culvert Headwalls	Beach Rd East RP3205 Seafield Rd RP3140 Fairfield Rd RP3110, RP2282 Thompsons Track RP4154, RP4373, RP4853, RP8352, RP8673, RP9197, RP22435, RP25064, RP26657, RP27907 Ashburton Staveley Rd RP3346, RP10295, RP11524 Forks Rd RP1555 Arundel Rakaia Gorge Rd RP35386, RP34474 Ashburton Gorge Rd RP59, RP492 Maronan Rd RP4354, RP4497, RP5097	Extending culverts where the end of culvert and/or headwalls are in close proximity to the edge of seal. Work is prioritised to be alongside future road rehabilitation programmes.	$150,000	$150,000	$150,000	$450,000
14	Intersection Improvements	Rural Intersection Improvements (Signage)	Rural Primary Collector roads including Grahams Road, Seafield Road and Maronan Road	Review existing intersection layout/control and undertake improvements if/as required. Options: Replace Give Way with Stop, install advance warning signs (stop ahead and intersection ahead), install positive delineation devices. Currently prioritised on Primary Collectors only to ensure user numbers vs cost is optimised.	$20,000	$20,000	$20,000	$60,000
15	Delineation Improvements	Rural Delineation Improvements	Rural Primary and Secondary Collectors Roads Out-of-context curves	Out-of-context curves to be identified and investigated for appropriate solutions including delineation and shoulder widening. Refer to ARC Delineation Strategy.	$200,000	$200,000	$200,000	$600,000
16	Activated Warning Signs	Visual Speed Display Sign (VSDS)	District-wide in rotation	Procure x2 Electronic signs for the district, monthly rotation around the schools	$50,000			$50,000

Item No.	Improvement Type	Activity Name	Location Description	Activity Description	2024/25	2025/26	2026/27	TOTAL
17	Delineation and Traffic Services	RtZ- Certified Speed Management Plan	District-wide	Subsequent to a speed limit review and the central government directive regarding speed limit requirements, an appropriate site-specific solution will be identified and installed.	$150,000	$175,000	$175,000	$500,000
18	Resilience Improvements	Drainage Improvements	District-wide	Drainage improvements are being increased to alleviate/prevent related pavement issues. Installation of appropriate drainage asset to council standards. Options: swales, soakpits, sumps, culverts etc.	$200,000	$200,000	$200,000	$600,000
19	Intersection Improvement	Urban Intersection Improvements (Ashburton Township)	Cross St/Elizabeth St, Walker St/Wills Street East, Peter Street/Cass St	One intersection Improvement per year, higher crash rate where drivers experience multiple intersections in a row without having to giveway (driver has priority) and then come across an intersection where they are required to giveway (driver does not have priority). Central island install and kerb buildout install to reinforce the requirement to giveway at the intersection. -Cross St/Elizabeth St – 9 Crashes -Walker St/Wills Street East – 7 Crashes -Peter Street/Cass St – 17 crashes	$100,000	$100,000	$100,000	$300,000
20	Intersection Improvement	RtZ Rural intersection upgrade programme	Grove Farm Rd & Graham Rd Thompsons Track and Braemar Rd Fairfield Road & Singletree Rd Wakanui Road & Cochranes Rd Coldstream Road & Junction Rd Barkers Road & Back Track Cracroft Maronan Road & Boltons Rd Wakanui Road & Milton Road South Maronan Road & Winslow Westerfield Rd Winslow Road & Hinds Lismore Rd Milton Road South & Hoattens Rd Tinwald Westerfield Mayfield Road & Maronan Valetta Rd	WK NZTA Crossroad & Abley project programme Package	$400,000	$400,000	$400,000	$1,200,000
21	Seal Extension	Rural school frontage improvement	Lauriston School	Improve the frontage outside Lauriston School and seal the rest of Church St. Additional work includes pedestrian footpath, drainage improvement, shoulder construction	$100,000			$100,000
22	Lighting Improvements	New Streetlights (Flag Lights)	District-wide	Improved streetlighting to identify intersections, improve public safety and meet required lighting standards. Install new streetlights where sites are identified as in need of improvement	$10,000	$10,000	$10,000	$30,000
23	Lighting Improvements	New Streetlights (Undergrounding)	District-wide	Power poles (where used as streetlights) to be replaced with frangible street light poles as part of Electricity Ashburton's ongoing power undergrounding programme	$300,000	$300,000	$300,000	$900,000
24	Traction Seals	Railway Crossing Sealbacks	Gills Road/SH1, Frisbys Road/SH1, Tilsons Road West/SH1, Giddings Road/SH1	Railway crossings with inadequate or substandard seal (length/width), undertaking appropriate solution including seal extension, seal widening etc		$200,000		$200,000
25	Intersection Improvements	Railway Crossing Road/Rail Improvements	District-wide	Kiwi rail improvement programme requires adjacent roading works. Pavement and surfacing renewals/repair to reshape road as required to tie-in with rail work	$60,000	$60,000	$60,000	$180,000
26	Resilience Improvements	Post Heavy Rainfall Event Improvement	District-wide	Upgrade high-risk locations (e.g. install a stopbank, install/upgrade culverts)	$500,000	$450,000	$450,000	$1,400,000
27	Traction Seals	Rural Intersection Sealbacks	District-wide 24 sites have been identified	Increase safety at intersection approaches by installing or lengthening sealbacks to; improve braking distance, and reduce gravel movement onto sealed road. Ensure sealbacks at intersections are minimum 100m (where practical/applicable)	$200,000	$200,000	$200,000	$600,000

Item No.	Improvement Type	Activity Name	Location Description	Activity Description	2024/25	2025/26	2026/27	TOTAL
28	Seal Widening	Seal Widening	Mayfield Valetta Road RP 0-3475	Upgrading existing 6.6m width to 8m. Due to increased HCVs, road widening and shoulder strengthening is required to enable safe traffic movements. Vehicles tend to pull off the road with oncoming HCVs where there is inadequate width. Sites to be identified/prioritised by narrow seal widths on important HCV routes	$700,000			$700,000
29	Seal Widening	Narrow Seal Widening	Seafield Road RP 11818 -18376 (4.5m to 5m existing width) Barnswood Road RP 0 -7425 (4.6m existing width) Springfield Road RP 0 - 3982 (5m existing width) Taverners Road RO 0 - 8277 (4.2m existing width)	Due to increased HCVs, road widening and shoulder strengthening is required to enable safe traffic movements. Vehicles tend to pull off the road with oncoming HCVs where there is inadequate width. Sites to be identified/prioritised by narrow seal widths on important HCV routes		$700,000	$700,000	$1,400,000
30	Traction Seals	Major Accessways - Sealing	District-wide	Rural accesses on sealed roads typically connect to unsealed on-property areas. Loose metal can be dragged onto the sealed road through ingress/egress, causing safety issues for road users. Edgebreak increases at unsealed accesses. Sealing of Major accessways (accesses for HCVs at dairy farms/commercial/industrial etc. generally > 60m2). Only on Arterial, Primary Collector and Secondary Collector rural sealed roads. The access is formed to council standards (shaped, basecourse, chipseal)	$50,000	$50,000	$50,000	$150,000
31	Intersection improvements	RtZ- Raised Platform Crossing	Elizabeth street & Oak Grove Intersection	Crash history shows 7 crashes between 2016-2020 (1 serious, 4 minor, 2 non-injury). The proposed treatment option (more robust investigations are required to confirm and detail this option) is to improve signage and markings with possible traffic calming (e.g. bulbous kerbs). This intersection has been identified as a high risk intersection referencing NZTA guidelines		$300,000		$300,000
					$4,300,000	**$4,122,000**	**$3,668,000**	**$12,090,000**

11.3. Appendix C – Bridge Repair and Maintenance Works

11.3.1. Work Category Definitions

Repair works are classified against Work Categories (WCs) as outlined in Waka Kotahi's Planning and Investment Knowledge Base. Generally, remedial works are categorised as Structures Maintenance (WC 114) or Structures Component Replacement (WC 215) for ease of compiling funding applications. These categories have been further broken down into Routine (A) or Structural (B) maintenance and component replacement.

To illustrate works categorisation, examples of works falling into each category are shown in the table below.

Table 4-1: Work Category Definitions

Work Category	Works Examples
114 A Structures Maintenance - Routine	• Clean components • Remove detritus from decks, drainage systems etc. • Clear debris and vegetation from structure and waterway • Repair damaged guardrails, handrails and barriers on bridges • Maintain river control works (around abutments and piers) • Maintain drainage systems on structures • Maintain deck joints, bearings, linkages • Maintain timber decks • Paint handrails and barriers • Surfacing repairs • Replace width markers, approach signage and reflectors.
114 B Structures Maintenance - Structural	• Maintain river control works (around abutments and piers) • Maintain deck joints, bearings, linkages • Concrete repairs.
215 A Structures Component Replacement - Routine	• Replace barriers / handrails due to deterioration • Topping up of riprap rock protection.
215 B Structures Component Replacement - Structural	• Upgrade river control works such as gabions and rock rip rap • Replace deck joints, bearings, linkages • Replace timber running planks, timber decks • Replace beams • Underpin abutments/piers • Culvert concrete invert replacement or new invert • Paint structural members.

11.3.2. Routine Bridge Maintenance and Component Replacement (114A/215A)

This category contains repairs and maintenance requiring little or no design input, and able to be undertaken by the Maintenance Contractor. Appendices C and D contain the schedules of routine maintenance and component replacement. Note that this includes maintenance items from structures not inspected as outlined in Section 3.2.

The priority and estimated rough order cost of routine repairs is as follows:

Priority	114A	215A
Urgent (prompt action required – within 3 months)	$400	$ -
High (complete within 1 year)	$177,640	$4,700
Medium (complete within 2 years)	$338,850	$15,400
Low (complete within about 5 years or as resources allow)	$180,575	$1,200
Monitor (No/minimal costs assigned)	$ -	$ -
TOTAL	**$697,465**	**$21,300**

Prior to issuing the maintenance schedule to the Maintenance Contractor, a review of the works described is necessary to separate items which are covered by any lump sum arrangement and those items which will require additional funding. Works covered by an existing lump sum agreement should be completed straight away. Works requiring additional funding should be undertaken as prioritised.

The most common defects in the Structures Maintenance schedule include:

- Debris in waterway / on piers
- Debris / detritus on decks
- Grass and vegetation obscuring BEMs (worse during Spring-time inspection)
- Structures missing delineation, hazard markers and signage
- Poor condition paintwork on barriers
- Poor condition approaches and surfacing.

