Waikato District Council

Transport

Asset Management Plan

2025-2034

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Waikato District Council
Te Kaunihera aa Takiwaa o Waikato

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Transport Asset Management Plan 2025-2034

Contents

1. Introduction

1.1 About (purpose of) this Plan

The Activity Management Plan (AMP) is a tactical, infrastructure plan that gives effect to a range of other strategic and tactical planning documents including:

- Infrastructure Strategy
- Council's strategic direction and 2025-34 LTP

This AMP details how Council's goals and strategic targets will be achieved through effective sustainable management of Council's roading/transport assets. This AMP covers a period of ten years between 1 July 2024 and 30 June 2034 and will be finalised following the adoption of Councils 2025 LTP. The AMP is a "living" document and is updated when there are significant changes to programmes and expenditure plus a review is undertaken prior the development of the LTP.

This plan has been written to provide the information required for good asset management planning as set out in:

- LGA 2002 Schedule 10 and amendments
- Office of the Auditor General industry advise and reports
- International Infrastructure Management Manual (IIMM) 2021, published by New Zealand Asset Management Support (NAMS).

The table below provides the sections of this AMP and a brief description of the content to be found.

Figure 1 AMP Business case topics

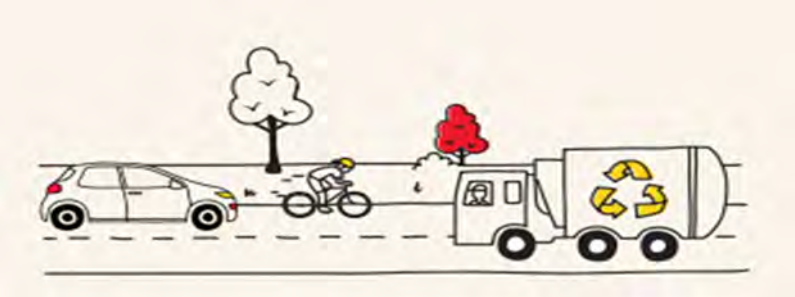
AMP Section	Description	Section
Executive Summary	Summary of core components of all the sections below, which is separate for publication and distribution to elected representatives, the community and council staff.	
Introduction	Overview of the area/region, brief statistics such as population, climate, employment and the economy. A snapshot of the transport activity is also summarised to provide the reader with a quick understanding of the extent of services provided.	Section 1
Strategic Case	Outlines the vision, goals and objectives of the asset group. Corporate strategic initiatives and community outcomes are linked to demonstrate how the transport activity contributes, and the rationale for Council's involvement. Key business drivers, linkages to strategic documents, key partnership and stakeholders are also covered in this section.	Section 2
Waikato's challenges and opportunities	This section describes the problem statements – growth, resilience, utility failures, unplanned events	Section 3
Gap Analysis	This section describes the gap analysis in particular for asset management and safety and provides evidence base of the network deterioration that is developing using widely accepted measurement basis.	Section 4
Programme Business Case	This section describes the core business and key service providers and their roles and responsibilities in delivering services. For the purpose of this AMP lifecycle management information has been provided in this section to avoid duplication of information.	Section 5
Customer Levels of Service	Levels of Service (LOS) define the quality of the delivery of the transport activity against which service performance can be measured. Infrastructure planning enables the relationship between levels of service and the cost of the service (the price/quality relationship) to be determined. The relationship can then be evaluated in consultation with the community to determine the required levels of service minimum requirement that the customer is prepared to pay for. Service standards provide the basis for the life cycle management strategies and work programmes.	Section 2 and 5
Growth and Demand	This section sets out the strategy that the asset owner will adopt in relation to its infrastructure assets. The 'key demand drivers' that influence growth and demand are assessed in detail, as well as the impacts and management thereof, with a view to forward planning so that the needs of the individuals, communities and the contribution to the wider region can be sustained.	Section 5
Life Cycle Management	The Life Cycle Management (LCM) section provides the broad strategies and work programmes required to achieve the goals and standards outlined in the AMP.	Section 5
Financials	The Projects and Financial Forecasts section outline the financial requirements for the operation, maintenance, renewal and capital needs for transport, based on long-term strategies and LOS outlined earlier in the plan. Funding sources and potential issues are identified and key assumptions in preparing financial forecasts are noted. A summary of asset valuation by asset group is also outlined.	Section 5
Risk Management	This section covers the strategic risk management implemented by the asset owner and how this applies to the transport activity. Risk Management identifies the specific	Section 6, Section 7

AMP Section	Description	Section
	business risk associated with the ownership and management of the infrastructure assets. This is used to determine the direct and indirect impacts associated with these risks and to form a priority-based action plan to address these	
Business Management	This section covers the key business processes in place that supports Asset Management. This includes an assessment of IT and business systems, an overview of business continuity planning and emergency management. The AMP is also assessed against the Office of the Auditor General's Criteria for advanced asset management plus any relevant legislation or industry standards. The key to ongoing success is to plan, review and monitor the ongoing update of the plan including key milestones and responsibilities, how the organisation intends to do this is documented in this section.	Section 6
Improvement Planning	The Improvement Plan is integral to continually improving processes and practices, to ensure the ongoing development of Asset Management practices towards an appropriately advanced level.	Section 7

1.2 Scope of Services

The key objective of activity management is to provide a desired level of service in the most cost-effective manner whilst demonstrating responsible stewardship for present and future customers. AMPs are a key component of the strategic planning and management of Council, with links to the 10-Year Plan (LTP) and service (operational and capital) contracts. The AMP underpins the LTP and consultative processes that have been put in place to engage the community. The AMP aims to develop and guide the delivery of a range of benefits to the community as well as to the Council, the main ones being:

- Maintain, replace and develop assets over the long term to meet required delivery standards and foreseeable future needs at minimal cost
- Continually improve asset management practices and service delivery to the customers
- Comply with Statutory Requirements

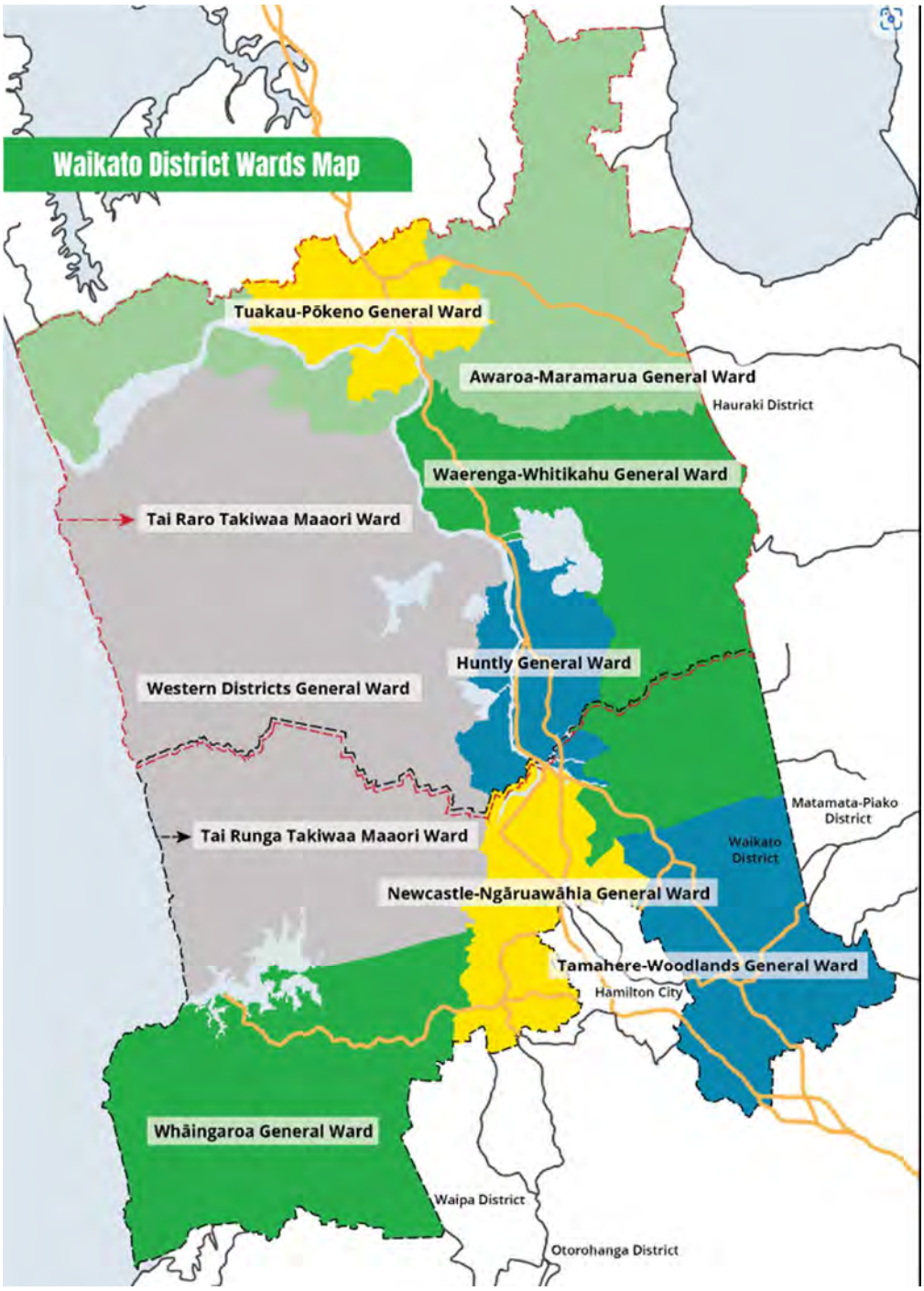


Council is responsible for the planning, provision, development, operations and maintenance of the district's land transportation network and facilities to local communities including local roads, footpaths, street lighting, bridges/retaining walls, and signs across the six Community Board Areas and two Maori Ward areas:

- Huntly
- Ngaruawahia
- Raglan
- Rural-Port Waikato
- Taupiri
- Taukau
- Tai Raro Takiwaa Maori Ward
- Tai Runga Takiwaa Maori Ward

There is also a number of Community Committees including the townships/areas of Meremere, Te Kauwhata, Tamahere, Pokeno, Matangi and Tauwhare.

Figure 2 Ward Boundaries



1.3 Activity Rationale

This AMP presents the route map for the future delivery of our transport assets, by providing the logic, reasoning and context behind how we propose to maintain, operate, renew and improve Waikato DC's land transport network.

It informs the development of District Council's (Council's) 2025-34 Long Term Plan (LTP), the Regional Land Transport Plan (RLTP) and the National Land Transport Programme (NLTP).
It is important that we show how we will meet regulatory requirements, reflect central government policy and direction, and manage activity risk. Most important is that we show the value of any investment made in addressing our strategic transport problems and undertaking core business activities. Any investment needs to achieve the desired outcomes and benefits for our customers and represent value for money.

1.4 Asset Summary

A high-level summary of the assets included in this AMP is provided in below:

- Sealed Roads 1860 km
- Unsealed Roads 600 km
- 26409 signs
- 400 bridges
- 5536 streetlights
- 4043 light poles
- 69,830 m of railings
- 16,126 m of retaining walls
- 316,000 m of footpaths

1.5 The Business Case Approach

This AMP presents the strategic and tactical business case approach (BCA) that defines the key problems impacting on the activity and wider district, and provides an understanding of the causes, and scale of the benefits of addressing the problems.

The BCA seeks at the earliest stage of the process, to clearly define the problems and contextual state of the district, with engagement of key partners and stakeholders where necessary. This early engagement is to get consensus on and understanding of the cause, scale of consequences and scale of benefits of addressing the problems.

This approach will help filter whether a problem is worth investing more time and resource to progress. The business case also seeks to make sure during the lifecycle of a programme or project that the ‘reasons’ for doing it are still sound, and that it has a clear link back to organisational priorities and issues.

Programme Business Case

2. Strategic Case

2.1 Introduction

The Strategic Case needs to answer the question “is there a compelling case for change?” It is used to make sure that key stakeholders are aligned on the need to address a problem, and consensus has been formed on what good outcomes look like, before significant investment is made in investigating solutions. It also ensures that the transport planning elements of the business case are based on robust logic that demonstrates a clear line of thinking between strategic outcomes, actual problems and the transport outcomes to be achieved and delivered via the Activity Management Plan (AMP).
The AMP shows how it contributes toward achieving Waikato DC’s strategic goals and the objectives set in the Waikato Regional Land Transport Strategy, regional transport strategies and the Draft Government Policy Statement on transportation. This is achieved by clear definition and line of sight from the key problems affecting the District’s transport activities to the benefits to be achieved by addressing the problems that will further contribute to Councils vision and outcomes.

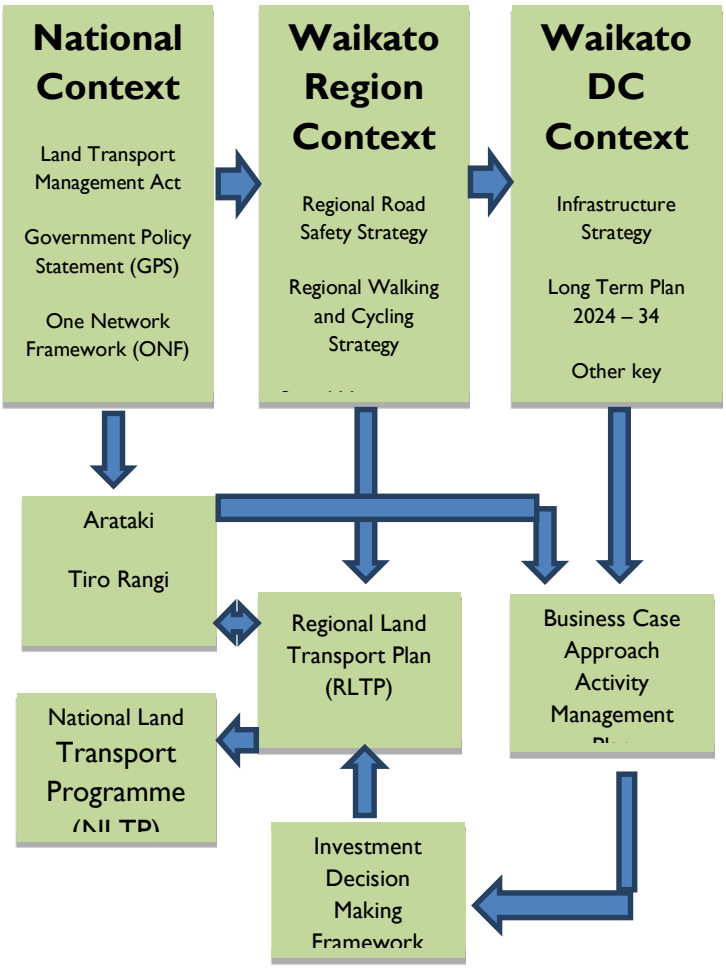
This business case approach helps Council and its co-investor, Waka Kotahi NZ Transport Agency (Waka Kotahi), to determine that we are making the right investment decisions at the right time and for the right reasons.

2.2 Strategic Context

Council, as the Road Controlling Authority for local roads in the Waikato District, manage the investment in the road network. This includes investment from Council funding and from the National Land Transport Fund as administered by NZ Transport Agency (NZTA/Waka Kotahi). Our investment strategy in the road network aims to deliver on Council’s strategic priorities for its communities, while aligning with central government and regional priorities outlined in the Government Policy Statement for Land Transport and Waka Kotahi’s (draft) Investment Decision Management Framework (IDMF). The strategic context explains how the scope of the proposed investment aligns Council’s strategic priorities, partner organisations’ priorities, regional and national priorities and existing programmes and strategies.