Rough order costs have been provided for budget indications and the works should be priced/scheduled by a Contractor for acceptance. Access to OBIS could be given to the Maintenance Contractor to assist with pricing/scheduling works if required. Works should be programmed/packaged appropriately to provide efficiencies and cost reductions.

(a) Vegetation obscuring BEMs

(b) Barrier painting

Figure 4-1: Typical Maintenance Defects

11.3.3. Structure Bridge Maintenance and Component Replacement (114B/215B)

This category contains bridge repairs where further engineering input is required to appropriately specify remedial works, and/or where specialist Contractors would be expected to undertake the work. Appendices E and F contain the schedules of structural maintenance and component replacement. Note that this includes maintenance items from structures not inspected as outlined in Section 3.2.

Based on the schedules and without an allowance for foreseeable work resulting from further investigations, a very rough order indication of the likely future funding demands for structural maintenance and component replacement is as follows:

Priority	114B	215B
Urgent (prompt action required – within 3 months)	$1,500	$15,000
High (complete within 1 year)	$286,000	$136,000
Medium (complete within 5 years)	$129,400	$590,500
Low (complete within about 10 years or as resources allow)	$170,700	$1,823,700
Monitor (No/minimal costs assigned)	-	-
TOTAL	**$587,600**	**$2,565,200**

The schedule provided is preliminary and will change as a result of the recommended further investigations, including timber drilling & specific access inspections.

The most common types of structural degradation in the component replacement schedule include:

- Deterioration of expansion joints; requiring replacement, refurbishment or repair
- Corrosion of steel members requiring repainting
- Decay in timber structures
- Scour of bridge abutments or approaches; requiring underpinning or rock protection works.

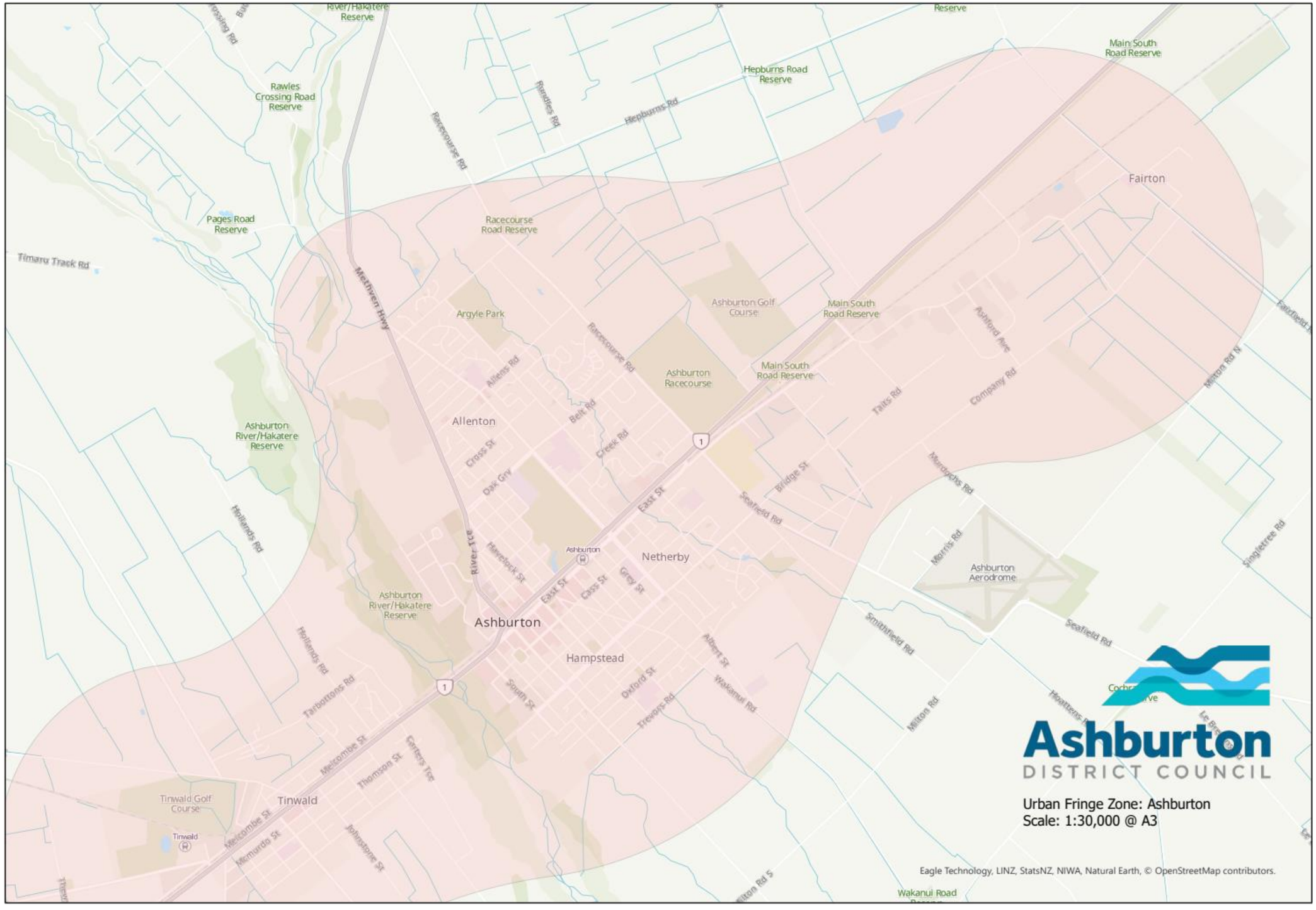
There is opportunity to combine similar repairs into work packages for efficiency. The prioritisation of repairs will need to be considered against available funds, with expenditure targeted at highest priority works first and the remainder deferred if required.

(a) Corrosion of steel members

(b) Failed expansion joint

Figure 4-2: Component Replacement Defects

11.4. Appendix D – Speed Management Plan (Urban Fringe 1 Km)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Pages Road Reserve
Racecourse Road Reserve
Hepburns Road Reserve
Main South Road Reserve
Fairton
Timaru Track Rd
Methven Hwy
Argyle Park
Ashburton Golf Course
Ashburton Racecourse
Allenton
Ashburton River/Hakatere Reserve
Netherby
Ashburton
Hampstead
Tinwald
Tinwald Golf Course
Ashburton Aerodrome
Urban Fringe Zone: Ashburton
Scale: 1:30,000 @ A3
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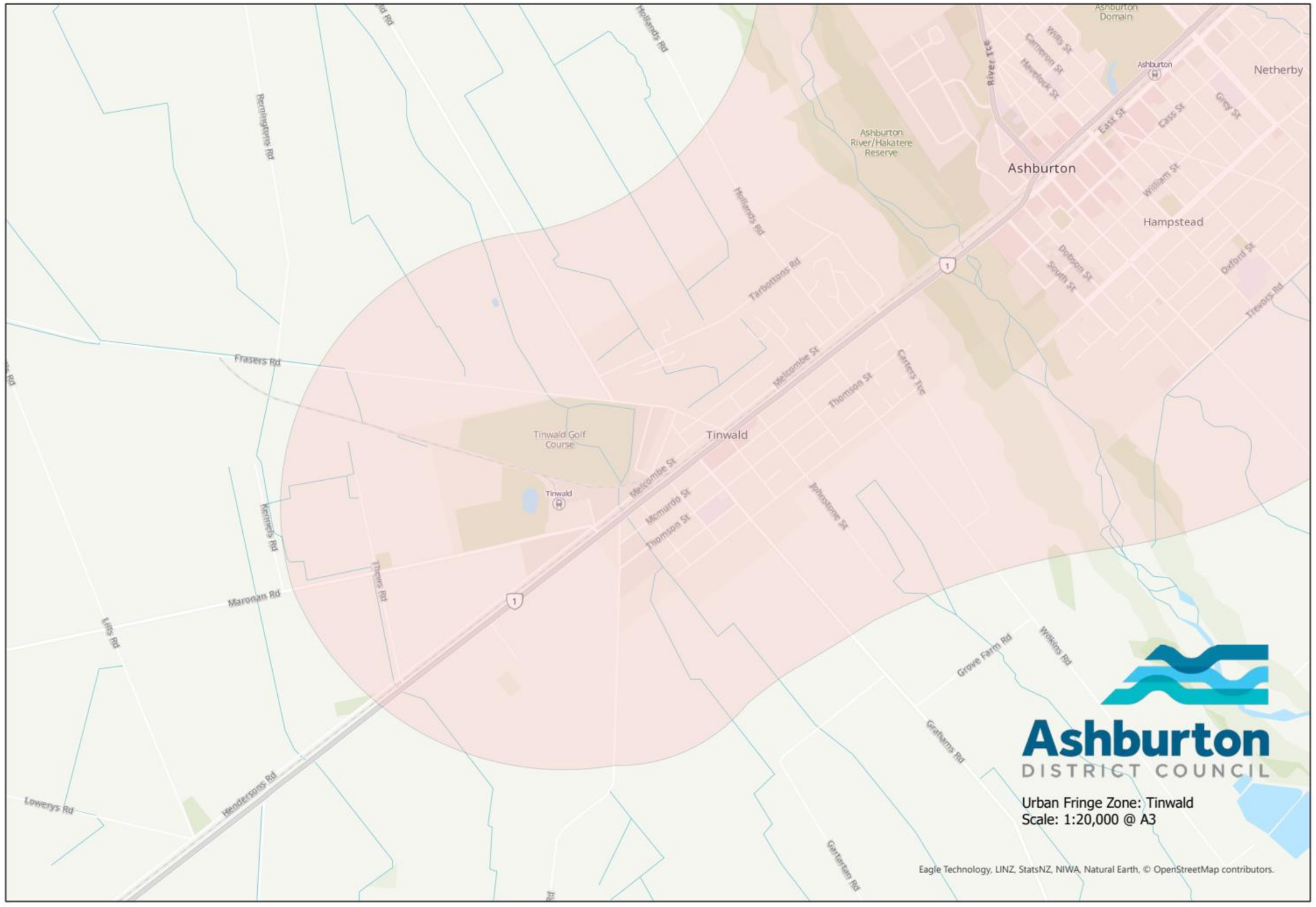
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Hampstead
Netherby
Ashburton Domain
Ashburton River/Hakatere Reserve
Tinwald
Tinwald Golf Course
Tinwald
Ashburton
Netherby
Ashburton Domain
Ashburton River/Hakatere Reserve
Hampstead
Tinwald
Tinwald Golf Course
Remingtons Rd
Hollands Rd
Tarbottons Rd
Fraser Rd
Melcombe St
Thomson St
Carters Tce
Mcmurdo St
Johnstone St
Kennels Rd
Thews Rd
Maronan Rd
Lilfis Rd
Lowerys Rd
Hendersons Rd
Grove Farm Rd
Watkins Rd
Grahams Rd
Gartertan Rd
River Tce
Willis St
Cameron St
Havelock St
East St
Cass St
Grey St
William St
Dobson St
South St
Oxford St
Trevors Rd
1
Ashburton
DISTRICT COUNCIL
Urban Fringe Zone: Tinwald
Scale: 1:20,000 @ A3
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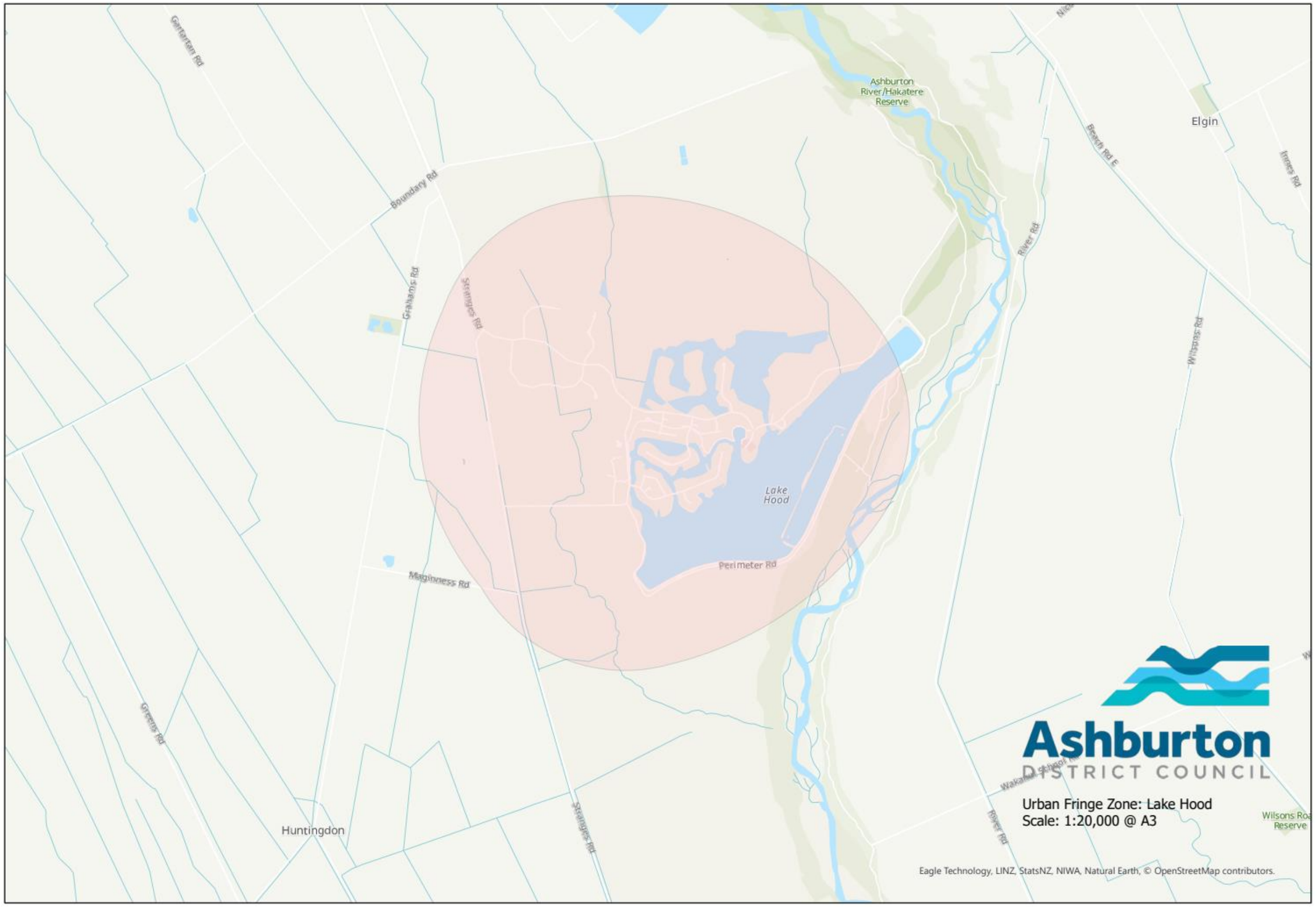
Garfortan Rd
Boundary Rd
Grahams Rd
Strangers Rd
Ashburton River/Hakatere Reserve
Elgin
Beach Rd E
River Rd
Innes Rd
Wilsons Rd
Lake Hood
Perimeter Rd
Maginness Rd
Greets Rd
Huntingdon
Ashburton DISTRICT COUNCIL
Urban Fringe Zone: Lake Hood
Scale: 1:20,000 @ A3
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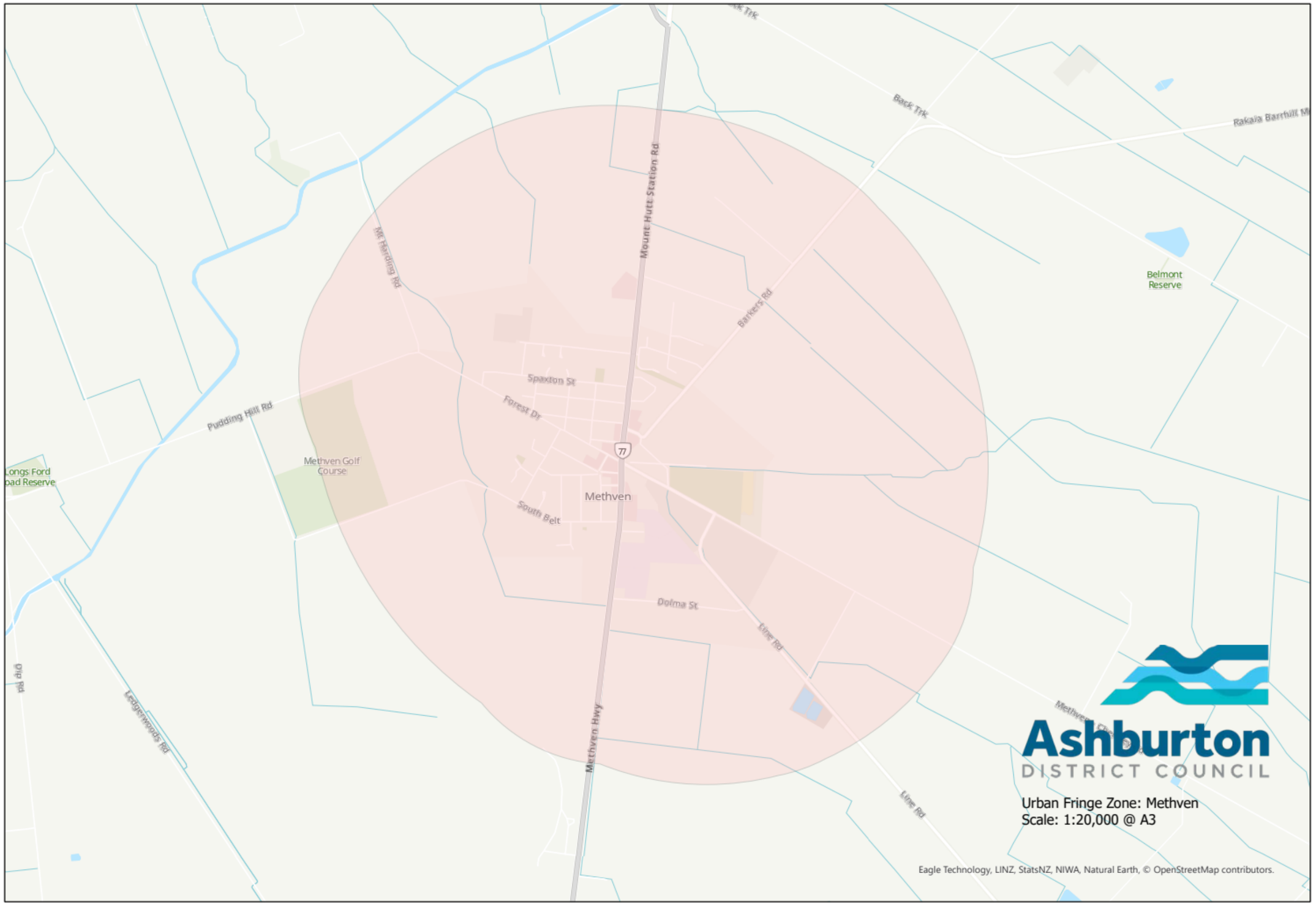
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Rakaia Barrhill M
Mount Hutt Station Rd
Mt Harding Rd
Barkers Rd
Belmont Reserve
Spaxton St
Forest Dr
Pudding Hill Rd
77
Methven Golf Course
Longs Ford oad Reserve