Figure 3 Strategic Linkages

Programme Business Case



2.3 The National Context

Local Government Act 2002

The Local Government Act 2002 requires Council to undertake long term planning:

- The Local Government Act 2002 mandates an infrastructure strategy for at least 30 consecutive financial years.
- Long-term plans (LTPs) must cover a minimum of 10 financial years.

LTPs are reviewed every 3 years, with this review for 2025-2027.

- This presents an opportunity to refine the Transportation strategy and identify projects and funding sources (e.g., development contributions, depreciation, rates, loans).
- The submission of transportation projects, the respective Levels of Service / risks and forecast cost estimates in the draft LTP presents the opportunity for Council to consult with stakeholders and upon feedback for the Council to tailor Level of Service to suit the Districts future requirements.

Local Government Act 2002 in Sub – part 5 prescribes performance measures for roads and footpaths:

- Sub-part 5 focuses on roads and footpaths:

- Road Safety: Track changes in fatalities and serious injury crashes on the local road network.
- Road Condition: Measure the average quality of ride on sealed local roads.
- Road Maintenance: Monitor the percentage of resurfaced sealed roads.
- Footpaths: Assess footpath condition against specified service standards.
- Response to Service Requests: Measure timely responses to customer requests related to roads and footpaths.

The Waikato District Council regularly analyses performance against measures and reports those. Further standards and performance measures are developed by the central government primarily Waka Kotahi who are co-founders of the roading activity. In section 5 further elaboration of measures, trends, gaps and business case are discussed.

The performance measures will continue to be reported for the next two years of the 2025-2034 LTP cycle. They will also be audited by Audit New Zealand as part of the LTP audit and subsequent Annual Report audits.

Government Policy Statement on Land Transport 2024

The Government Policy Statement on Land Transport presents the government's priorities for transport the next 10 years. The policy statement is reviewed every 3 years.

Each priority has an associated outcome, a range of benefits, and a set of key indicators.

NZ Transport Agency, Waka Kotahi manages the state highway network throughout the country, including Waikato Expressway urban and rural state highways. Waka Kotahi also invests in approved activities to deliver the government's transport outcomes. Waka Kotahi has developed Arataki; a strategic initiative to identify the challenges and responses for delivering the government's priorities and long-term outcomes for the land transport system.

The four strategic priorities for GPS 2024 are outlined below. This GPS sets the balance between investing in new projects and ensuring we maintain and repair our existing infrastructure. It focusses on achieving four key strategic priorities:

- Economic Growth and Productivity
- Increased Maintenance and Resilience
- Safety
- Value for Money.

The Government recognises that one of the action items in the current Emissions Reduction Plan (ERP1), prepared under the previous Government, refers to ensuring the next Government Policy Statement on Land Transport guides investment that is consistent with the emissions reduction plan. Following the general election and a change of government in late 2023, the intended emissions reduction policies foreshadowed by the previous Government are being reassessed. For this reason, GPS 2024 has not undertaken the alignment exercise as anticipated in ERP1.

Arataki – March 2023 (Waka Kotahi)

Arataki provides a shared sector view of how we need to plan, develop, and invest in the land transport system during the next 30 years. Arataki provides guidance for each of the 14 regions to include a high

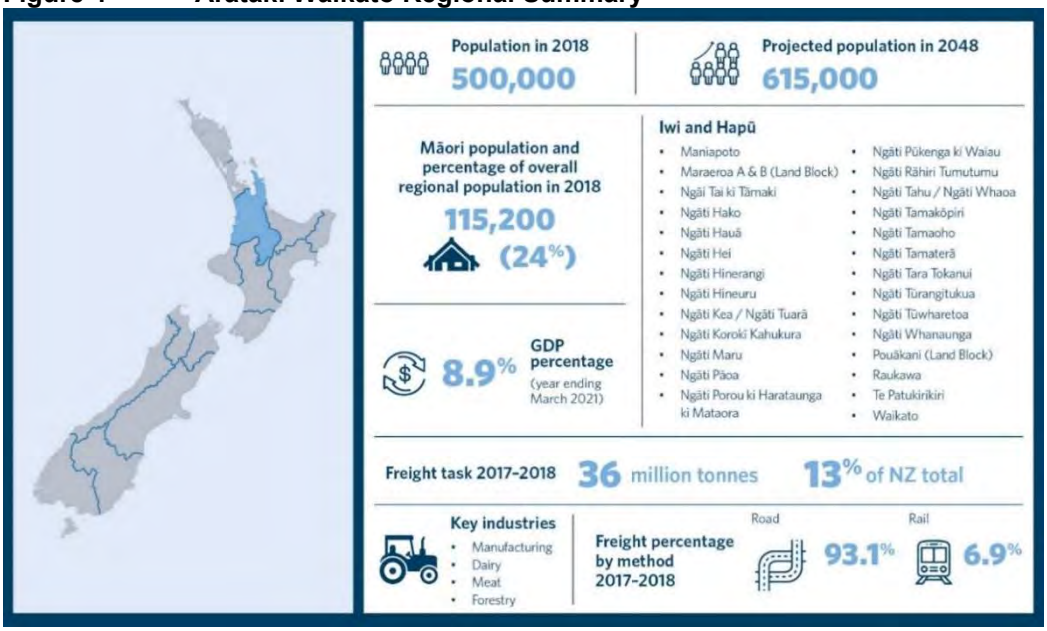
level summary of the land transport system and where effort is required to deliver on identified outcomes over the next 10 year period.

The Waikato region is highly dependent on vehicles. To address this and make progress towards reducing transport emissions, the following will be essential:

- joint spatial planning work
- rollout of high-quality cycling networks
- progressive implementation of aspirational public transport plans.

Waikato has a poor road safety record, with high rates of deaths and serious injuries requiring ongoing effort. Resilience must also be a key focus, with parts of the Waikato vulnerable to sea-level rise, flooding, coastal erosion, and landslides.

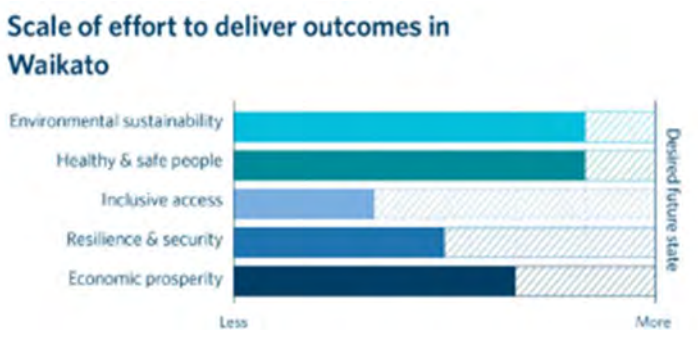
Figure 4 Arataki Waikato Regional Summary



As a foundation, Arataki uses the Transport Outcomes Framework developed by Te Manatū Waka Ministry of Transport. This framework sets a purpose for the transport system centred around the wellbeing of New Zealanders and making places great to live. It outlines five outcome areas to contribute to this purpose.

The regional ratings show how Waka Kotahi has assessed the potential scale of effort required in each region to achieve the future desired state for each outcome over the next 10 years. The ratings in each region indicates where effort can be best focused and inform conversations with partners about priority outcomes in each region. The figure below provides the ratings for the Waikato region.

Figure 5 Waikato Region Transport Outcome Ratings



Programme Business Case

Waikato DC works to promote the social, economic, environmental and cultural wellbeing of our communities, now and into the future. Council works with Waka Kotahi to progress these where projects align with the GPS. As the largest co-funder of NLTP projects, local government have an important role in building strong, evidence-based projects and programmes for investment.

The table below links Level of Service to RLTP and Local objectives. The latest final Central Government Policy Statement 2024 has indicated that environmental outcomes will be further developed in time, in particular with reference to emissions reduction. This could necessitate further refinement to table below. Performance measures are designed to be strong in terms of measurability and allow for comparison with regional, national and peer group results and with trends over time. As such they are specific, measurable, achievable (with funding), relevant and time-bound (S.M.A.R.T).

Programme Business Case

Central Government Objectives			Regional Objectives		Local Objectives		Levels of Service	
Community Well-being Outcomes	Transport Outcomes	Arataki Step Changes	RLTP Objectives	Future Proof	Community Outcomes	Problem Statements	Level of Service	Performance Measures
Human 	**Healthy and safe people** Protecting people from harm and making active travel attractive	**Significantly reduce harms** Transition to a transport system that reduces deaths and serious injuries and improves public health.	Improving Safety	Effective governance, leadership, Tāngata whenua	**Supporting our communities** We consider the well-being of all our people	**Safety** Deteriorating asset condition and an unforgiving road environment is resulting in increased risk of harm to our community	Safe travel	The number of fatalities and serious injury crashes on the local road network
							Available Friction	The proportion of surface friction deficient sites treated annually
Social 	**Inclusive Access** Enabling all people to participate in society	**Transform urban mobility** Shift from our reliance on single occupancy vehicles to more sustainable transport solutions for the movement of people and freight.	Managing and Facilitating Growth	Diverse and vibrant place of choice – live, work, invest and visit.	**Working together with you** Collectively focussed on the right things	**Growth** Increasing traffic flows and infrastructure changes is resulting in an inability to meet future needs	Customer service requests	The percentage of customer service requests responded to within the timeframes specified.
							Maintenance response	The Maintenance response times are within prescribed limits
							Footpaths	The percentage of footpaths that are rated condition Average or better
Natural 	**Environmental Sustainability** Transition to net zero carbon emissions	**Tackle climate change** Support the transition to a low-emissions economy and enhance communities' long-term resilience to the impacts of climate change.	Environmental Sustainability	Protection of natural environments	**Sustaining our environment** We are a community that believes in environmental sustainability	**Coordination** Poor communication and transparency leads to inefficient delivery and an erosion of community confidence	Recycling	Proportion of recycled materials used to maintain transport network
Financial 	**Economic prosperity** Supporting economic activity with efficient movements of people and products	**Support regional development** Optimise transport's role in enabling regional communities to thrive socially and economically.	Supporting Economic Development	Affordable and sustainable infrastructure	**Building our economy** We attract diverse business, creating jobs and opportunities	**Aging Infrastructure** Historic lack of investment is resulting in increased asset consumption, deteriorating asset condition, decreasing levels of service and customer satisfaction	Smooth travel	The percentage of the road sections that exceed the appropriate smooth travel exposure target
Physical 	**Resilience and security** Minimising and managing risks, adapting to threats, recovering from disruptive events	**Improve urban form** Use transport's role to provide connections between people, product and places.	Maintaining our Network	Sustainable resource use	**Providing value for money** Residents and ratepayers get value for money	**Resilience** Challenging geology, topography and increasing intensity of weather events is adversely impacting network resilience	Asset consumption	The percentage of the local road network that is resurfaced.
							Proactive maintenance	Proportion of maintenance that is proactive rather than reactive

Programme Business Case

Local Government Act 2002 in Sub – part 5 prescribes performance measures for roads and footpaths:

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One Network Framework

The One Network Framework is a continuous improvement project, led jointly by the NZTA and Local Government New Zealand. It has three key components:

• One Network Framework – a method of classifying roads based on place and movement

• One Network performance measures – nationally agreed indicators of customer levels of service for NZ roads, based on six customer outcomes

• One Network road classification – classifies local roads into classes.

The One Network Framework expands on the One Network road classification, to look at the importance of urban roads in a more comprehensive way. The classification of roads in the One Network Framework is not yet complete, but will balance:

• place – by recognising the importance of adjacent land use and the significance of particular places to people and communities

• movement – by expanding on data about vehicle movements, to quantify the importance of roads for freight, deliveries, public transport, walking and cycling.

By aligning with the One Network Framework, we can demonstrate that proposed investments represent the right activity, in the right place, at the right time.

One Network Performance Measures / One Network Road Classification (ONRC)

One network performance measures are a nationally agreed set of measures that align to the customer outcomes. Measures are reported annually through the Transport Insights webportal, with the RAMM asset data from all road controlling authorities in NZ used to provide insights into the road assets for each authority.

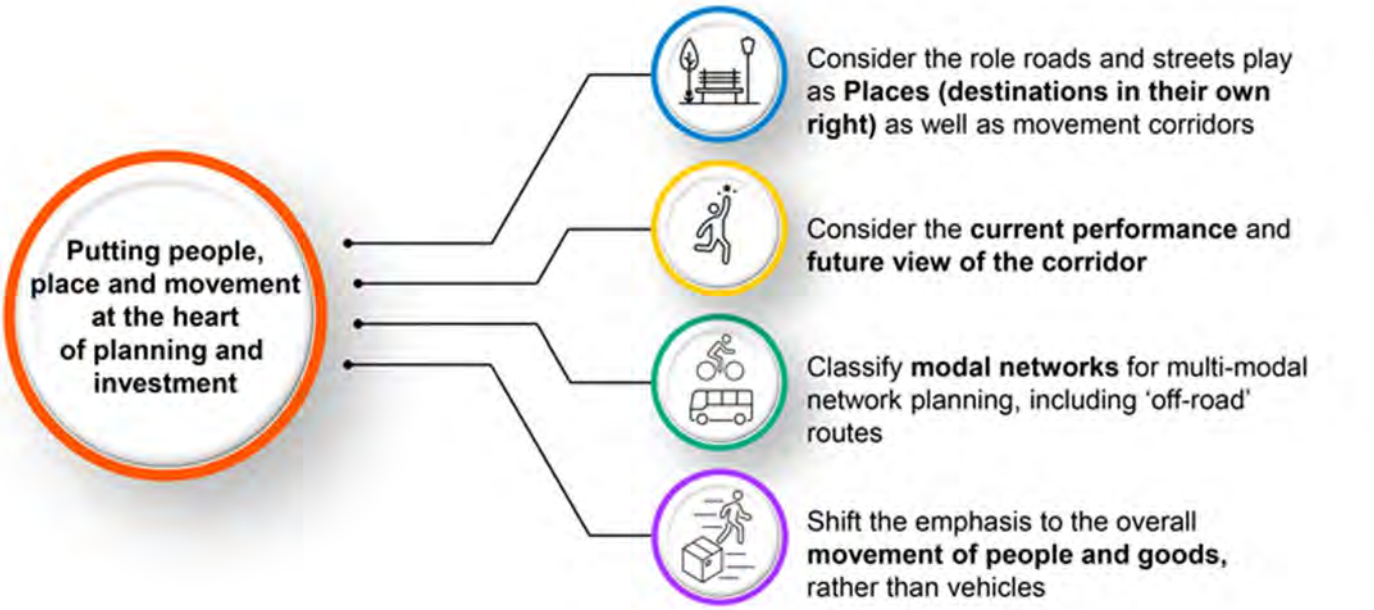
We follow the One Network Road Classification (ONRC) system, a national framework (NZTA160801-The-ONRC-Performance-Measures-Final-Published). The ONRC Performance Measures cover safety, resilience, amenity, accessibility, travel time reliability, and cost efficiency. As part of our responsibility, we assess, evaluate, and benchmark our performance. For safety outcomes, we compare results nationally and against peer groups. We analyze crash rates, considering factors like nighttime incidents, accurate crash data recording, and specific routes. If injury rates decrease, we explore contributing factors and share learnings.

Programme Business Case

As of 2024, Waikato District Council reports on some measures, with ongoing efforts to develop reporting for all relevant indicators.