Methven
South Belt
Dobson Rd
Dolma St
Line Rd
Ledgerwoods Rd
Methven Hwy
Methven Chertsey Rd
Ashburton
DISTRICT COUNCIL
Urban Fringe Zone: Methven
Scale: 1:20,000 @ A3
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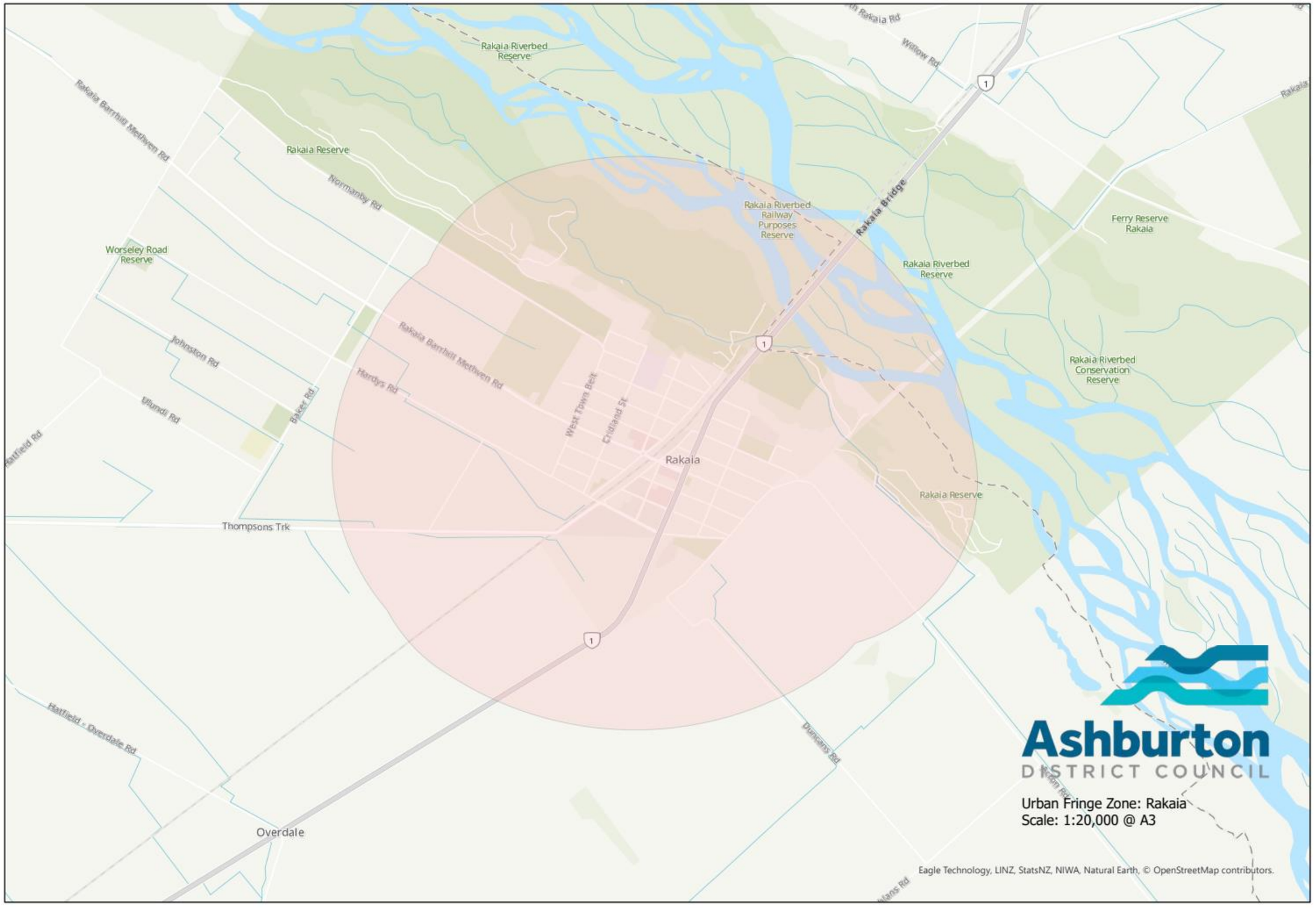
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Rakaia Bamhill Methven Rd
Rakaia Reserve
Normanby Rd
Worseley Road Reserve
Johnston Rd
Ufumdi Rd
Baker Rd
Hardys Rd
Rakaia Bamhill Methven Rd
West Town Belt
England St
Rakaia
Rakaia Riverbed Railway Purposes Reserve
Rakaia Bridge
Willow Rd
Ferry Reserve Rakaia
Rakaia Riverbed Reserve
Rakaia Riverbed Conservation Reserve
Rakaia Reserve
Thompsons Trk
Hatfield - Overdale Rd
Overdale
Duncans Rd
Ashburton
DISTRICT COUNCIL
Urban Fringe Zone: Rakaia
Scale: 1:20,000 @ A3
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Somerton
Wilkinsons Rd
1
1
Dromore - Hartfield Rd
Wilkinsons Rd
Jamiesons Rd
Chertsey Line Rd
Chertsey Reserve
Chertsey
Chertsey School
Jamiesons Rd
Singletree Chertsey Road Reserve
Wards Rd
Water Race Reserve Ātaahua
Chertsey Rd
Chertsey - Kyle Rd
Pendarves - Rakaia
Ashburton
DISTRICT COUNCIL
Urban Fringe Zone: Chertsey
Scale: 1:20,000 @ A3
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River Road Reserve
Fitzgerald Rd
Seaside Rd
Ryans Rd
Ashton
Croys Rd
River Rd
Terrace Rd
Shepherds Rd
Shepherds Rd
Hakatere
Ashburton Mouth Reserve
Lower Beach Rd
Esplanade Kongutu Reserve
Ashburton
DISTRICT COUNCIL
Urban Fringe Zone: Hakatere Village
Scale: 1:20,000 @ A3
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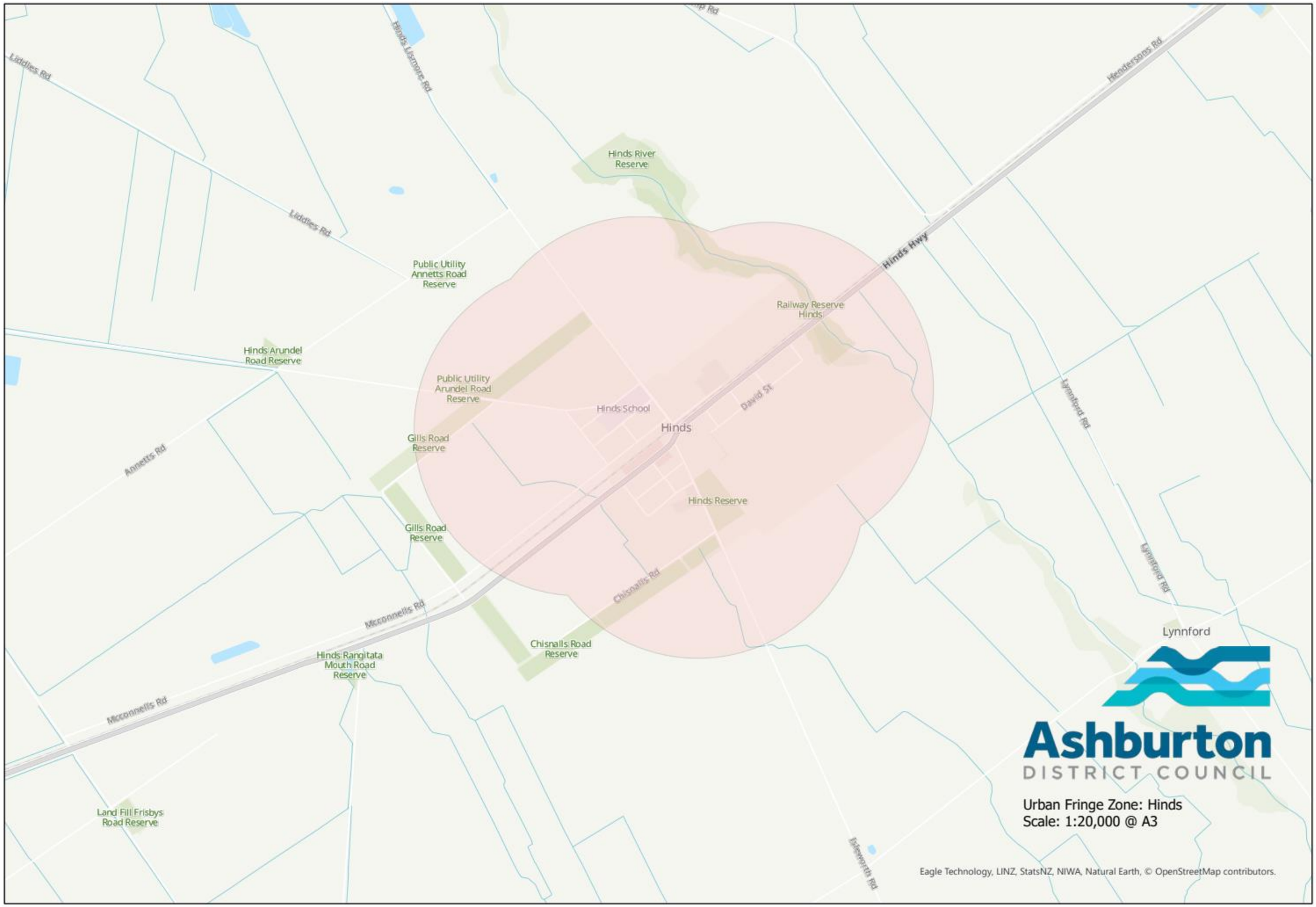
Liddles Rd
Hinds Lismore Rd
Hinds River Reserve
Henderssons Rd
Liddles Rd
Hinds Hwy
Public Utility Annetts Road Reserve
Railway Reserve Hinds
Hinds Arundel Road Reserve
Public Utility Arundel Road Reserve
Hinds School
David St
Hinds
Gills Road Reserve
Jamieson Rd
Annetts Rd
Hinds Reserve
Gills Road Reserve
Lynnford Rd
Chisnalls Rd
Mcconnells Rd
Lynnford
Hinds Rangitata Mouth Road Reserve
Chisnalls Road Reserve