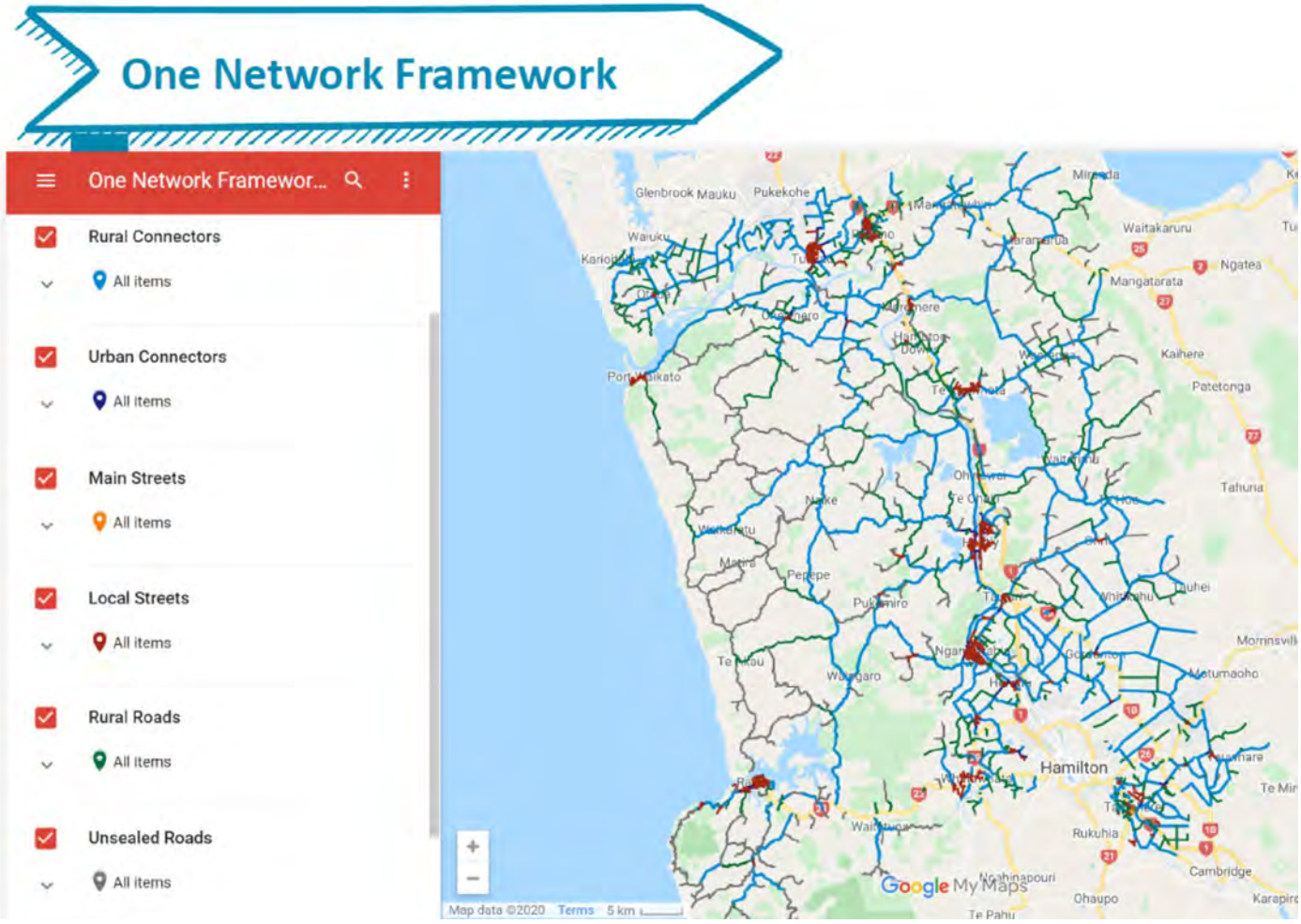
The ONF aligns with strategic transport planning at all levels including Long-term Plans (LTP), Regional Land Transport Plans (RLTP) and the National Land Transport Plan (NLTP). The ONF Factsheet states that it's benefits are:

- Improves investment planning and decision making
- Enables consistency in measuring current and future network performance and levels of service
- It enables investments to delivery on the strategic intent of Government, Waka Kotahi and Road Controlling Authorities including the Road to Zero Strategy, Adapting for climate change, Promoting community wellbeing and Higher quality urban development.



ONF focus to people, place and movement

The map below shows the One Network Framework roads and connections for Waikato District road lengths.



This leads to development of service level statements. The statements could be applied to new maintenance contracts. One Network Framework service level statements could include as shown in example below although specific regimes will need to be developed for all assets e.g. bridges and structures, traffic services facilities, lighting, markings etc.

Service Level Grade	Service Level Statement	Local Streets	Main Streets	Rural Connectors	Rural Roads	Urban Connectors	Unsealed Roads
A	Inspection regime identifies all faults in a proactive manner	1 Month	2 Weeks	2 Weeks	1 Month	1 Month	1 Month
B	Inspection regime identifies most faults in a proactive manner, but will rely on Customer Requests and a reactive response for some maintenance	3 Months	1 Month	1 Month	3 Months	3 Months	3 Months
C	Inspection regime identifies some faults in a proactive manner, but will rely on Customer Requests and a reactive response for most maintenance	6 Months	3 Months	3 Months	6 Months	6 Months	6 Months

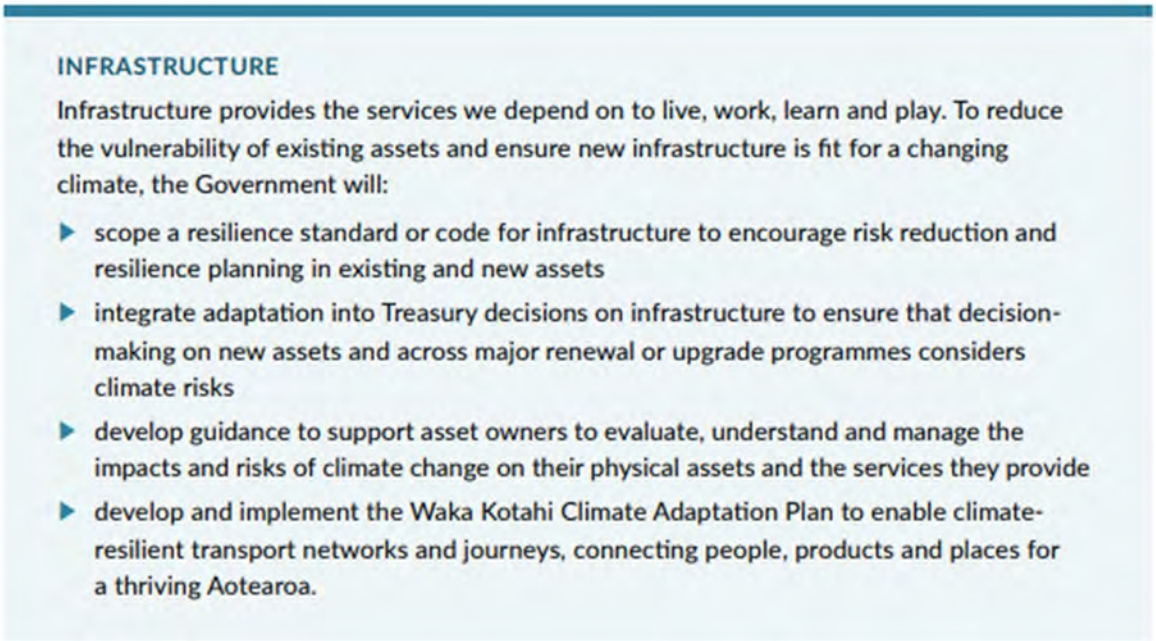
National Adaptation Plan (NAP)

The National Adaptation Plan looks at the impacts of climate change with us now and into the future and sets out how Aotearoa New Zealand can adapt. Every six years, He Pou a Rangi – Climate Change

Commission will prepare a national climate change risk assessment. This will identify the climate risks that need to be addressed most urgently. New national adaptation plans that respond to those risks will be developed in consultation with all New Zealanders.

The first plan focuses on getting the foundations right. It sets out what the Government will do to enable better risk-informed decisions, drive climate-resilient development in the right locations, help communities assess adaptation options (including managed retreat) and embed climate resilience into all of the Government's work.

Specific to infrastructure the NAP includes:



INFRASTRUCTURE

Infrastructure provides the services we depend on to live, work, learn and play. To reduce the vulnerability of existing assets and ensure new infrastructure is fit for a changing climate, the Government will:

- scope a resilience standard or code for infrastructure to encourage risk reduction and resilience planning in existing and new assets
- integrate adaptation into Treasury decisions on infrastructure to ensure that decision-making on new assets and across major renewal or upgrade programmes considers climate risks
- develop guidance to support asset owners to evaluate, understand and manage the impacts and risks of climate change on their physical assets and the services they provide
- develop and implement the Waka Kotahi Climate Adaptation Plan to enable climate-resilient transport networks and journeys, connecting people, products and places for a thriving Aotearoa.

Emissions Reduction Plan

Reducing transport emissions is critical for reaching New Zealand's net zero emissions target by 2050. In 2019, transport was responsible for 39 percent of carbon emissions and 17 percent of New Zealand's total gross emissions, with most of these emissions coming from light vehicles (e.g., cars) with internal combustion engines. To deliver the ERP, transport emissions need to reduce by 41% (from 2019 levels) by 2035 and reach net zero emissions by 2050.

Other Key Legislation

The legislative requirements that the Council is required to comply with when carrying out its services are extensive. There are a number of principal Acts which set out the need, the requirements and the standards for the provision of services. The provision of the service should comply with all relevant legislation.

Key legislative requirements include:

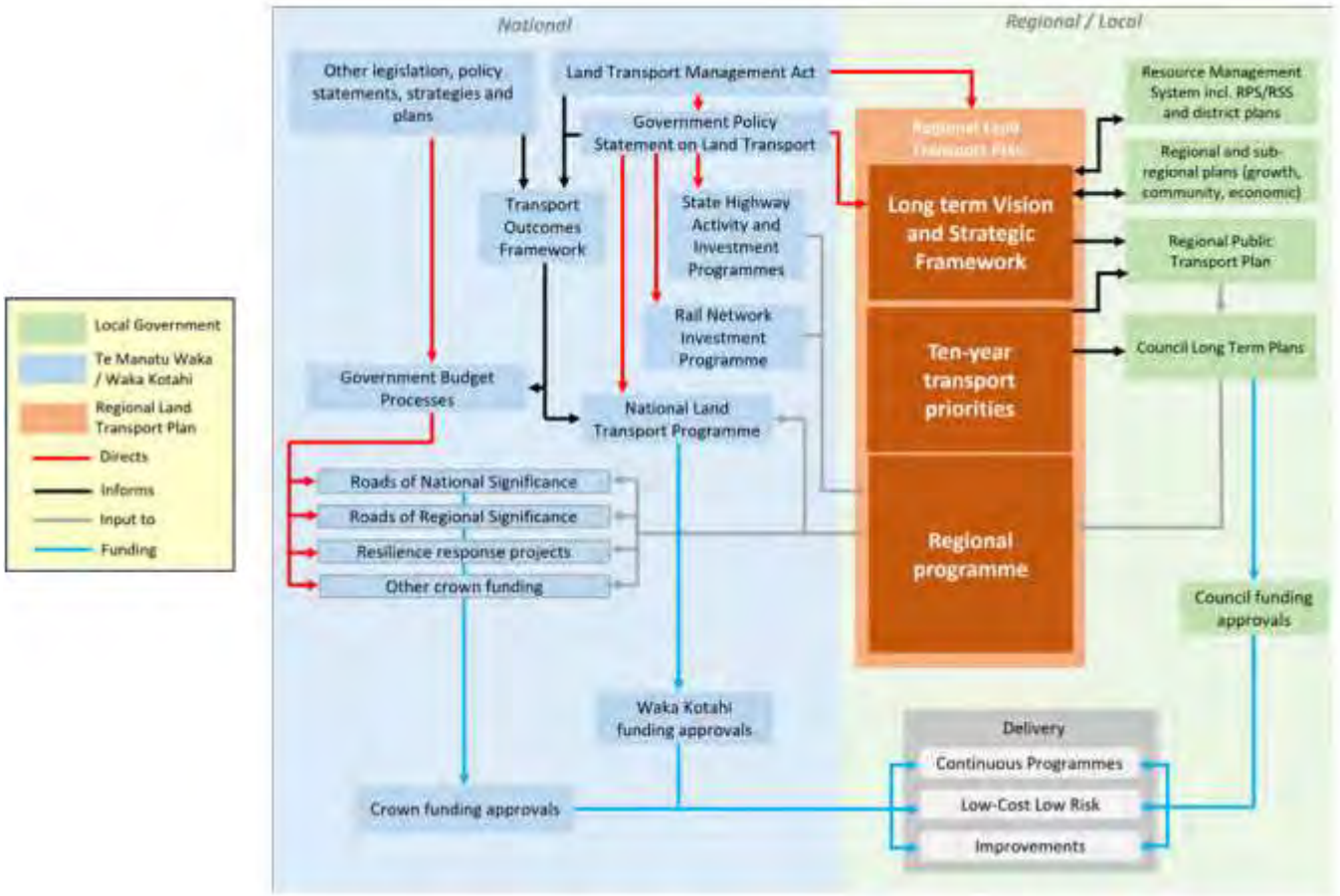
- Local Government Act 2002 and 2014 amendment
- Local Government (Rating) Act 2002
- Land Transport Management Act 2003
- Land Transport (Road Safety and Other Matters) Amendment Act 2011
- Resource Management Act 1991 and amendments
- Building Act 2004
- Health and Safety at Work Act 2015

- Public Works Act 1981
- Civil Defence Emergency Management Act 2002
- Traffic Regulations Act 1976
- Utilities Access Act 2010 (ref. NZUAG National Code for Utility Operators' Access to Transport Corridors).

2.4 The Regional Context

The RLTP 2024-54 is the primary document guiding integrated land transport planning and investment within the Waikato region. It outlines a consensus regional view on our investment priorities in the context of the longer-term land transport outcomes we are seeking for the region. It is also the mechanism by which significant national investment is secured for transport projects and activities.

The interrelationships between the key policy and funding components are represented in the figure below.



The RTC has identified the region's high-level transport priorities for the next 10 years. These priorities and their case for investment are detailed in the following policy templates. They highlight the key focus areas for stakeholder action and priority investment over the next three to 10 years.

Climate change

- Reduce transport emissions
- Transform towards an environmentally sustainable, low carbon transport system

Resilience

- Maintaining the transport system
- Ensuring community access
- Building regional resilience

Managing Growth and Economic Development

- Implementation of Metro Spatial Plan Transport Business Case programme
- Future proof and optimise priority strategic corridors (road and rail)
- Resolve rail constraints and build capacity

Accessibility / Transport Options

- Shape urban form to grow mode shift and provide transport options
- Targeted intervention to recognise different transport and accessibility needs across the region

Safety

- Implement the Safe System approach for the Waikato Region
- Focus on speed and infrastructure, education and behaviour change for high-risk and vulnerable users, and enforcement

2.5 The Local Context

The Waikato District is situated within the 'golden triangle' of Auckland, Hamilton and Tauranga and plays a significant role in transport connectivity for people and freight by road and rail. Within the district, there are 1,812km of sealed and 608km of unsealed roads, with 209km of the road network classified as urban. The district has a variable topography, which ranges from flat, low lying areas to rolling hills, where the roads present a challenging driving environment.

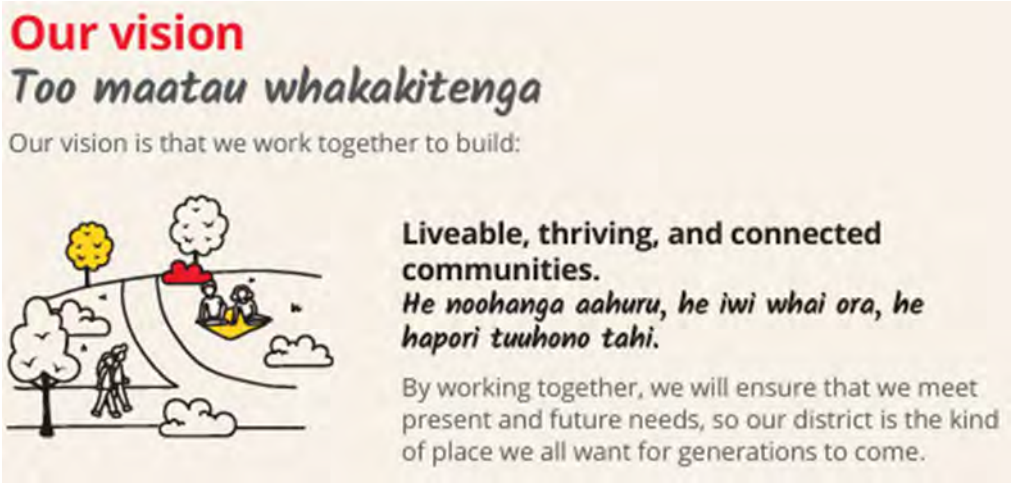
Vehicle movement through the district, in terms of numbers, is predominantly on State Highway 1 (SH1 - the Waikato Expressway) which forms a north to south corridor through the district. The Waikato Expressway is the longest and busiest stretch of rural expressway in New Zealand. The local road network off the state highway spine completes the road coverage throughout the district.

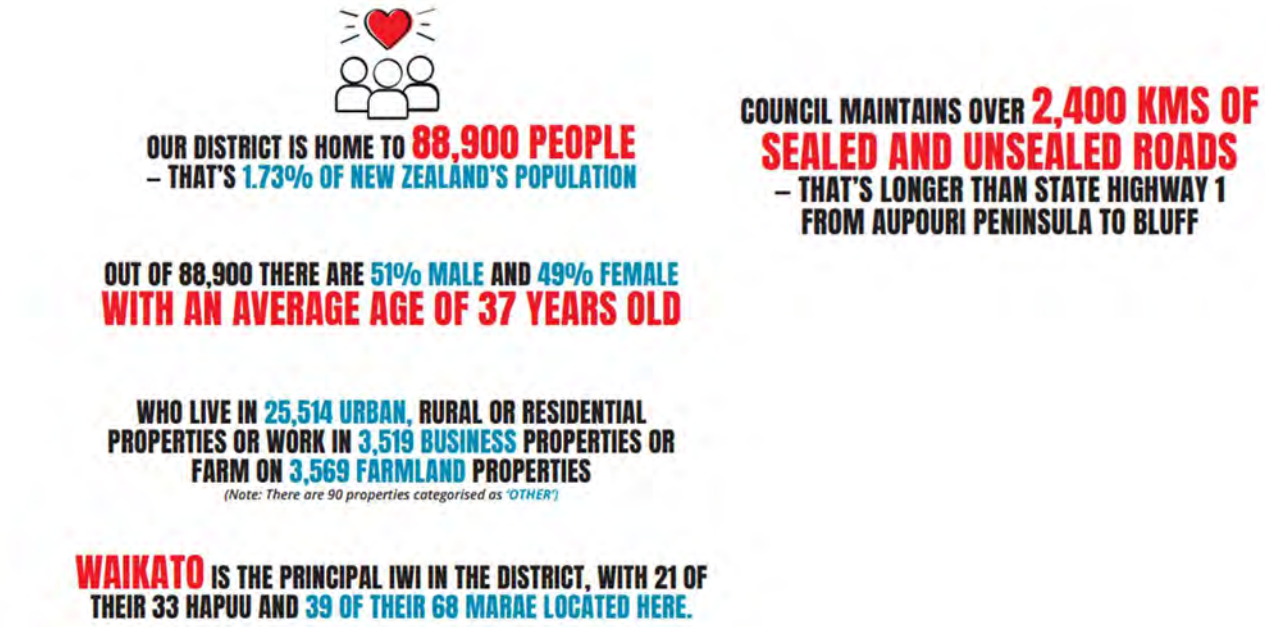
The road network performs a vital function in the operation and development of the district and region. It forms part of the key transport link across the Waikato River, which divides the east and west parts of the district and hence is critical for connectivity. The roads also have diverse functionality, including servicing urban centres, linking rural communities and providing access to remote communities. The rural road network serves a significant heavy vehicle fleet linked to dairy and forestry commercial activity.

Local communities and other road users are growing in number, which places pressure on the level of service which can be provided for road infrastructure. The road network is also large and spread out and, as a result, presents some specific challenges in it's management.

It is acknowledged that other forms of transport exist in the district and that integration with the road network will form part of the solution to future needs for the movement of people and goods. Public train services, bus services and commuter cycling are under-represented in the Waikato District. Programmes to facilitate uptake of bus services and commuter cycling are already being implemented. The discussions

around the form and function of the rail network is happening at a national level. Indications are that an acceleration of the long-term rail strategy is possible.





The Roading activity includes corridor maintenance, bridges, footpaths, passenger transport, road safety, and network development and maintenance. The strategic focus of this group of activities is to concentrate on maintaining the current road network and completing projects which are mostly growth driven. Waikato District Council is responsible for the following:

- pavements
- sealed and unsealed roads
- bridges
- large culverts, retaining walls and guardrails
- footpaths, walkways and cycleways
- drainage facilities
- culverts, surface water channels, sumps, manholes and cesspits
- street lighting, road lighting, under verandah and flag lighting
- signs, traffic controls, road marking and sight rails, traffic signals
- bus shelters

Programme Business Case

The Roading group of activities contributes to all of Council's Community Outcomes, with it contributing in a major way to the Economic priority.

Roading asset management approach aligns closely with the national guidance for road asset management. The ThinkProject RAMM asset database is used for the capture of all information, which the NZTA can use for national reporting of performance measures. The Road Efficiency Group's (REG) guidance provides best practice advice for all aspects of road asset management. The roading team are also members of the Co-Lab Road Asset Technical Accord (RATA) which provides access to asset management knowledge forums, improved data collection and reporting and offers shared contracts for bridge asset management, data collection and dTims pavement deterioration modelling.

Currently Waikato District's performance report provided by the REG Transport insights report indicates that data quality is at 91%, which is in the top grouping for councils around the country. The latest report can be accessed through the - Data Quality Dashboard - Transport Insights.

Councils Strategic Planning Framework

The figure below depicts how the Activity Management Plan relates with other Council strategic planning processes:

2.6 Procurement Strategy

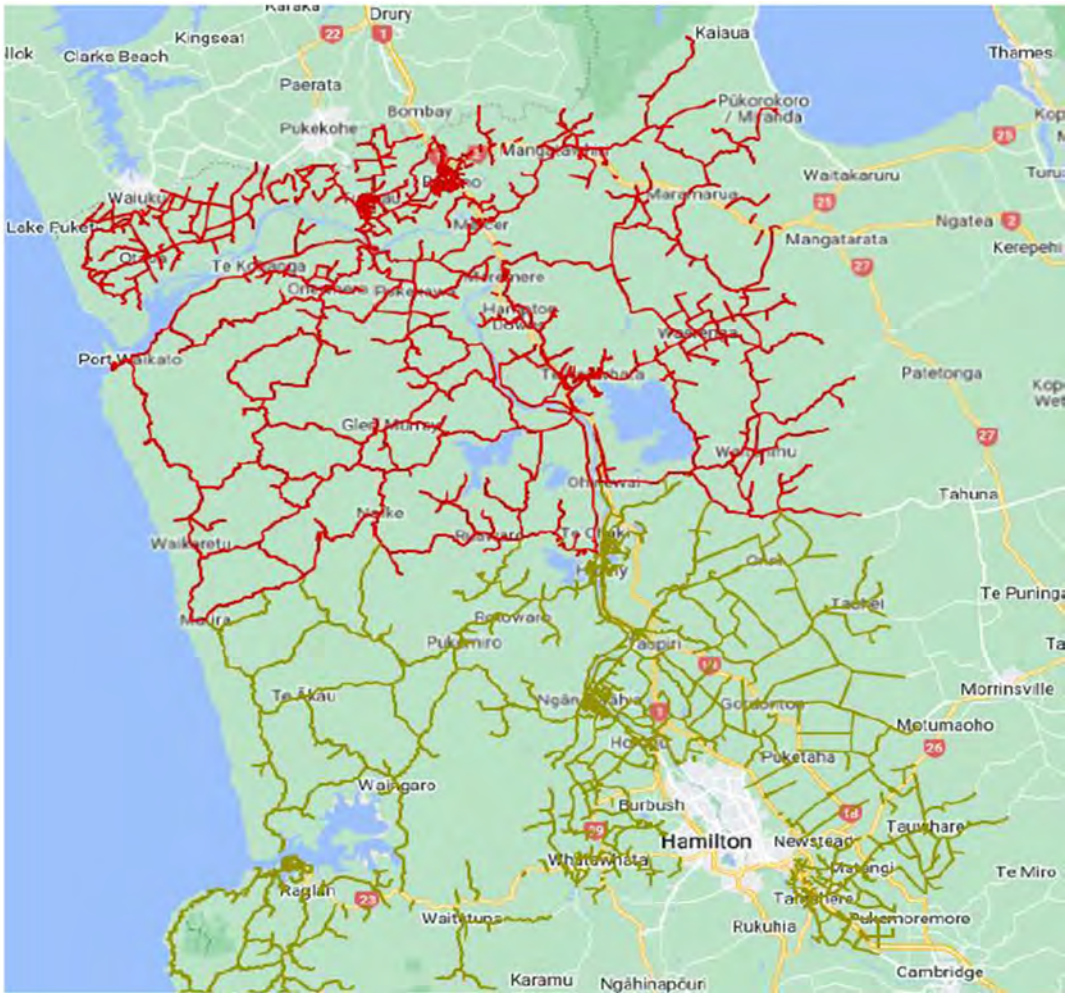
Waikato submitted a short term Procurement Strategy to reflect the fact that the existing Alliance contract was nearing the end of its second 5 year term and that the Council was undertaking a s17A review as required by the Local Government Act. The shorter term strategy was endorsed by Waka Kotahi.

Council has recently submitted an updated Procurement Strategy as at April 2024 to reflect decisions that have been made in the previous 6 months regarding the shape and form of future maintenance and renewals delivery across the District. Council has elected to step away from current Alliance model in favour of the traditional style of contract model using the NZS 3917 contract model. This measure and value model provides the opportunity to more closely monitor investment in every aspect of road maintenance and renewals to enable improved asset management into the future. The model includes a KPI performance framework to measure and monitor achievement of the outcomes sought.

Decisions have also been made to create two contract areas, dividing the network into North and South with delivery effective from 1 July 2025. The terms of the new contracts will be 5 yr + 3yr + 2yr, potentially a 10 yr term. The two individual suppliers providing services on the networks will be encouraged to work collaboratively to focus on achieving consistency and delivering the best outcomes possible through the

funding available. The focus for these contracts is on operating as stewards of the network to provide a preservation approach to maintaining for longevity of the asset.

In addition new streetlighting physical works and professional services contracts will also be put in place for a 1 July start, these contracts will have terms of 5 yrs each. This ensures that Council are engaging services directly from the suppliers that are skilled and experienced in this specialty area.



` **Figure 6** **New Maintenance Contract areas**

3. Waikato's Challenges & Opportunities (Strategic Assessment)

This section presents the investment story. It outlines the problems and benefits of investment that have been identified by the roading team and key stakeholders.

A **problem** is the reason an action needs to be considered as part of the AMP.

The **consequence** should be significant enough to warrant investing in, at least to the extent of further investigation.

Evidence is needed to give the investors (Council and Waka Kotahi) some confidence that the problem is real, and that the consequences are significant enough to justify funding a solution. The reason public investments are made is to achieve some form of **benefit**. Our investment proposal must be able to

demonstrate what benefits will be delivered, and how those benefits will contribute to overarching strategic goals and objectives.

Figure 7 Problem Statements

		Problem Statements
1	*Growth*	*A growing network, newly vested infrastructure, increased traffic loading, and increased customer expectations have increased maintenance demand whilst budgets have not increased resulting in a backlog of work.*
2	*Resilience*	*The impacts of storm events have created vulnerability and resilience issues across our network that results in economic and social disruption*
3	*Asset Condition*	*Asset condition is deteriorating, assets are ageing and there is a backlog of renewal programmes, due to a reduction in real renewal investment over time while traffic demand and loading has been increasing.*
5	*Safety*	*A combination of challenging road and roadside environment, driver behaviours and errors which results in a high number of fatal and serious injury crashes.*

The following information investigates further each of the problem statements followed by a breakdown of the consequences that may materialise as a result of not addressing the problem. A summary of existing evidence is provided and the benefits that may be realised through addressing the problem. This information does not present solutions as such, it assists in determining gaps and what the outcomes might look like.

Programme Business Case

3.1 Problem Statement 1: Growth

A growing network, newly vested infrastructure, increased traffic loading, and increased customer expectations have increased maintenance demand whilst budgets have not increased resulting in a backlog of maintenance work.

Why understanding the impacts of Growth is important?

Growth in this context refers to the growth in population of areas that are expanding because of new residential and commercial developments. Areas like Pokeno and Te Kauwhata have experienced a boom in new housing. In the case of Pokeno, the planned housing development has been realised much faster than planned for. The housing shortage and costs in Auckland have driven much of this demand.

Although developer led, Council have facilitated the accelerated development where possible and view it as being the best strategy for the district and the country. The north island housing crisis threatens economic stability and places great strain on the population.

However, there are significant local issues that have developed as a result of this rapid growth. Most notably, new infrastructure requirements and stress on existing infrastructure is Council stretching financial and human resources. These challenges have to be met in order not to unduly restrict growth and to limit the short term costs of it's effects.

These rapid changes increase the demands on the transportation network and have resulted in the addition of extra roads to the network, and additional traffic and pedestrians on the existing network. Capital works will be needed to cater for increased volumes of traffic on the arterial network and the additional roads will affect the maintenance and renewal work programmes.

Our District

The Waikato district covers 418,893ha, a strategically-significant land area between two of the fastest-growing metropolitan centres in New Zealand - Hamilton and Auckland. It is also located in the heart of the 'golden triangle', the economic zone encompassing Auckland, Hamilton and Tauranga, which generates over 50% of New Zealand gross domestic product (GDP) and is home to over 50% of NZ's population. The Waikato River (NZ's longest river) flows through the district and is a critical water body contributing to the biodiversity of the region, provides potable water for the area and neighbouring population centres and has significant cultural value to iwi and hapuu.

The Waikato district boundary extends along the western coast of New Zealand, from Aotea Harbour to Port Waikato, and touches the eastern coastline at the settlement of Miranda on the Hauraki Gulf. The district is also home to large areas of significant indigenous vegetation. The Waikato district contains some of the country's most highly-productive soils, which are key contributors to the country's agricultural and horticultural sectors. The district, therefore, makes a vital contribution to the country's economy in terms of contribution to revenue generation and GDP. Environment is about maintaining and enhancing the natural environment while achieving the best community and economic outcomes. Emphasis should be placed on enhancing indigenous biodiversity and quality soils.