Mcconnells Rd
Land Fill Frisbys Road Reserve
Isleworth Rd
Ashburton
DISTRICT COUNCIL
Urban Fringe Zone: Hinds
Scale: 1:20,000 @ A3
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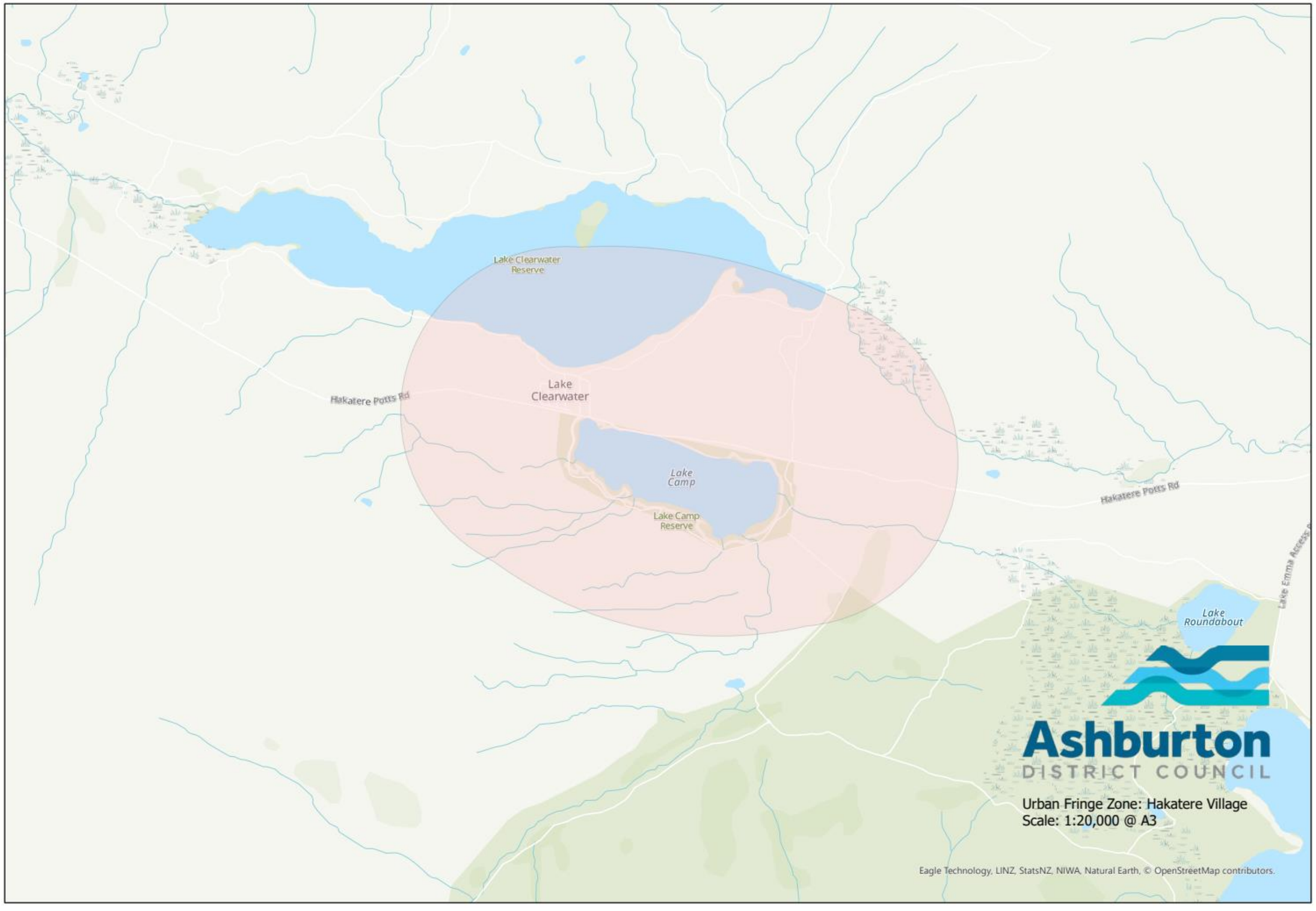
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Lake Clearwater
Hakatere Potts Rd
Lake Camp
Lake Camp Reserve
Hakatere Potts Rd
Lake Roundabout
Ashburton
DISTRICT COUNCIL
Urban Fringe Zone: Hakatere Village
Scale: 1:20,000 @ A3
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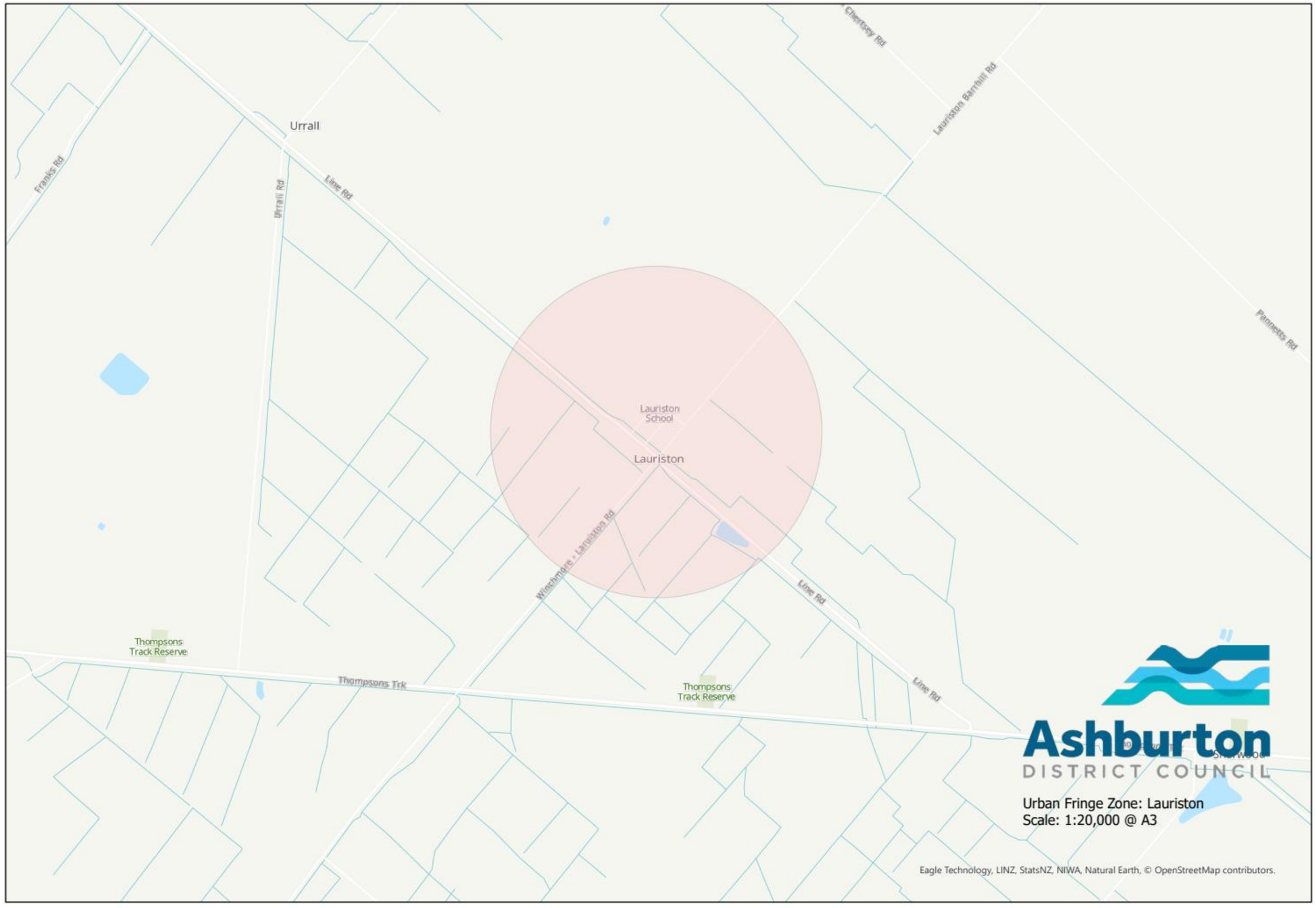
Urrall
Franks Rd
Urrall Rd
Line Rd
Cheesey Rd
Lauriston Barrhill Rd
Pannetts Rd
Lauriston School
Lauriston
Winchmore - Lauriston Rd
Line Rd
Line Rd
Thompsons Track Reserve
Thompsons Trk
Thompsons Track Reserve
Ashburton
DISTRICT COUNCIL
Urban Fringe Zone: Lauriston
Scale: 1:20,000 @ A3
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Mayfield Klondyke Rd
Somerville Rd
Arundel Rakaia Gorge Rd
Landfill Mayfield Reserve
Tinwald Westerfield Mayfield Rd
Mayfield Golf Course
Barford Rd
Tanks Rd
Moorhouse Rd
Mayfield Domain
Mayfield
Mayfield School
Barford Road Reserve
Watts Rd
Public Utility Barford Road Reserve
Oakleys Rd
Orchards Rd
Watts Road Reserve
Tree Planting Reserve Oakleys Road
Barford Road Reserve
Ashburton
DISTRICT COUNCIL
Urban Fringe Zone: Mayfield
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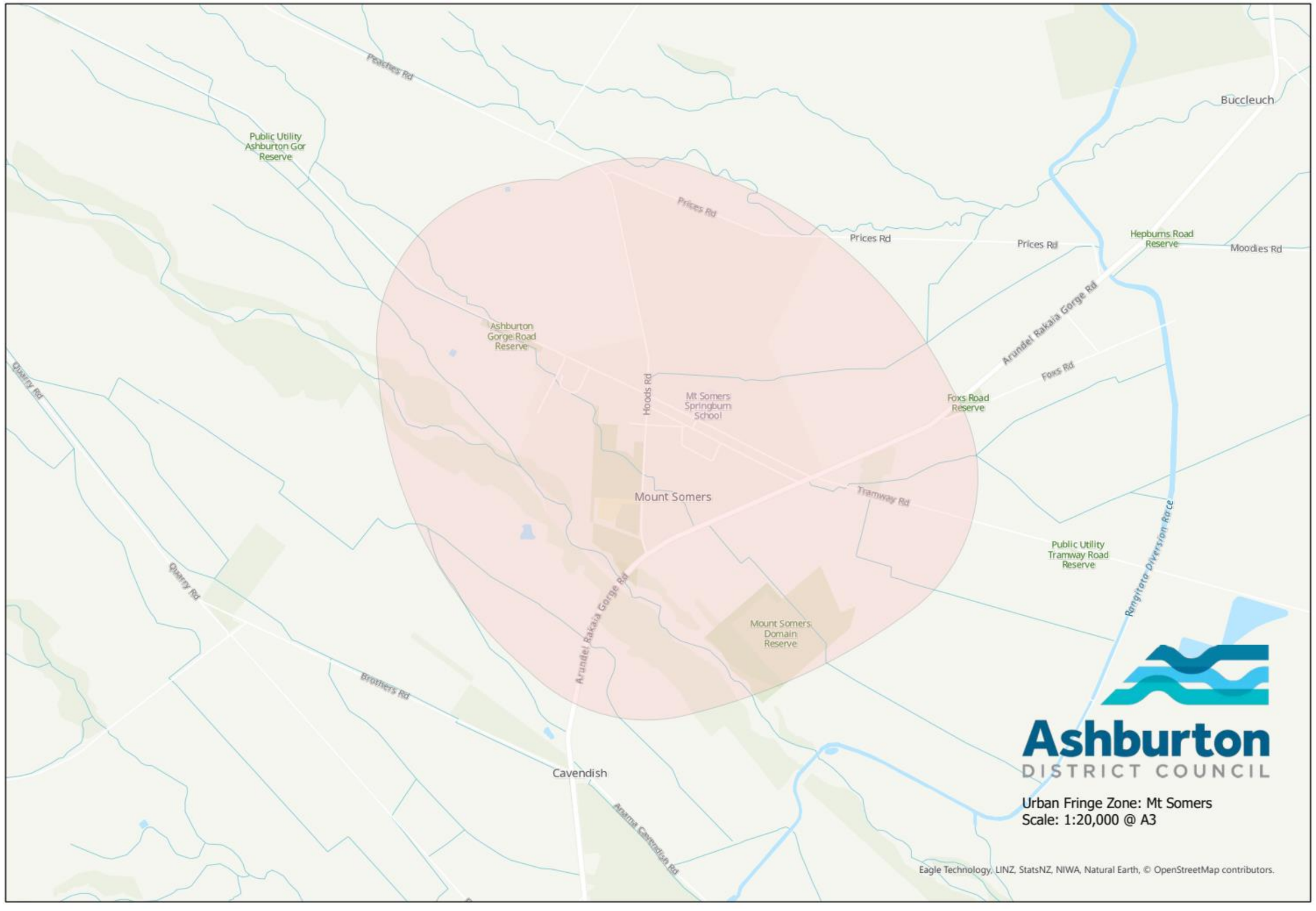
Peaches Rd
Public Utility Ashburton Gor Reserve
Buccleuch
Prices Rd
Prices Rd
Prices Rd
Hepburns Road Reserve
Moodies Rd
Arundel Rakaia Gorge Rd
Ashburton Gorge Road Reserve
Hoods Rd
Mt Somers Springburn School
Foxs Road Reserve
Foxs Rd
Quarry Rd
Mount Somers
Tramway Rd
Public Utility Tramway Road Reserve
Rangitata Diversion Race
Mount Somers Domain Reserve
Arundel Rakaia Gorge Rd
Brothers Rd
Cavendish
Ararua Cavendish Rd
Ashburton
DISTRICT COUNCIL
Urban Fringe Zone: Mt Somers
Scale: 1:20,000 @ A3
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11.5. Appendix E – Risk Schedule