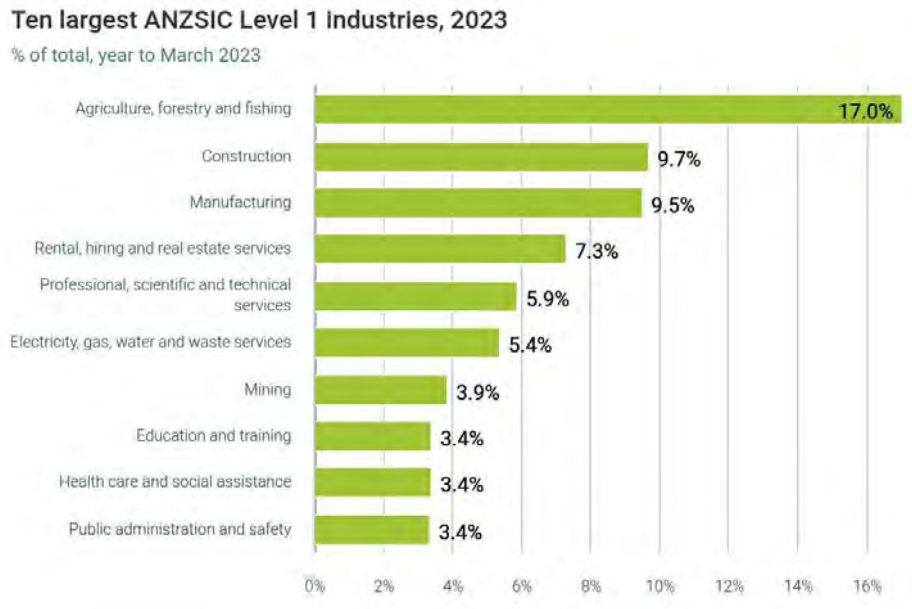
The varied nature of the district's environment supports a diverse range of communities, each with unique identities. The district has a median age of 35.3 years, with a disproportionately high number of people aged under 15 (25.5%), yet only 10% over 65 (however this is expected to change over time). The make-up

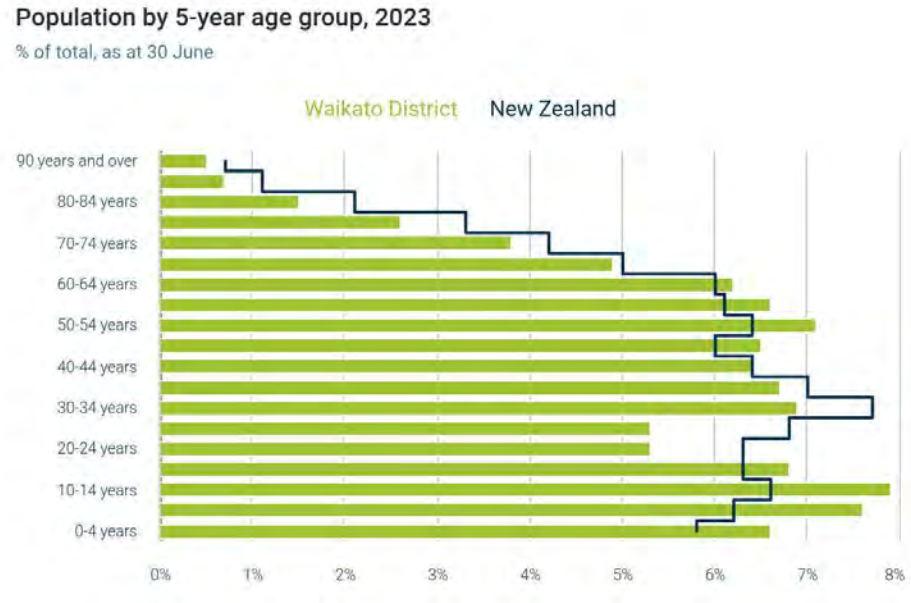
of the district is 69% European, 25.9% Maaori, 2.8% Asian, and 2.4% Pasifika. The district's urban wards have much higher percentages of Maaori than its rural wards.

Our Growth

The Waikato district has been experiencing 3% population growth year-on-year over the past decade. This is higher than both the Auckland and national average growth rates. This is significant in the context of the district, as historically the Waikato district has experienced static, and in some cases declining growth. To support future growth, the Council's Growth and Economic Development strategy sets a development pattern for the district, including identifying specific growth areas and timings (subject to further investigation and feasibility). The expansion of the jurisdictional area has presented challenges for the district. The challenges are compounded by the rural-urban nature of the district, diverse natural and rural environments, mixed socio-economic and population demographics, geographic scale, and its proximity to Auckland and Hamilton metropolitan areas.

Figure 8 Growth Data





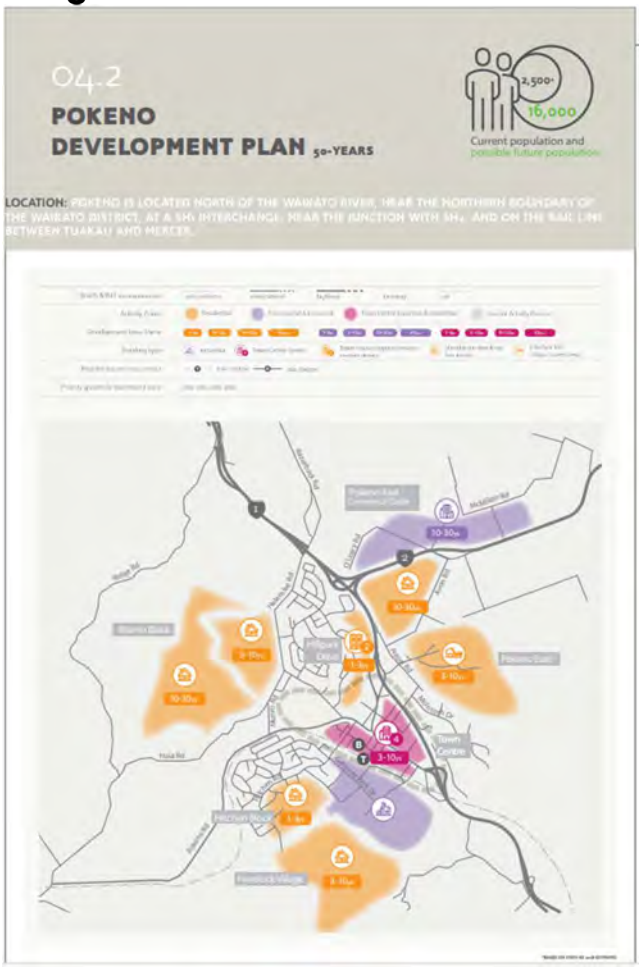
More people in the District means more houses are needed. The increase in demand on the road network varies slightly between growth in population and growth in households. Each household requires access so an increase in number of houses translates directly to an increase in length of road. However increase in population equals an increase in the number of road users and so this translates to an increase in traffic and pedestrian volumes. The new residents will need access to work, education and social services. New businesses will develop to service their needs. All these people and businesses require access to transport to get goods to and from markets, and for people to travel for work education and leisure. Some of this demand can be met by public transport but the largest portion will be provided by motor vehicles. New roads will be needed to service new subdivisions and existing roads may need upgrading to cater for higher volumes of traffic. New local roads are provided by developers and vested in Council. Additionally there will be more demand on the network from construction traffic to service the building of houses and infrastructure.

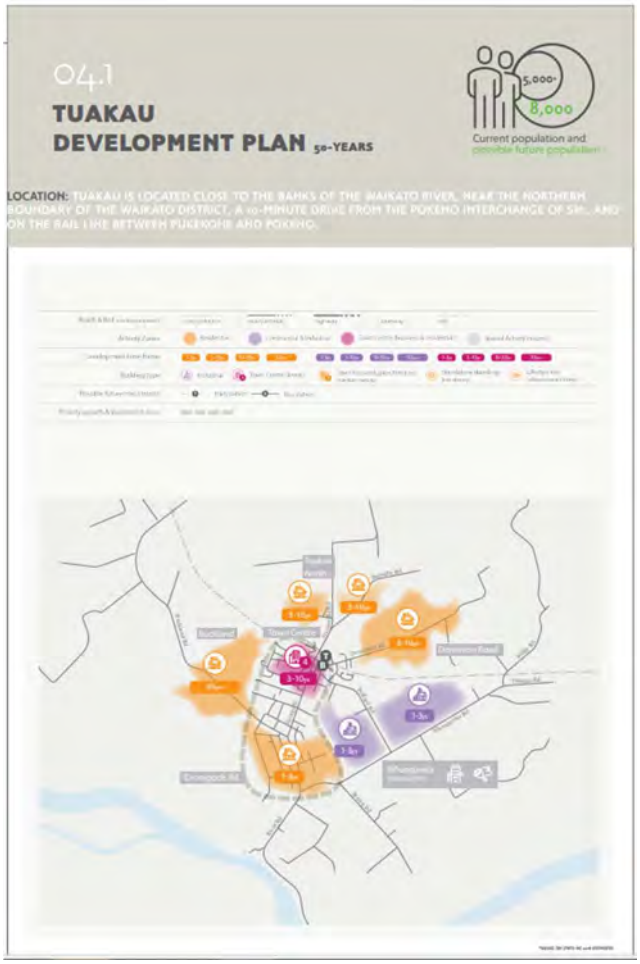
The Auckland Unitary Plan provides for Pukekohe to double in size over the next 30 years, growing from a population of 25,000 to 50,000. It is anticipated that growth in South Auckland will result in some spill-over effects into the Waikato. These include:

- a need to provide for more housing in the northern Waikato;
- greater pressures on rural land for subdivision;
- displacement of horticulture out of Auckland and into northern Waikato which has an impact on our region's natural resources; and
- growth pressures on existing townships, such as Tuakau, Pokeno and Te Kauwhata.

Half of the predicted growth to 2045 will occur in the towns of Pokeno, Tuakau and, to a lesser extent, Te Kauwhata. These towns will increasingly use services and facilities in Pukekohe for shopping, education, health and recreation while Auckland will be a centre for employment. Therefore road connections from Pokeno/Tuakau to Pukekohe and to the Southern Motorway will be very important and will need upgrading to cope with anticipated volumes. As land use intensifies, with the spread of market gardens southwards, it becomes ever more important to protect current and future road corridors so that land is available when needed for road improvements.

Figure 9 Town Population Growth





The other half of predicted growth will occur in small communities in the rural areas. Waerenga, Western Hills, Tamahere-Tauwhare, Te Uku, Kainui and Whatawhata can all expect more than a thousand new residents by 2045. This growth in the rural areas appears to be driven by a combination of “country living”, intensification of land use, and coastal homes. The country living zones to the South and East of Hamilton City have seen considerable growth over the past few years and this will continue.

Network Changes

The completion of the Waikato Expressway will mean a significant length of State Highway being revoked to Waikato. The detail is being worked through between NZTA and Council, however it is expected that by the end of this NLTP period that Great South Road through Huntly to Taupiri will be revoked, a small section of SH26 will be revoked and a significant length of SH1B will be revoked, combined they will add approx. 40km of sealed road to the district network. Changes to the State Highway network has bought additional challenges particularly with detours as a result of expressway works, this has meant heavier traffic volumes on our local road network, particularly Gt South Road though Ngaruawahia and east of the expressway at the Lake Road intersection (Lake Road, Bankier Road).

The Ports of Auckland development at Horotiu has led to an increase in heavy traffic using local roads to access the State Highway network. This development has recently seen the completion of the internal roading network which brings more traffic to the main signalised intersection on Gt South Road. Changes such as these will need to be monitored for efficiency and safety and any impacts from increased loading on the network.

Why is it important to the reader?

Programme Business Case

Our customers have a vital interest in the roads. They perform an essential service as the primary corridor for the movement of people and goods. Customers ultimately pay for the operation and maintenance of the road through their rates and road user levies and taxes. There is an expectation that the roads are safe, efficiently managed and provide the right level of service. The areas of rapid growth are threatening the efficient functioning of the roads. In particular:

1. Growth areas are subject to a much higher than normal level of heavy vehicles (i.e. trucks). Trucks damage the roads to far greater degree than cars because of their higher weight. As a result, roads that were designed for a low level of mostly light traffic and had functioned well for many years, have suddenly failed and either needed intense reactive maintenance to keep them at a safe level of service or needed to be rebuilt completely. Because this work is unplanned, Council is left with a funding gap and has to fund this work by reducing needed work on other parts of the network (and creating a future backlog) in order to divert funds or by raising rates. Ultimately the ratepayer is burdened with this extra cost.
   The following graphs extracted from the WDC dTIMS Analysis Report 2023 confirms that there has been an increase length of network that carries greater than 200 heavy vehicles per day, so more network is being affected by high heavy traffic volumes.

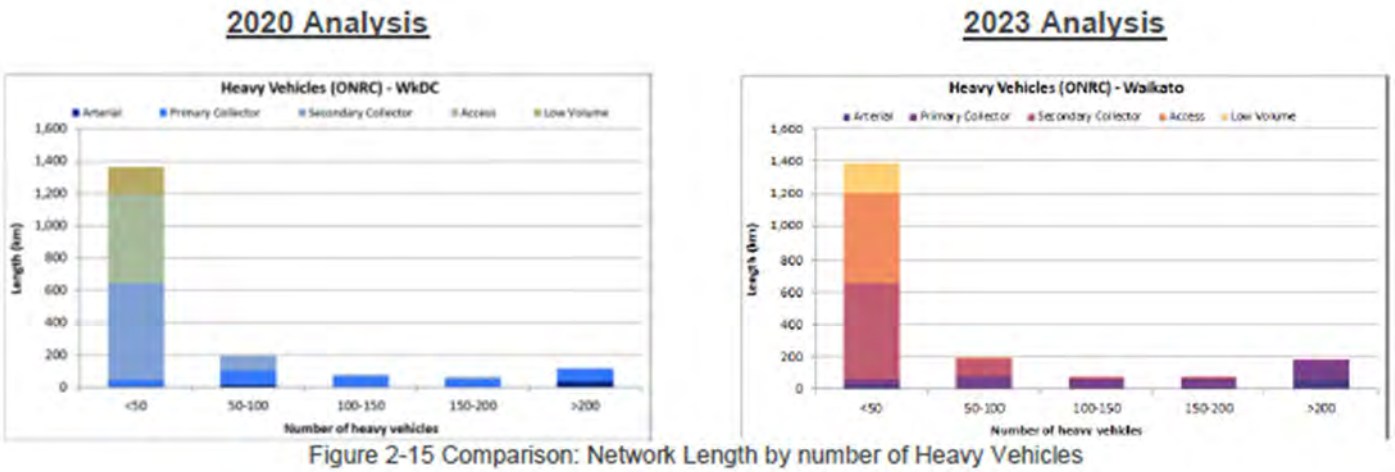


Figure 2-15 Comparison: Network Length by number of Heavy Vehicles

2. Growth areas also require the construction of new roads, either as frontage to new properties or as links to the existing road network. Under certain circumstances, particularly where there is a wider public good, Council is responsible for a share of the cost of a new road.
3. The road corridor also contains services, such as water, wastewater, gas, power and telecommunications. An improvement to these services are also needed as part of new development. Often this entails the installation of pipes or ducts within the road corridor. By it's nature, this construction, despite planning and construction management, often results in the damage to the roads. Eventually these roads may be left in an unserviceable state as a cumulative result of services installation and require complete costly re-construction.
4. Additional infrastructure, such as walking and cycling facilities, also need to be implemented alongside development. Some of these links are outside of the direct development area. An example is linking the new Pokeno residential area to school, parks and the town centre. These links become the responsibility of Council to fund.
5. Council receives a substantially higher level of customer queries in growth areas. These are generally complaints related to construction.
6. There is substantial strain on Council resources to effectively manage the issues that need to be worked through as a result of the unplanned growth. This includes review of developer proposals, integration of development infrastructure with existing Council programmes of work and funding

streams, coordination of external service providers (water, wastewater, power, gas), internal coordination and reactive responses to high levels of customer complaints and remedial work to fix road damage. Often the human resources required are only available through costly external sources, further exacerbating the issue.

Rapid growth has affected our customer experiences on the roads. These effects include:

- traffic congestion if the additional traffic has not been catered for in time, leading to increased journey time and lack of predictability
- substandard levels of service if the road structure is not adequate for the increased loadings, particularly construction traffic or increased industrial traffic
- lack of expected facilities such as footpaths, lighting and kerbing if rural roads are not upgraded as towns expand.
- Safety risks due to more vehicles on the road, increased numbers of intersections which increase potential conflict points
- Environmental effects such as contaminated stormwater runoff from roads, and possible drainage issues as runoff is more concentrated from urban areas.
- Financial impacts as council has to generate more income in order to provide and maintain the necessary infrastructure

If we can manage our response to growth well there will be wider benefits to the region:

- Council will make the right investment decisions for the betterment of its ratepayers and road users;
- benefits from planned development through increased accessibility and mobility and enhancement to the public transport network;
- There will be desired level of service and capacity on the transport network;

What are our Challenges to responding/investing?

Waikato is experiencing fast paced growth in certain areas, most notably the northern areas, such as Pokeno, Tuakau and Te Kauwhata. The growth is much more rapid than expected and this is causing a number of issues on the road network. Most notably, there is an exceptionally high level of reactive maintenance to address in these areas as the roads are being damaged by construction traffic. There are also unplanned transportation effects, whereby previously adequate roads within, and leading to, the new developments no longer meet the required level of service or capacity and require upgrade immediately or in the near future.

Planning for growth begins with the District Plan that designates areas where residential, commercial and industrial activities can occur. This is supported by Structure Plans for individual communities that show planned arterial and collector roads that will provide the required connectivity. The rate at which development occurs in these areas is dictated by private developers who will be influenced by potential demand and economic climate. Although we may know where roads might be needed it is very difficult to know when and therefore how to budget for the construction cost.

The Long Term Plan includes our best estimate of the costs and possible timing but there will inevitably be changes required as we respond to the market. One way to ease the impact and retain some flexibility is to loan fund the capital cost of infrastructure required for growth. This means that repayments are not made until the works are done so timing is less of an issue, and the repayments are funded by increased rate revenue from the developments, ensuring intergenerational equity.

However this does not address the impact on maintenance costs, particularly damage to existing roads during construction. Maintenance programmes should include an element of contingency so that there is an ability to adapt to changing circumstances. But in a constrained financial environment there is not the ability to include contingency on top of a basic programme. Therefore works have to re-prioritise in order to react to the unexpected and some planned works deferred. Often there will be works needed that are supplementary to the development but are not funded by the developer. For example a footpath may be provided within the development, but the connection to the other footpaths may require work beyond which we can require the developer to do. Adjusting an agreed work programme to accommodate these unplanned works can be difficult. Developers are able to submit a private plan change to develop in areas outside of those indicated in the planning documents. The impacts of these changes on the existing road network can be mitigated by conditions imposed but there are inevitably effects beyond the immediate vicinity that cannot be planned for.

As mentioned earlier, Auckland, our northern neighbours, is New Zealand's largest and fastest growing city. The Auckland proposal for southern growth nodes will add significantly to the volume of cross boundary traffic over the next couple of decades.

The road network in the high growth areas (Pokeno in particular) has experienced severe degradation, as a result of the construction activities. This has caused the need for expensive reactive maintenance to occur. Long-term solutions also require that funds that would normally be allocated to the whole of the maintenance of the Waikato District road network be diverted to these areas. This inevitably results in the need for higher levels of funding in order to maintain the level of service of the road network.

Therefore, this has required greater emphasis on the requirement for forward coordinated planning of land use, infrastructure provision and infrastructure investment.

Programme Business Case

3.2 Problem Statement 2 - Resilience

The impacts of storm events have created vulnerability and resilience issues across our network that results in economic and social disruption.

Why is network resilience important?

We are currently facing economic uncertainty stemming from various global issues. The effects of climate change have become more evident and palpable than ever before. At a local level, we are still grappling with the aftermath of Cyclone Gabrielle and other severe weather events that occurred earlier in 2023 and caused more than $18m damage to our infrastructure.

These shifting weather patterns also present a significant source of uncertainty for both the Council and the community. However, we acknowledge the need to enhance our preparedness for such events in the future. Although our disaster recovery fund played a crucial role in responding to Cyclone Gabrielle and other weather-related incidents, it has now been depleted. Therefore, it is vital that we replenish this fund to ensure its availability when needed again. We recognise the importance of keeping the quality and reliability of our services, even in the face of economic and environmental challenges.

Resilience is the capacity to recover quickly from difficulties.

The National Infrastructure Unit defines resilient infrastructure as infrastructure that is able to deal with significant disruption and changing circumstances such as natural hazards and shock events or events which evolve over time such as changing demographics.

For the roading network this means that the network is robust enough to cope with anything other than extreme weather events, that structures are maintained so that there are no catastrophic failures, the public is well informed about incidents and that access is restored promptly when there are unplanned road closures– although this may be at a reduced level of service such as speed restrictions, detours or single lane operation.

If we have to close a road it affects the community. It will have both an economic and a personal impact on all those whose journeys are compromised. If a detour is available, it will involve additional travel cost and time but access is maintained. For No Exit roads there may be no alternative road access available and this will have a severe effect on those who are cut off from the rest of the District. Stock may be unable to be moved on or off farms, supplies unable to be obtained and access to community facilities such as schools, sports, medical will be disrupted. In extreme cases lives may be at risk if medical assistance cannot reach them.

Roads also provide a corridor for utility services. Damage to a road or structure may mean that water, power, gas or telecommunications are also disrupted. Although a detour road may be available, there may be no alternative for the utility. This will increase the urgency for the road to be reinstated.

Unplanned closures also have an operational impact. Unplanned work inevitably costs more than a planned operation and also diverts resources away from scheduled work.

Funding of clean- up costs and permanent repairs is a challenge as these costs are unforeseen and unbudgeted and vary greatly from year to year.

The focus for resilience within this plan will be to:

- Maintain assets so that they are able to withstand, or quickly recover from, high rainfall events without significant damage.

Programme Business Case

- Identify sites or assets that pose a high resilience risk and plan improvement works that reduce the risk.
- Prioritise works so that critical routes or assets can be reinstated first.
- Inspect and maintain structures so that there are no catastrophic failures.
- Identify transportation structures that carry critical utility services and?
- Refine and embed processes for management of incidents
- Provide better funding mechanism for local cost share, such as a contingency fund.

Why is it important to the reader?

Our customers use the roads and need the network to be accessible and operating at an appropriate level of service at all times. Residents and businesses plan their lives and operations on the assumption that roads will be available when they need them, unless they have been prior advised otherwise. If their journeys are delayed customers contribute financially and personally to the cost of loss time.

From our customers' point of view, reliability of road access is a high priority for the road network.

Therefore we must plan and manage the network so that these closures are minimised.

The consequences of not addressing the issues/problems identified include

- the movement of people and goods around the district may be disrupted without warning,
- potential impacts on economic efficiency and increased costs to businesses,
- route resilience declines,
- customer satisfaction could decline (perceived if roads are not reinstated to their original level of service, or that a lower level of service is provided)
- roads could become unsafe if hazards are not removed or isolated promptly,
- Council incurs significant unplanned costs
- Efficiency of planned work is reduced

The benefits of addressing resilience problems include

- Improved customer satisfaction
- Reduced disruption to economic activity
- Reduced maintenance and operations costs associated with reactive maintenance
- Safety hazards are reduced
- Expenditure can be planned
- Operational efficiency is not compromised.

What are our Challenges to responding/investing?

A range of events and emergency situations impact on the transport network and require different responses.

Intense Rainfall and Storms

The most common event is intense rainfall, sometimes up to 150 millimetres within 24 hours. These events are most common in the hill country in the west of the District. This is also the area with the most challenging ground conditions and slips and dropouts are common. Localised flooding does occur, particularly in low lying areas and around rivers. Rivers and streams when in flood can cause rapid erosion of banks and structural foundations such as bridge abutments and put the structures at risk of failure.

These events can cause significant disruption for residents. Although access can usually be restored relatively quickly it is often at a reduced level of service.

Sea Level Rise

It is important that we start planning for future sea level rise.

The Ministry for the Environment recommends that, for timeframes out to 2090-2099, a base value sea level rise of 0.5m relative to the 1980–1999 average is used, along with an assessment of potential consequences from a range of possible higher sea level rise values.

At the very least, all assessments should consider the consequences of a mean sea level rise of at least 0.8m relative to the 1980–1999 average. Under this scenario the following roads are very likely to be affected.

- Tuakau Bridge - Port Waikato Road
- Maunsell Road, Mission Road, Centreway Road, and Cordyline Road all in Port Waikato
- Lorenzen Bay Road, Wallis St, Marine Parade, and Riri Kereopa Memorial Drive in Raglan
- Te Papatapu Road – Aotea Harbour

When opportunities arise these roads could be considered for raising or re-alignment onto higher ground

Structure Failure

Failure of a culvert, bridge, or retaining wall can lead to complete or partial road closure. Repairs can take several months and the impact on road users will be considerable. Failures can be due to events such as vehicle accidents, flooding and scouring, corrosion, or failure of structural members.

Financial Implications

There can be high costs involved with both the immediate response and permanent repairs to roads affected by slips and dropouts. Currently no budgets have been provided for these costs. Immediate response costs are normally absorbed by the maintenance budgets, but this then has a consequent effect on the maintenance programme. Funding of the local share for permanent repairs has been difficult.

Evidence Base

The following information demonstrates our ongoing financial and operational challenge to maintaining the road network in the face of repeat events.

Waikato has succumbed to the effects of large storm events over many years. In January and February 2023 two significant weather events, Auckland Anniversary Storm (circa 27th January) and Cyclone Gabrielle (circa 12th February) struck the Waikato district and heavily impacted the network.

From the two events there were over 500 dispatches, of which 424 have had some level of remediation during the emergency response reinstatements between February and July 2023. Through workshops with Waka Kotahi and WDC, the remaining sites have been grouped into Categories based on their risk profile, scale, and remediation cost/difficulty. A funding application for approx. $18M was approved by NZTA.

Figure 10 Onewhero-Tuakau Bridge Road

Figure 11 Port Waikato – Waikaretu Road

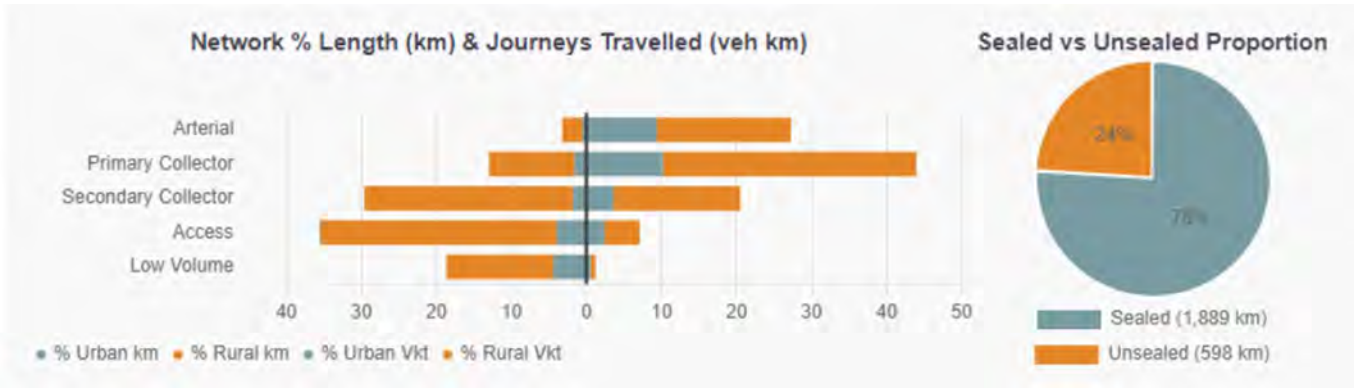
3.3 Problem Statement 3: Asset Condition

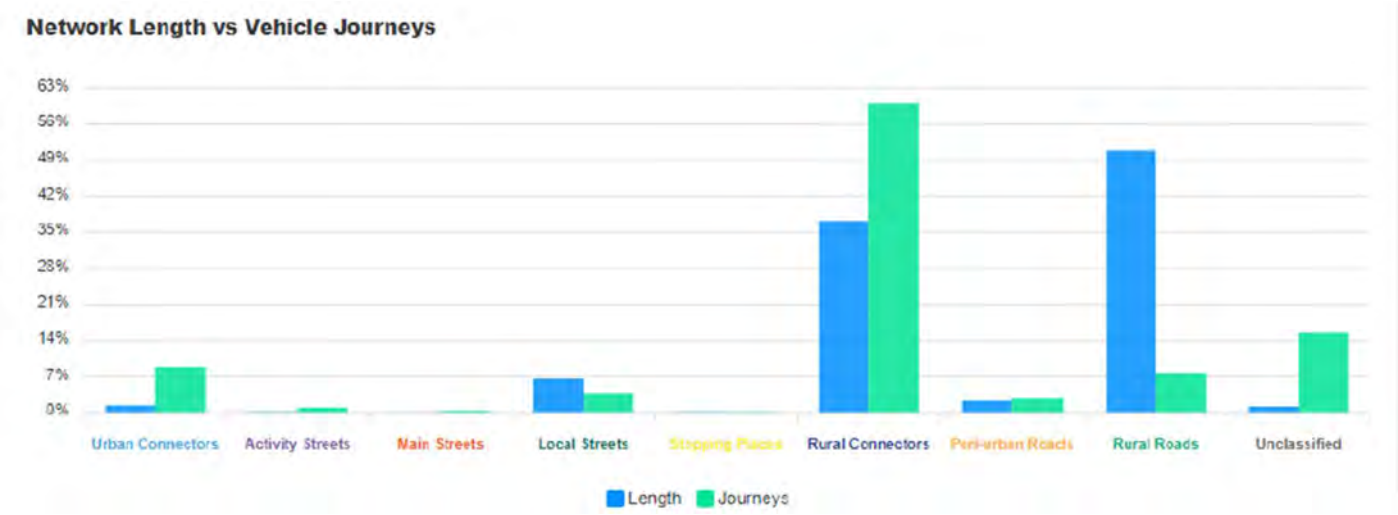
Asset condition is deteriorating, assets are ageing and there is a backlog of renewal programmes, due to a reduction in real renewal investment over time while traffic demand and loading has been increasing.

Why understanding the impacts of deteriorating asset condition is important?

Demand on the transportation network has increased as network length has been steadily growing for the past 5 years and traffic loadings have also been increasing.

Figure 12 ONRC & ONF Metrics for VKT





Source: Te Ringa Maimoa (Transport Insights)

As evidenced above, our rural roads carry the majority of the traffic loads for the district. During this period of growth, the total cost of operations, maintenance and renewals (on a per km basis) has been maintained at the relatively same level or reduced. Continuing the current levels of investment into the future will result in further consumption of the transport assets and increasing maintenance costs for the foreseeable future.

Asset preservation indicators are beginning to show signs that the asset is being consumed (pavements).