Table 11- 1 Risk Schedule

Risk Description	Potential Impact	Consequences					Consequence Rating	Likelihood Rating	Risk Rating	Mitigation Strategy		Residual Risk	
		Corporate image	Financial / economic	Environment/Legal	Health & Safety	Service level/ Effectivene				Current Controls	Further Actions Planned	Effectiveness Rating	Residual RIsk Rating
Category: PLANNING													
Inadequate asset management/infrastructure strategy planning	Insufficient planning undertaken to understand future renewal needs Sub-optimal programmes Incorrect Infrastructure Strategy and other long-term planning	3	4	2	1	4	**3**	3	M	Improvements to data, modelling and decision-making processes have reduced risk	Improvements ongoing - forward work programmes to be created for long-term periods	3	L
Insufficient business continuity planning	Disruption to service during significant event No planning to manage continuity of service to customers during/after events	3	3	1	1	2	**2**	4	M	None beyond staff ability to step into vacated role. Increased staff numbers provide some mitigation. ARC may be able to assist	Current Council-wide business analysis underway	2	M
Inadequate funding	Reduced levels of service Asset lives extended (by necessity not optimisation) Reduced safety	2	4	1	3	3	**3**	3	M	Strong funding applications and evidence-based business case	Improve business case procedure and forward works programming to provide strong proof for increased funding requests	3	M
Inadequate/inappropriate council policies/procedures/specifications	Assets built/repaired to incorrect or inadequate standards Lack of compatibility with other districts/national best practice Inappropriate levels of service	3	3	2	2	3	**3**	3	M	Collaboration (ARC) information sharing provides consistent approach Staff maintain current industry awareness through peer conferences and working groups		3	L
Poorly defined or inappropriate Levels of Service	Unrealistic expectations within the community over service delivery Audit NZ expectations not met Measures unable to be reported accurately and consistently Customers do not understand level of service or believe they are relevant	3	1	1	1	2	**2**	4	M	Current levels of service are accepted as appropriate	Review of levels of service through 2021-24 period	3	M
Incorrect assumptions about the effects of climate change	Adding too little or too much future capacity to storm water systems	1	3	3	1	3	**2**	3	M	Ensure appropriate advice is sought when planning projects	Remain apprised of accepted information - especially where information changes	3	L

Table 11-1 Risk Schedule (continued)

Risk Description	Potential Impact	Consequences					Consequence Rating	Likelihood Rating	Risk Rating	Mitigation Strategy		Residual Risk	
		Corporate image	Financial / economic	Environment/Legal	Health & Safety	Service level/ Effectivene				Current Controls	Further Actions Planned	Effectiveness Rating	Residual RIsk Rating
Category: DELIVERY													
Inadequate project/contract management	Objectives not delivered Budgets exceeded Negative publicity	3	3	3	2	3	**3**	3	M	Renewal programmes include liaison with internal and external third parties Contracts comply with industry standards	ADC policy/procedures to be reviewed/created detailing management requirements	3	L
Sub-standard construction/repair work	Reduced levels of service and asset life Poor public reputation - increased user complaints Possible increase of risk (reduced safety) to users Third party damage claims	3	3	2	2	3	**3**	4	M	Contracts include QA compliance requirements and audits of claims/work before acceptance	Increased enforcement of contract penalties where appropriate Collaborative (ARC) cross-district inspections	3	M
Contractor non-performance [work not programmed/completed]	Reduced levels of service and asset life Increased costs (and subsequent funding requests) where deterioration continues Poor public reputation - increased user complaints Possible increase of risk (reduced safety) to users Third party damage claims	3	3	2	2	3	**3**	4	M	Contracts include appropriate penalties Work programmes fit for resources Work packages developed to suit market conditions and spread risk	More robust contractor ratings need to be part of future tender evaluations	3	M
Asset condition not adequately monitored or analysed	Inappropriate treatments/prioritisations/programmes Inappropriate maintenance, use or level of service Reduced user safety	2	2	1	2	3	**2**	3	M	Condition requirements set in AMP and through Waka Kotahi NZTA obligations Structure inspections undertaken by independent consultants	The CCDC project will improve the condition data collection techniques Valuation report identifies condition-related improvements	3	L
Inadequate development processes/communication	Sub-optimal sites/layouts/asset types Inappropriate levels of service Unbudgeted costs required to service or maintain developments Obsolete or unsuitable specifications Substandard work	3	3	2	2	2	**2**	3	M	District Plan and development processes in place	Impacts of inappropriate works/decisions to be communicated to Development Engineer/planning	4	L
Sub-standard vested assets	Asset failure - reduced asset life Increased maintenance/renewal costs Substandard levels of service Negative publicity	3	3	2	2	2	**2**	3	M	Development Engineer complies with Council requirements for acceptance levels	Impacts of substandard work to be communicated to Development Engineer/planning	4	L
Non-compliance with legislation, legal requirements or standards	Environmental damage Poor publicity Costs of investigations/rectifications/legal proceedings Inappropriate levels of service	3	4	2	2	2	**3**	3	M	Development Engineer complies with Council requirements for developments	Impacts of substandard work to be communicated to Development Engineer/planning	4	L

Table 11-1 Risk Schedule (continued)

Risk Description	Potential Impact	Consequences					Consequence Rating	Likelihood Rating	Risk Rating	Mitigation Strategy		Residual Risk	
		Corporate image	Financial / economic	Environment/Legal	Health & Safety	Service level/ Effectivene				Current Controls	Further Actions Planned	Effectiveness Rating	Residual RIsk Rating
Category: PHYSICAL ASSETS													
Bridge failure	Increased risk of death and injury crashes Reduction in network accessibility Traffic diversions causing delays and damage to alternative routes HCV restrictions could be severe	3	4	2	4	4	**3**	2	M	Routine inspections under Roading Maintenance Contract Regular 3-yearly inspection by bridge consultants, with work prioritised and completed Bridge postings on restricted bridges	Prioritise and upgrade restricted bridges	3	M
Inadequate/substandard road surface condition - asset failure or degradation	Road crashes through loss of control/evasive action User dissatisfaction Increased maintenance/renewal costs	3	3	2	4	4	**3**	3	M	Resealing programme prioritises high-use sites Maintenance contract addresses user feedback	Increase/enhance collection of surface condition to better inform resurfacing programmes and highlight high-risk sites Set target intervention levels	3	M
Inadequate/substandard road surface condition - effluent/debris/detritus	Road crashes through loss of control/evasive action User dissatisfaction Increased maintenance/renewal costs	3	2	4	3	2	**3**	4	M	ADC by-laws address breaches ADC policies encourage responsible disposal and conveyance of materials Stock crossing mats and underpasses are actively supported	Increased enforcement	3	M
Inadequate/substandard road structure condition	Rougher rides Increased pavement faults Increased maintenance/renewal costs Decrease in pavement life	3	4	2	3	4	**3**	3	M	Maintenance contract includes routine inspections and prioritised repairs Renewal programmes use modelling for long-term predictions	Increase/enhance modelling and supporting data to better inform renewal programmes	3	M
Inadequate/substandard footpath condition	Increased risk of user injury - especially vulnerable users Increased maintenance/renewal costs Adverse publicity	3	3	1	3	3	**3**	4	M	Maintenance contract includes routine inspections and prioritised repairs Renewal programme prioritises high-use sites and uses three-yearly condition rating inputs Public feedback available through multiple modes	Increase/enhance forward programming process	3	L
Inadequate/substandard road delineation (signs, markings)	Increased risk of death and injury crashes Incorrect routing Road user dissatisfaction	3	2	1	3	3	**2**	4	M	Maintenance contract includes routine inspections and prioritised repairs Public feedback available through multiple modes	Increased edgeline and curve warnings Sign validation to ascertain condition	2	M

Table 11-1 Risk Schedule (continued)

Risk Description	Potential Impact	Consequences					Consequence Rating	Likelihood Rating	Risk Rating	Mitigation Strategy		Residual Risk	
		Corporate image	Financial / economic	Environment/Legal	Health & Safety	Service level/ Effectivene				Current Controls	Further Actions Planned	Effectiveness Rating	Residual RIsk Rating
Category: PHYSICAL ASSETS (continued)													
Minor natural event: localised or individual site [earthquake, flood, wind, snow, frost/ice, slips/subsidence, fire]	Minor delays and reduction in capacity/accessibility Some increased risk of injury/death to road users Minor asset damage - small increase in maintenance/repair budgets Traffic diversions may slightly degrade alternative routes Small number of residents may be isolated Third party (utilities) damage may affect small number of residents	3	3	3	3	3	**3**	4	H	Maintenance contract specifies inspection, action and reporting regime for emergency events of all levels Emergency plans in place [liaising with Civil Defence and emergency services as required] including route prioritisation (lifelines) Additonal site-specific contractors/residents are part of emergency plans (eg. high country routes, isolated coastal communities) Monitoring and long-term actions as a result of the event are included in the maintenance contract requirements, and in general council policy/strategy Maintenance contract requirements include actions that will contribute to lessening effects of events eg. sump clearing, drainage maintenance, ice gritting, removal of vegetation shading roads)	Conduct reviews of events to ensure processes are effective and appropriate Monitor maintenance works for timeliness and conformance to requirements Review lifeline prioritisation - liaise with locals to confirm assumptions Ensure public communications are multi-modal and timely Manage customer expectations to realistic levels of service in emergency events	3	M
Significant natural event: large portion of network affected [earthquake, flood, wind, snow, frost/ice, slips/subsidence, fire]	Major delays and large reduction in capacity/accessibility - temporary closure of some roads Moderate increased risk of injury/death to road users Major asset damage - significant increase in maintenance/repair budgets Traffic diversions will degrade alternative routes Large number of residents may be isolated - - especially high country and single-access sites Third party (including utilities) damage will affect large number of residents	4	4	4	4	4	**4**	3	H			3	M
Extreme natural event: majority of network affected [earthquake, flood, wind, snow, frost/ice, slips/subsidence, fire]	Long-term delays and critical reduction in capacity/accessibility - long-term closure of entire roads/areas Substantial increased risk of injury/death to road users Extreme asset damage - substantial increase in maintenance/repair budgets with long-term effects Traffic diversions may degrade alternative routes to point of closure Majority of residents may be isolated - especially high country and single-access sites Third party (including utilties) damage will affect majority of residents - long-term effects could alter transport decisions	5	5	5	5	5	**5**	1	H			3	H
Crashes	High risk of death and injury Asset damage Restricted network accessibility Traffic diverted onto unsuitable alternative routes with delays	3	3	2	4	3	**3**	4	H	Road safety strategy Crash causes are addressed where practicable	Continued liaison at regional/national level for crash reduction/mitigation strategies	3	M
Third party damage - accidental or deliberate	Damage to assets Reduction in safety/route marking Increased maintenance costs	3	2	2	3	2	**2**	5	H	Maintenance contract monitors and repairs as required		4	L

Table 11-1 Risk Schedule (continued)

Risk Description	Potential Impact	Consequences					Consequence Rating	Likelihood Rating	Risk Rating	Mitigation Strategy		Residual Risk	
		Corporate image	Financial / economic	Environment/Legal	Health & Safety	Service level/ Effectivene				Current Controls	Further Actions Planned	Effectiveness Rating	Residual RIsk Rating
Category: MANAGEMENT													
Lack/loss of staff	Standard required management processes not adequately maintained - possibly not delivered Inappropriate/inadequate or non- delivered work programmes Pressure on staff with increased workloads Business continuity threatened - knowledge/processes lost if documentation/procedures not in place	2	3	2	2	4	**3**	3	M	Council human resources manage staff requirements Collaboration (ARC) provides some functionality Systems and documentation provide direction for some procedures	Council-wide business analysis currently underway which will highlight gaps in continuity Complete policy/procedure manual	2	M
Lack/loss of suppliers	Higher and less predictable contract prices Local market decline and capability decrease Levels of service reduced Asset lives extended (by necessity not optimisation)	2	3	1	2	2	**2**	2	M	Works competitively tendered and undertaken in separate packages Collaboration (ARC) enables consolidation and economy of scale		3	L
Inadequate technology/technical support/equipment	Reduced staff safety through limited mobile communications Inefficiencies where direct data input not available (errors also possible through double-handling)	1	2	1	2	2	**2**	4	M	Pocket RAMM utilised Information Systems provides support Collboration (ARC) provides experience of alternatives		4	L
Road corridor events not coordinated	Poor publicity Delays to users and third party works (possible litigation) Unnecessary asset damage Unnecessary traffic disruptions/restrictions Reduced safety	3	2	3	2	2	**2**	3	M	Corridor Access Requests are required for all events and are processed in-house Road closure policies in place with Waka Kotahi NZTA and internal community relations liaison Corridor operator liaison meetings held regularly	Increase liasion meetings and improve public understanding of requirements	4	L
Public discontent/mistrust/miscommunication	Inappropriate customer expectations Lack of public support for critical projects/works Reduced reputation of council Political decisions made reflecting public discontent	4	2	2	2	3	**3**	3	M	Council communications are multi-modal and timely LTP and AMP content shared with custopmers -feedback sought and addressed Road reference groups comprising broad customer/use base meet regularly	Enhance roading satisfaction survey to gauge detailed customer views	4	L

11.6. Appendix F – Flood Map (May 2021)


Flooding Map
Hinds River
Unsealed Roads
Highlighted unsealed roads between the North and South branches of the Hinds River should be checked after a major rain event.
Ashburton DISTRICT COUNCIL
Rivers and Creeks
New Signs Required
Route 72 / Alternate Route
Arundel Rakaia Gorge Road
Roads to Check
Other Roads
Unsealed
Sealed
Existing Signs
HAZARD - Ford
Hinds River in Flood
ECan River Network
Potential Closure Points
RAMM Bridges
Towns
N
0 1 2 Km
Hinds River (North Branch)
Hinds River (South Branch)
MT SOMERS
MAYFIELD
ARUNDEL
HINDS
LISMORE
PUNAWAI
72
Gawler Stream
Upper Downs Rd
107 - GAWLER STREAM
106 - HINDS RIVER (NORTH BRANCH)
108 - LIMESTONE CREEK #3
Limestone Creek
Surrey Hills Rd
134 - WATER RACE #5
70 - QUANTOCKS BRIDGE
Surrey Stream
109 - HINDS RIVER (SOUTH BRANCH)
Peters Rd
2 - RUSHTONS BRIDGE
159 - WATER RACE #17
Lower Downs Rd
71 - BALLANTYNES BRIDGE
Anama School Rd
Blairs Road
Hewsons Rd
Mayfield Valetta Rd
51 - TENAHAUN STREAM #1
4 - ANAMA CREEK
3 - BETSYS BRIDGE
HINDS RIVER (SOUTH BRANCH) #1
Oakleys Rd
42 - HINDS RIVER #2 [SUNSHINE]
Hackthorne Rd (Sunshine Bridge)
Pooles Rd
72 - MARONAN BRIDGE
Maronan Rd
Dicksons Rd
115 - FARRELLS BRIDGE [SUNSHINE]
Winslow Rd (Sunshine Bridge)
20 - HINDS RIVER #1 [SUNSHINE]
Boundary Rd (Sunshine Bridge)
Surveyors Rd
Hinds Arundel Rd
Arundel Rakaia Gorge Rd
2
Fold down warning signs at each sunshine bridge
Winslow Rd Sunshine Bridge after flood
3
Winslow Rd Sunshine Bridge after repair
3
Hackthorne Rd Sunshine Bridge after repair
4
Unmaintained Crossings
Oakleys Road and Dicksons Road have unmaintained river crossings across the Hinds River. Pooles Road is also a river crossing but this is more widely used so should be checked after heavy rain.
Sunshine Bridges 2 3 4
There are three concrete bridges across the Hinds at Hackthorne/Winslow/ Boundary Rds) which have unsealed approaches designed to be washed away during a flood event. This typically occurs if the Hinds River flow exceeds 8m3/s. These approaches need to be checked after a rain event and the fold down signs need to be activated to close the approach roads. Once the water level recedes then these approaches are re-instated.
SH1/Isleworth Rd Intersection Flooding and Soakhole
1
Hinds Township 1
Flooding signage should be placed on SH1 at Hinds near the low point at the Isleworth Road intersection. This area floods even during minor rain events and should always be inspected. There is a single low point with a kerb outlet pipe that goes to a soakpit. This soakpit should be routinely cleared.

Flooding Map
Ashburton Lakes

Potts Culvert (1)

There is a large culvert just north of the Potts River bridge which frequently gets overwhelmed with heavy rain. If the culvert is overturned or if the approaches are washed out then Hakatere Potts Road can be impassable beyond this point. It is possible for 4wd vehicles to easily ford the river at this point when flows decrease.

Scour Damage (2)

The most common form of damage observed on Hakatere Heron and Hakatere Potts Roads after rainfall is scour damage along the edge of the road where water flows. These need to be filled in once the water level subsides. It is recommended to trial cutting in some scour channels after the next rain event.

Slip Damage (3)

There are a series of slips that fall from the slopes of Mt Potts between the Potts River and Ski Field Stream. These need to be cleared and made safe after heavy rain. In normal flow conditions there are a series of shallow fords which can be traversed by 2wd vehicles.

This region of Ashburton attracts a lot of visitors from outside the district to access the trails in the mountains. If road closures are to be implemented for a long duration, it is recommended to contact DOC (christchurchvc@doc.govt.nz) so that they are able to update the DOC website and trail information.

Road Closures (4)

Road closures can be implemented at either Lake Clearwater township, Hakatere Station junction or at Mt Somers township at the Hoods Rd intersection depending on the sections affected. Road closure signage should be left with the Mt Somers Rural Fire Station so that they can respond quickly to close roads during inclement weather.

Jig Road (5)

During extreme weather events it is possible for Woolshed Creek to breach and cause significant damage on Jig Road. There are also a section where slips can occur. As a result, Jig Road should also be inspected during a wet weather event and closed if deemed unsafe until repairs can be carried out.

When re-instating sections of Hakatere Potts Road and Hakatere Heron Road, basalt should only be used on sections which had basalt prior to the damage occurring:
1 - Hakatere Potts Road - RP 800-9862
2 - Hakatere Heron Road - RP 73-1800, 3100-3400, 4000-4300, 4800-7200, 7360-7560, 7865-8125, 8950-9250, 9550-9750, 10650-11700

Ashburton
DISTRICT COUNCIL

Rivers and Creeks
Rivers and Creeks
Existing Signs
HAZARD - FORD
Roads to Check
Unsealed
Sealed
Bridges
Bridges
Potential Closure Points
Potential Closure Points
ECAN Side Streams
ECAN Side Streams
Previous Scour Locations
Previous Scour Locations
0 2 4 Km
N

Lake Stream (RP24017)
Ski Field Stream (RP25908)
Hakatere Potts Road
Potts River (RP19025)
Potts River
Rangitata River
Ashburton River (South Branch)
Jacobs Stream (RP8014)
Maori Lakes Outlet (RP5010)
Buicks Bridge (RP3639)
Hakatere Potts Road
Lambies Bridge #2 (RP4655)
Lambies Stream (RP22660)
Stour River
Ashburton Gorge Road
Ashburton River (RP19476)
Stour River (RP13781)
Jig Road
Hakatere Heron Road
Lake Stream
Harrisons Bight
Lake Heron Reserve
Powerhouse Stream
Cradock Stream
Johnstone Stream
Emily Stream
Haast Stream
Paddle Hill Creek
Whisky Stream
Emma Stream
Woolshed Creek
Blondin Stream
Lake Clearwater Reserve
LAKE CLEARWATER
HAKATERE

Flooding Map

Double Hill Run Road

Rakaia River

Glenfalloch Stream Bridge (RP40575)

Double Hill Run Road

Double Hill Stream Bridge (RP32415)

Ensors Slip (RP220)

Glenariffe Stream Bridge (RP27115)

Glenrock Stream (RP25844)

Ensors Road

Donald Stream (RP21600)

South Donald Stream (RP20100)

Packers Stream (RP15550)

Fishing Notice Creek (RP11850)

Redcliffe Bridge (RP13450)

Whisky Creek Slips (RP9740-10285)

Terrible Gully (RP8265)

Hutt Stream (RP4420)

New Slip (RP2630)

Little River Bridge (RP8950)

Blackford Rd Causeway (RP6125)

Blackford Road

If there is heavy rain in the high country over Mt Hutt, this runoff will come down the streams and potentially destroy sections of Double Hill Run Road making it impassable. The rainfall mixes with gravel and debris and comes down in the form of a concrete-like slurry. It is necessary to wait for this to dry after the rain stops so it can be moved easily. Frequent damage occurs at Whisky Creek in particular. Harmer Earthmoving is subcontracted to respond to weather related events in the area by HEB Construction. Harmer Earthmoving own and operate a quarry on Double Hill Run Road at RP 15215 and are well informed about the current conditions on the road. If a section is impassable, it is best to close off the road entirely to non-residents at the SH 77 / Blackford Rd intersection.