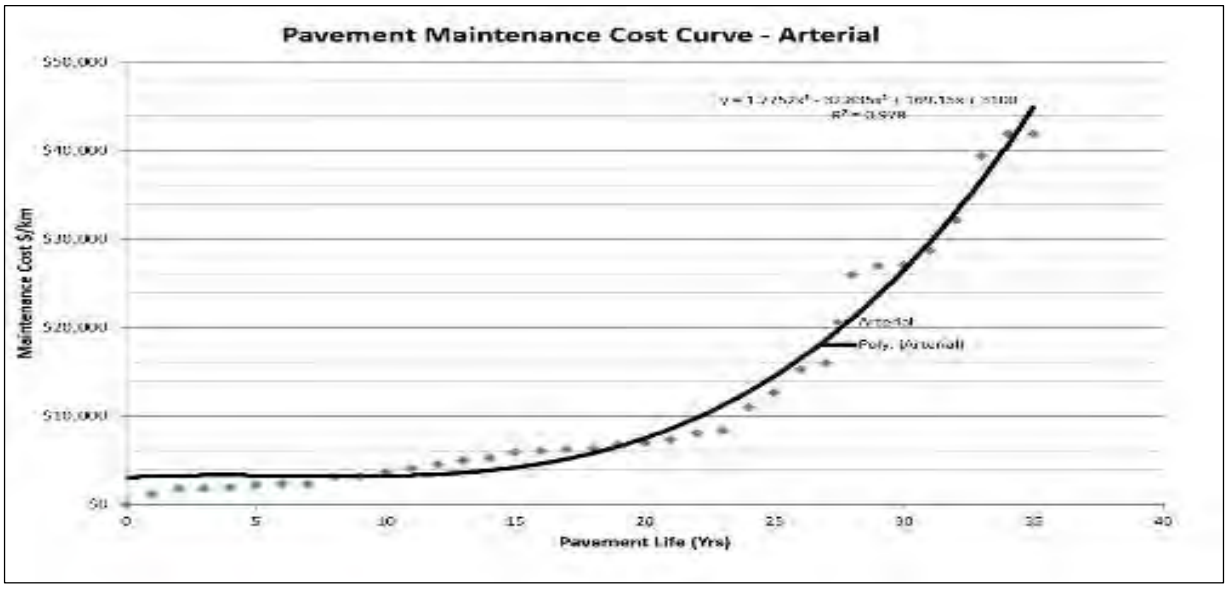
Evidence Base

This chart shows the quantities of new pavement constructed since the 90's and highlights one of the reasons this contributes to the asset deterioration situation. Over the last 10 years alone, the pavement rehabs have reduced from around 20kms a year down to around 6 kms a year. That is a 70% reduction, at

6kms of rehab a year; which is 0.3% of the network annually, that equates to a renewal cycle of 330 yrs. That means we need to get an average of 330 yrs out of all our pavements on our network. This is not sustainable and a reversal needs to happen to ensure ratepayers in future are not burdened with insurmountable rate rises to deal with increasing maintenance needs.

Figure 16 Pavement Rehabilitation Quantities

Figure 13 Maintenance Costs



As a result of the reduced investment in pavement rehabs, the average pavement age has been increasing year on year and it currently is around 28yrs. Whilst this may not sound old, we design roads for 25 yrs and as the pavement gets older, maintenance costs increase as evidenced in the graph above.

The following graphs show the evidence of the increased deterioration of our pavements as a result of those declining renewal quantities. Since 2016 we have been carrying out annual high speed data surveys that measures pavement and surface condition.

The figure overleaf shows our counts of poor and very poor lengths of Roughness through the network. Each count represents 20m of road lane length. You can see that in 2016 that we had around 23,000 poor and very poor counts but has now increased to 30,000.

That represents an increase of 70km over the last 6 years.

The figure overleaf represents our poor and very poor lengths of Rutting and that has increased by 75km over 6 years. These increased lengths are mainly being managed within our low trafficked rural network to assist in managing the risk. However, it is a fair reflection of the increasing backlog that we have on the network.

Figure 14 Roughness 2016 - 2022

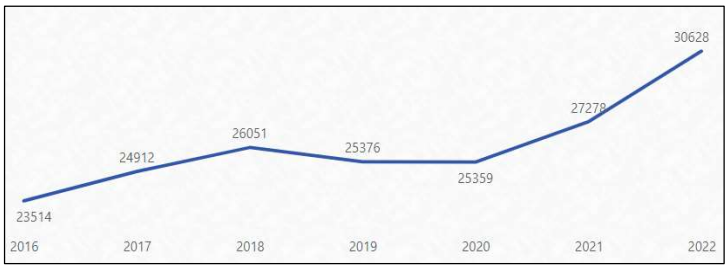
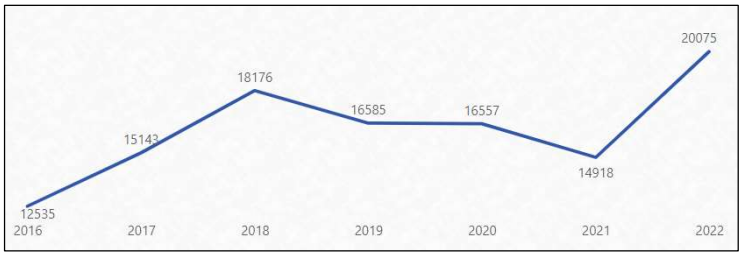


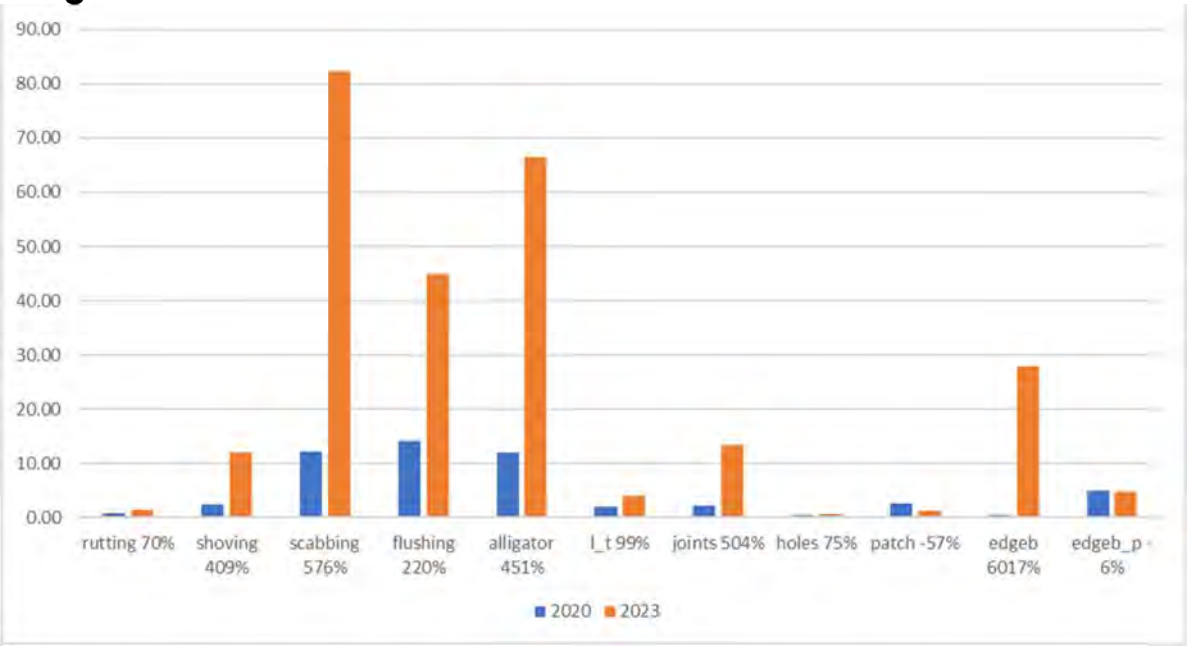
Figure 15 Rutting 2016 - 2022



Road Condition Rating

The condition rating survey, by way of defined faults, records the condition of the road and surface water channels for each treatment length. The Treatment Selection Algorithm (TSA) uses the surveyed condition, to calculate the required treatment for a given section of road. The condition rating survey results provide a snapshot of the carriageway and surface water channel condition, at a given point at the time of the survey.

Figure 16 Faults Comparison per Km



What is evidenced from both charts is the significant increase in faults on our Primary Collector network, whilst 13% of our network length it carries approx. 52% of our VKT. There are a number of contributing factors that give to the rise in faults:

- Reduction over the past 10 years of pavement rehabilitation and resurfacing
- Reduction in maintenance investment (sealed roads, drainage)
- Added erosion of investment overtime by upward inflation
- Growth in VKT
- Heavy vehicles have doubled over the past 5-8 yrs on parts of our network and we have incurred damage from heavy vehicles hauling materials associated with significant construction activities such as the WEX and inland ports (Horotiu) and general housing development (Pookeno, Te Kauwhata, Te Kowhai/Whatawhata)
- Weather events

Figure 17 Faults per km between 2020 & 2023 ONRC

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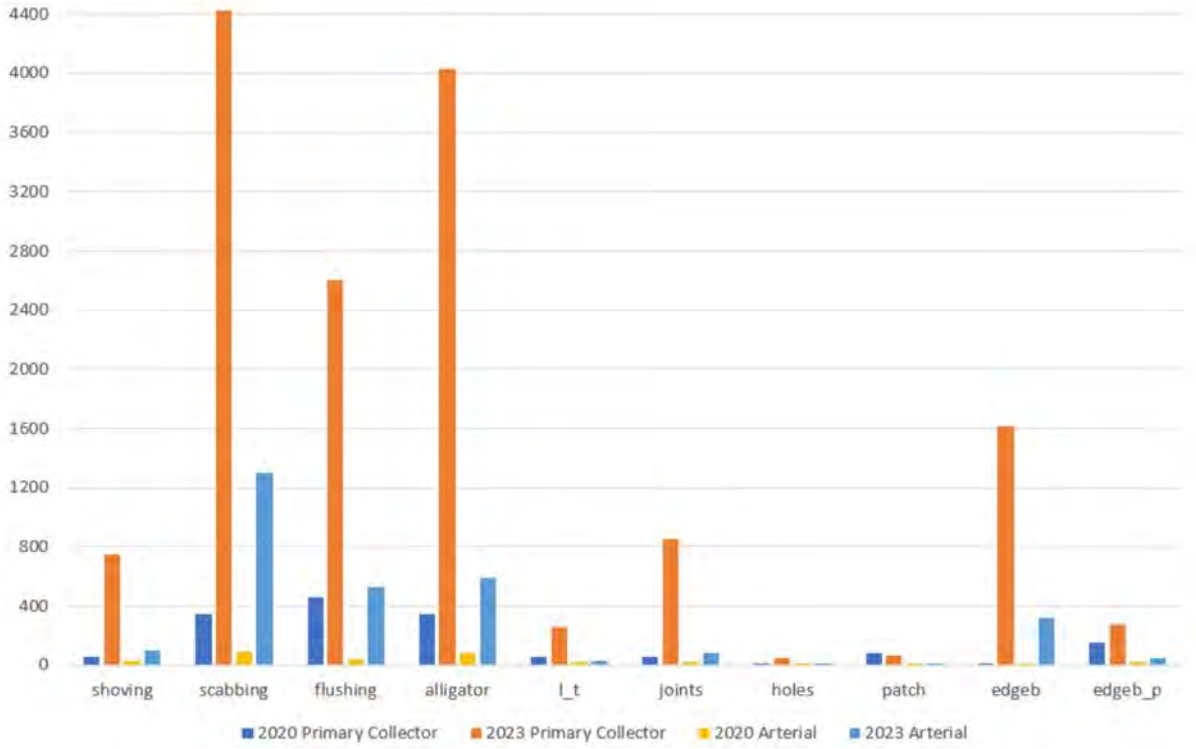

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3.4 Problem Statement 4: Road Safety

A combination of challenging road and roadside environment and driver behaviours and mistakes which results in a high number of fatal and serious injury crashes

Road Safety is a key metric for Council, and we continue to imbed safety into all aspects of road management from planning, design, construction and maintenance. This aligns with the vision of a safe road system increasingly free of death and serious injury and is underpinned by the Safe System approach to managing road safety.

The Safe System approach aims for a more forgiving road system that takes human fallibility and vulnerability into account. Under a Safe System we design the whole transport system to protect people from death and serious injury. When considering the part that Council plays we need to consider the following:

People make mistakes - We need to recognise that people make mistakes and some crashes are inevitable.

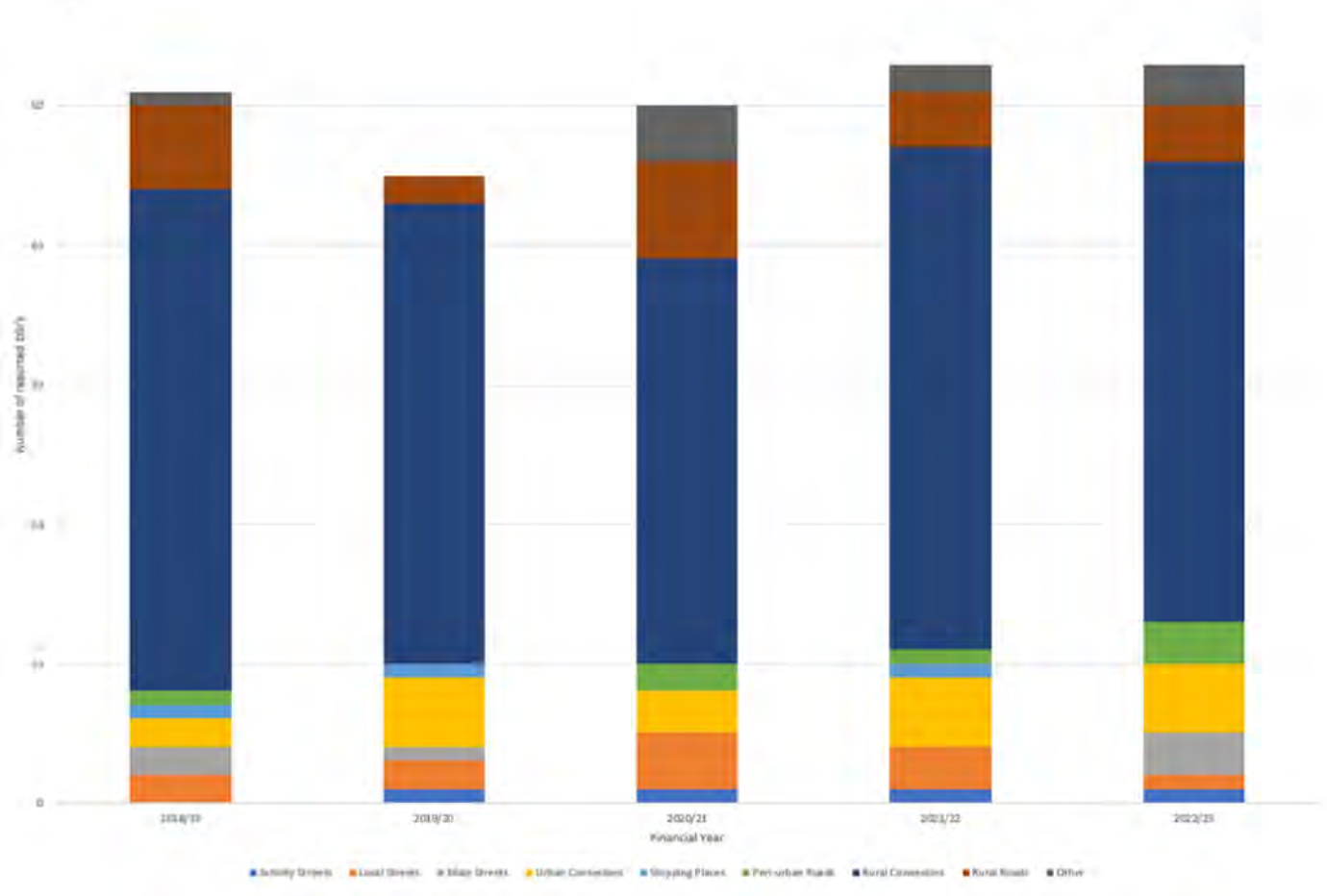
People are vulnerable - Our bodies have a limited ability to withstand crash forces without being seriously injured or killed.