Redcliffe Stream - RP13450

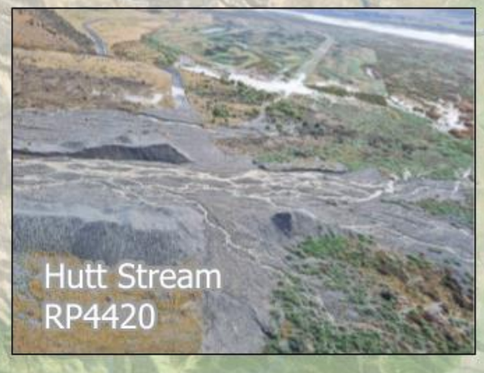
Extensive amounts of gravel washed down in May 2021 floods resulting in the bridge being almost buried.

Fishing Notice Creek RP11850

Whisky Creek - RP10285

Several slips in area which can easily cause road to be impassable after moderate rainfall.

Terrible Gully RP8265



Hutt Stream RP4420

Ashburton DISTRICT COUNCIL

Rivers and Creeks

Rivers and Creeks

Existing Signs

HAZARD - FORD

Roads to Check

Unsealed

Sealed

Bridges

Bridges

Slips

Slips

Potential Closure Points

Potential Closure Points

ECAN Side Streams

ECAN Side Streams

0 1 2 4 Km

N

Eagle Technology, LINZ, StatsNZ, NIWA, Natural

Flooding Map
Ashburton River

Ashburton DISTRICT COUNCIL

Towns
Towns
N
Roads to Check
Roads to Check
Main Routes
Main Routes
Route 72 / Alternate Route
Arundel Rakaia Gorge Road
Other Roads
Unsealed
Sealed
Potential Closure Points
Potential Closure Points
Rivers and Creeks
Rivers and Creeks
0 2 4 Km

STAVELEY
METHVEN
MT SOMERS
MAYFIELD
TINWALD
ASHBURTON
LAKE HOOD

Bowyers Stream
Taylors Stream
Ashburton River (North Branch)
Ashburton River (South Branch)
Winterslow Rd
Gundrys Rd
Flynns Rd
Boyds Rd
Rutherfords Rd
Coxs Rd
Prices Rd
Moodies Rd
Ashburton Staveley Rd
Cemetery Rd
Alford Forest
Goughs Crossing Rd
Muirheads Rd
Forks Rd
Pudding Hill Rd
Ashburton River Rd
Tramway Road
Anama
Cavendish Rd
Anama Valetta Rd
Osheas Rd (Paper Rd)
Thompsons Track
Blands Rd
Shearers Rd
Walkhams Rd
Aikens Rd
Driscolls Rd
Olivers Rd
Wakelins Rd
Mill Rd
Blacks Rd
Hills Rd
Rawles Crossing Rd
Melrose Rd
Boundary Rd
River Rd
Arundel Rakaia Gorge Rd
See Inset Map

Thompsons Track 1 2 3

Thompsons Track is prone to flooding from the Ashburton River during heavy rain events between Blands Rd and Tramway Road. ADC have submitted for resilience upgrades for sections 1 and 2.

Jessops Bend 4

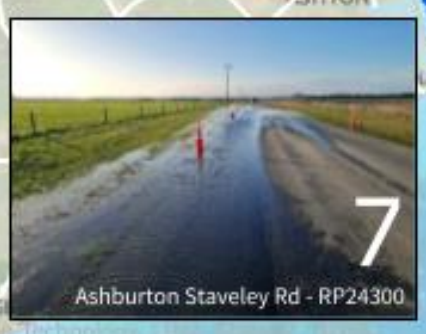
The most likely breach point for the Ashburton River close to town is Jessops Bend where the river bends 90 degrees. The stop banks here are monitored during severe weather events from a private property.

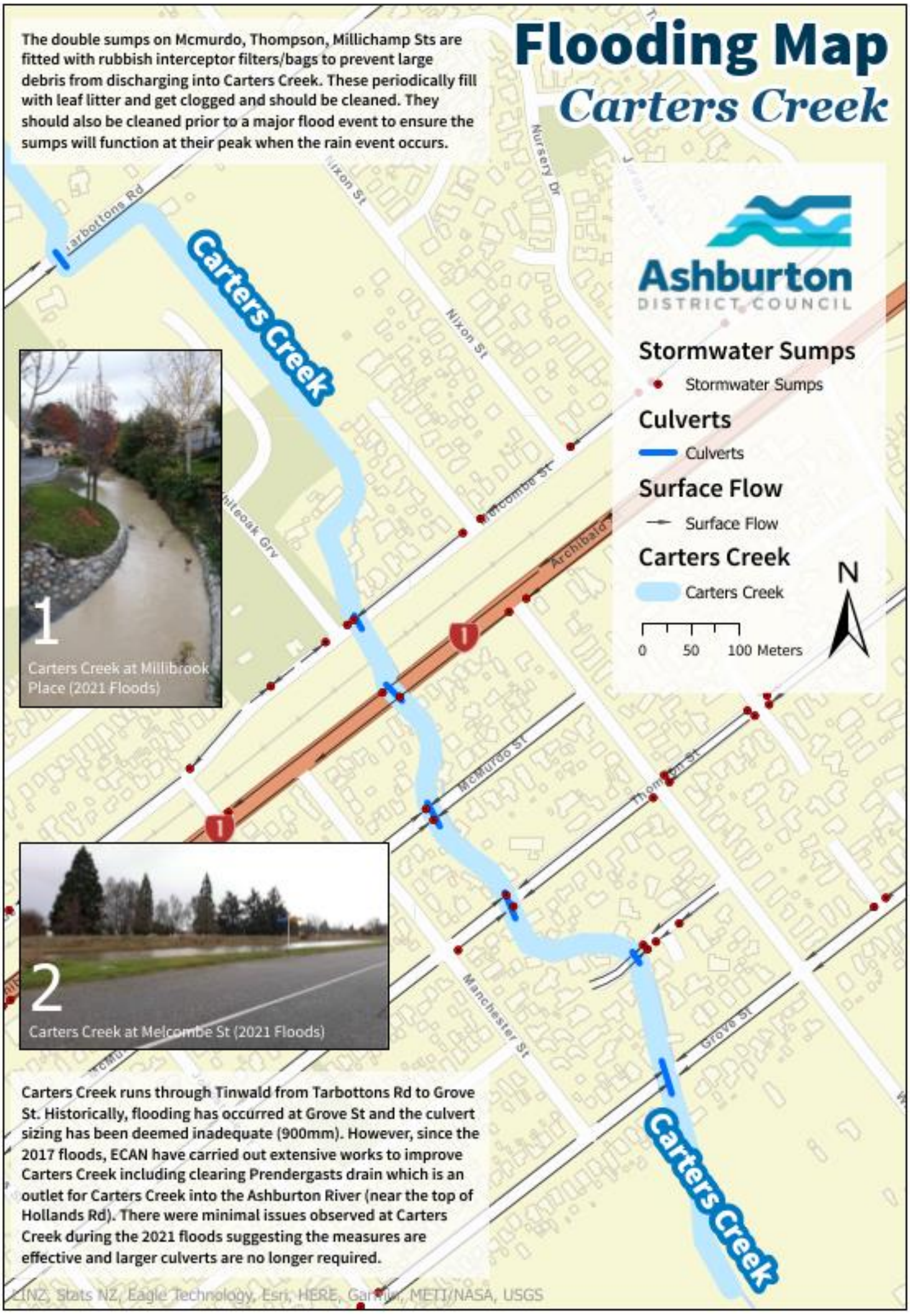
River Road 5

As the river flow moves down, there is a risk of breaching at River Road where the riverbed is close to eroding the road and there is a 90 degree turn. River Road should be closed and the river level monitored.

Muirheads Rd / Ashburton Staveley Rd 6 7

Muirheads Road, Goughs Crossing Road and Alford Forest Cemetery Road are susceptible to excessive flooding during heavy rainfall. This area has a high water table through winter. All culverts should be cleared prior to the weather event if possible. Ashburton Staveley Road also floods between Muirheads Road and Goughs Crossing Road at RP24300.




Flooding Map
Carters Creek
The double sumps on Mcmurdo, Thompson, Millichamp Sts are fitted with rubbish interceptor filters/bags to prevent large debris from discharging into Carters Creek. These periodically fill with leaf litter and get clogged and should be cleaned. They should also be cleaned prior to a major flood event to ensure the sumps will function at their peak when the rain event occurs.
Ashburton
DISTRICT COUNCIL
Stormwater Sumps
Stormwater Sumps
Culverts
Culverts
Surface Flow
Surface Flow
Carters Creek
Carters Creek
0 50 100 Meters
N
1
Carters Creek at Millibrook Place (2021 Floods)
2
Carters Creek at Melcombe St (2021 Floods)
Carters Creek runs through Tinwald from Tarbottons Rd to Grove St. Historically, flooding has occurred at Grove St and the culvert sizing has been deemed inadequate (900mm). However, since the 2017 floods, ECAN have carried out extensive works to improve Carters Creek including clearing Prendergasts drain which is an outlet for Carters Creek into the Ashburton River (near the top of Hollands Rd). There were minimal issues observed at Carters Creek during the 2021 floods suggesting the measures are effective and larger culverts are no longer required.
Tarbottons Rd
Nixon St
Nursery Dr
Melcombe St
Archibald St
McMurdo St
Thompson St
Manchester St
Grove St
Carters Creek
LINZ, Stats NZ, Eagle Technology, Esri, HERE, Garmin, METI/NASA, USGS