We need to share responsibility - Those who design the road system and those who use the roads must all share responsibility for creating a road system where crash forces don't result in death or serious injury.

We need to strengthen all parts of the system - We need to improve the safety of all parts of the system - roads and roadsides, speeds, vehicles, education and road use - so that if one part fails, other parts will still protect the people involved.

The ONF chart below displays the trends in DSI over the past 5 financial years.

Table 1 DSI Trend



The locations of our DSI crashes continues to be random, with six of the DSI crashes reported in the last financial year occurring on roads that we have haven't had a reported crash on in the last 5 years, a further 13 crashes have occurred on roads that had not had a DSI reported previously. This escalation in severity is of concern and is likely to be related to speed, as this is the primary factor that influences the severity of a crash.

The roads where there have been significant changes in the number of DSI crashes are tabled below.

Road Name	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	Diff*
Rotowaro Rd	2		2			4	2
Waerenga Rd	1	2	1			3	2
George St (Tuakau)			1			2	1
Ohautira Rd	1	2		1	1	2	1
Kaiaua Rd		1	1	2		2	1
Buckland Rd	3	1		1	1	2	1
Tuakau Bridge-Port Waikato Rd	2	2	4	1	2	2	0
Waingaro Rd		4	1		4	2	-1

Tahuna Rd	2	1	3		1	1	-1
Great South Rd (Ngaruawahia)	2	3	1			1	-1

* This is the difference between the 5 year average DSI's and the number of DSI crashes in the 2022/23 year.

Crashes involving pedestrians, cyclists and wheelchair/mobility scooters are tabled below:

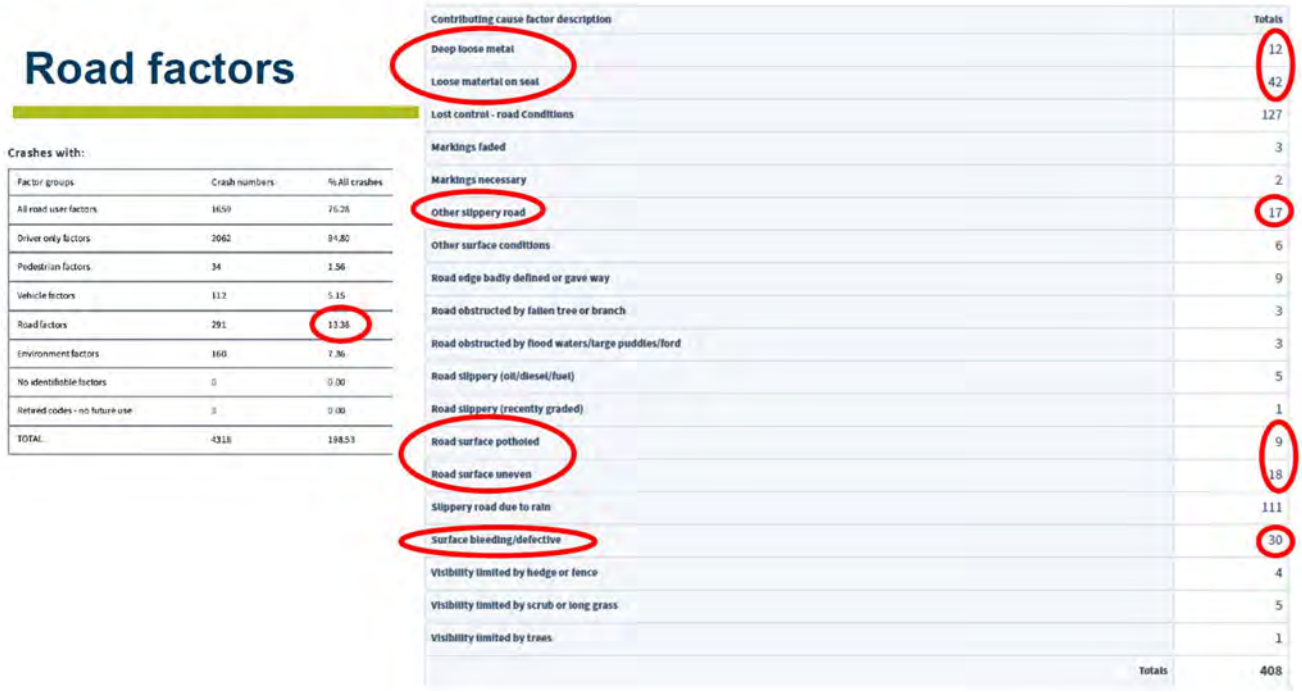
Road user type	**2018/2019**	**2019/2020**	**2020/2021**	**2021/2022**	**2022/2023**
Pedestrian	4	3	6	2	3
Wheeled pedestrian (wheelchairs, mobility scooters	0	0	1	0	1
Cyclist	1	1	1	1	1

The top 10 contributing factors for DSI crashes in Waikato DCfor the five financial year periods to 2022/23 excluding State Highways were as tabled below.

Table 2 Crashes Contributing Factors 5yr to 2022/23

Contributing Factor	**2018/2019**	**2019/2020**	**2020/2021**	**2021/2022**	**2022/2023**
Alcohol	31	38	22	42	33
Poor handling	17	17	9	19	11
Travel Speed	11	14	14	15	12
Poor observation	12	9	18	7	9
Road factors	6	15	7	7	18
Position on Road	6	9	11	10	8
Incorrect lanes or position	7	4	11	11	5
Poor judgement	6	7	7	7	11
Failed to give way or stop	8	3	7	6	8
Miscellaneous factors	6	7	3	5	8

Of concern is the increase in Road Factors contributing to the crash statistics.



Road factors

Crashes with:

Factor groups	Crash numbers	%All crashes
All road user factors	1650	76.26
Driver only factors	2062	94.80
Pedestrian factors	34	1.56
Vehicle factors	112	5.15
Road factors	291	13.38
Environment factors	160	7.36
No identifiable factors	0	0.00
Retired codes - no future use	3	0.00
TOTAL	4318	198.53

Contributing cause factor description	Totals
Deep loose metal	12
Loose material on seal	42
Lost control - road Conditions	127
Markings faded	3
Markings necessary	2
Other slippery road	17
Other surface conditions	6
Road edge badly defined or gave way	9
Road obstructed by fallen tree or branch	3
Road obstructed by flood waters/large puddles/ford	3
Road slippery (oil/diesel/fuel)	5
Road slippery (recently graded)	1
Road surface potholed	9
Road surface uneven	18
Slippery road due to rain	111
Surface bleeding/defective	30
Visibility limited by hedge or fence	4
Visibility limited by scrub or long grass	5
Visibility limited by trees	1
Totals	408

3.5 Investment Priorities - Growth

What is our response?

- **Proactive management of the infrastructure maintenance and development in growth areas.** The greatest challenge with responding to the pressures of growth is the reactive nature of much of the work that needs to be undertaken. There are substantial gains to be made in coordinating our maintenance and renewal programme with the work being undertaken in the growth areas. Understanding the traffic loading that an area or road will be subjected to during and after construction helps us to make an informed decision as to whether routine maintenances or early pavement strengthening is the best road management option. Informing our customers of upcoming works helps to mitigate the volume of customer queries.
- **Integration of development works with maintenance activities.** Where the opportunities arise Council will enter into a formal arrangement with developers to share the cost of a road upgrade. This ensures that work undertaken on that section of road is done once at a much lower cost than if the site was re-visited to undertake similar work on additional sections. *E.g. Dean Road Pokeno, Wayside Road, Te Kauwhata.*
- **Timing of maintenance activities.** Council will defer maintenance activities or road upgrades, where heavy construction activity is underway or where new upgrades due to development access is required. This ensures that newly constructed pavements are built to the required standard and are not damaged by heavy vehicles. *E.g. Munro Road, Pokeno.*
- **Planning and management of services installation.** As part of the road corridor management function, new services installation are designed with a consideration of minimising damage to existing infrastructure, other existing services locations, space for future infrastructure needs and good quality remedial works,

How does this inform our future funding?

The issues identified help the council to focus its efforts and budget to prioritise forward work. This also identifies risks that could impact on the deliverables within the plan including economic

conditions, increased number of Council managed roads, dependence on other stakeholders. This is done in the form of:

- Understanding the current backlog and identifying the ones that need urgent attention and addressing it through a programme. Along with the on-going improvements, there are backlogs (renewals) that need to be undertaken. This puts huge pressure on the council in terms of delivery.
- Understanding where accelerated growth is and need to deal with associated resilience issues.
- Quick wins vs long term (higher cost) solutions.
- Building a programme of works that is targeted towards specific problems.
- The management practices discussed here that can bring about these positive gains require resources. We are under resourced to undertake this level of planning for growth. It requires constant attention due to the volume of coordination required and the rapidly changing nature of development applications.

3.6 Investment Priorities - Resilience

What is our response?

The Regional Land Transport Plan (RLTP) Key Short Term Priorities include “Ensuring Route security and resilience”. “RCAs are specifically tasked under implementation measure M48 to continue to advance route security projects, particularly on strategic corridors. Maintaining key lifeline roading assets and planning for the anticipated effects of system resilience issues, is a key priority for the region”.

This will require us to move beyond responding to incidents and events as they occur, and to actively identify potential risks and take measures to reduce the likelihood of an incident.

Waikato District Council has undertaken work in the recent years to understand resilience issues on its road network. The response to issues occurs on different levels depending on the nature.

Incident Management

Council has developed an Incident Management process using the same protocols as Emergency Management but scaled to the size and type of incident. This process allows operational teams to focus on traffic management and restoration of access whilst communications and forward planning are undertaken by other teams. This process is particularly valuable when responding to accidents and weather incidents. By keeping the public informed the impacts of road closures can be reduced.

Climate Change

Intense Rainfall is more predictable in that the likelihood of it occurring is fairly high and advance warning is usually provided by weather forecasters. Therefore some measures can be taken to attempt to reduce the impact.

Sea Level Rise should be monitored and those roads known to be at risk of inundation protected by either raising the levels or re-locating them onto higher ground as opportunities arise.

Landslips

There are a large number of sites in the District that have been unstable in the past and continue to be a risk. Due to the nature of the terrain and subsoil, long-term repairs are likely to be prohibitively costly for many of these. Therefore a system of identifying the most critical sites that can be cost effectively mitigated needs to be developed and then a programme for the re-mediation developed. Unfortunately the need to react to failures uses most of the funds for this work leaving little or nothing for proactive mitigation works.

At known sites of land instability drainage should receive particular attention to ensure that surface water is controlled and does not infiltrate into the subsurface and aggravate the instability.

Flooding

Potential flooding can be mitigated at several different levels

1. When heavy rain is forecast known trouble spots at risk of flooding can be inspected and drainage structures such as catchpit grates and culvert entrances cleared.
2. All culverts should be regularly inspected, inlet and outlets cleared and damage or faults logged for remedial work. These inspections also mitigate against the risk of a culvert failure causing a road closure
3. Waterways at bridge sites need to clear of debris that may accumulate at piers

Drainage

An enhanced drainage maintenance programme has been requested to address a large backlog of drainage issues. If approved this programme will provide additional resource so that the condition of side drains and culverts can improved. As well as extending pavement life, this will gradually improve the stability of slip prone areas and reduce the incidence of flooding.

Utility Failures

The road network provides a corridor for a number of network utilities. Water, power, gas and telecoms are all located in parts of the road. Failure of a network utility, such as a burst watermain or collapse of an overhead High Voltage power cable could cause a road closure until repairs can be undertaken and the road made safe again. Whilst repair of the failure is not a transport activity it does impact on our customers.

Unplanned Events

A serious, multiple vehicles or hazardous road crash could close a major arterial for a considerable period of time, particularly if essential infrastructure, such as a bridge, was affected.

A fire adjacent to a road may cause a hazard necessitating closure of the road. This is more likely in the peat areas in the East of the District where peat fires can cause a lot of smoke and last for several days.

A major derailment on the North Island Main Trunk (NIMT) or East Coast Main Trunk (ECMT) railways would close this essential network for some time requiring the transport of freight on the road network. This could equate to around 100 extra trucks per train cancellation. This is unlikely to lead to road closures but the additional traffic could cause congestion and require increased maintenance.

An example of this is the closure of the level crossing at Telephone Road (SH1B). This has meant that traffic is now detoured onto the local road network, Seddon Road, Waverley Road and Holland Road are now subject to greater levels of traffic which increases maintenance and renewal requirements.

The newly constructed expressway (WEX) has incurred post construction issues which has necessitated ongoing, lengthy repairs. Traffic is regularly diverted onto local roads to accommodate these works. Again additional traffic loading increases deterioration and brings additional unplanned costs to Council as a result.

A serious major earthquake or volcanic activity can cause problems on the network in particular bridges and other structures. In event of a major earthquake our maintenance crew and consultant team who are on standby contacts will be there to inspect as soon as it is practicable and safe to visit the site. The maintenance contractor can action any short term needs such as rerouting traffic and closing off sites. We

have identified lifeline/critical bridges including all bridges over Waikato river. These are included in Council's insurance policy.

How does this inform our future funding?

Currently the response to minor incidents such as flooding and slips is funded from within maintenance budgets. For more major events funding is sought from the NZTA emergency works funding category, but Council still has to find the local share. This can put a strain on other budgets across the whole of Council.

Permanent repairs related to Cyclones Hale and Gabrielle are still outstanding, however programmed to be completed in 2024/25. Funding of such unexpected events creates considerable problems for Council, more so given the extent of damage from these events. Considerable effort has gone into identifying resilience treatments alongside routine maintenance and renewals treatments to continue to strengthen the ability of our assets to withstand during times of duress.

Resilience of the network is a historic and increasing problem on the Waikato District road network, as a result of:

- Underlying structure of the roads is poor quality - SH22 is built on a ridgeline, it has been constructed on a low quality base and is now seeing resilience issues as a result. This is common around the district. Additionally, Franklin network was inherited with a lower level of service (LoS) than Waikato roads and the ability to fund the cost of increasing the LoS remains an issue.
- Unsealed network degradation - overtime there has not been enough funding to replace metal and maintain the shape of the unsealed roads - poor form, clay near the top. Poor drainage, retaining walls failing.
- Quantum of resilience issues - a large number of roads are nearing end of life, and much of the road drainage network is no longer sufficient to cope with the increasing intensity of rainfall events.
- Road and drainage networks were built quickly and designed to cater for the needs of the day - these designs are no longer sufficient to cope with current traffic needs.
- Council ability to fund is limited to maintaining the network, the ability to increase the resilience of the network requires more than maintenance – there needs to be a focussed investment to systematically upgrade aging assets.

Initial funding was made available through the Department of Internal Affairs, against which a complete assessment of the network was undertaken, identifying 257 sites summarised as follows:

	Count	$ Value	# High Risk (Network Resilience >19, Lifeline Impact >14)	$Value of High Risk Sites
Total number of sites unfunded:	**257**	**$ 19,262,500.00**		
Number of sites with no alternate route	23	$ 1,122,500.00		
Number of sites with >40% of lane affected	12	$ 2,030,000.00		
Number of sites at M-H risk of further failure	137	$ 14,045,000.00		
Value of work in North West Area	29	$ 3,045,000.00	11	$ 1,895,000.00
Value of work in North East Area	12	$ 722,500.00	-	$ -
Value of work in South West Area	213	$ 15,075,000.00	47	$ 4,745,000.00
Value of work in South East Area	3	$ 420,000.00	-	$ -
		Total	58	$ 6,640,000.00

The high priority sites are identified in the google map overleaf.

Figure 18 Resilience Slip Sites

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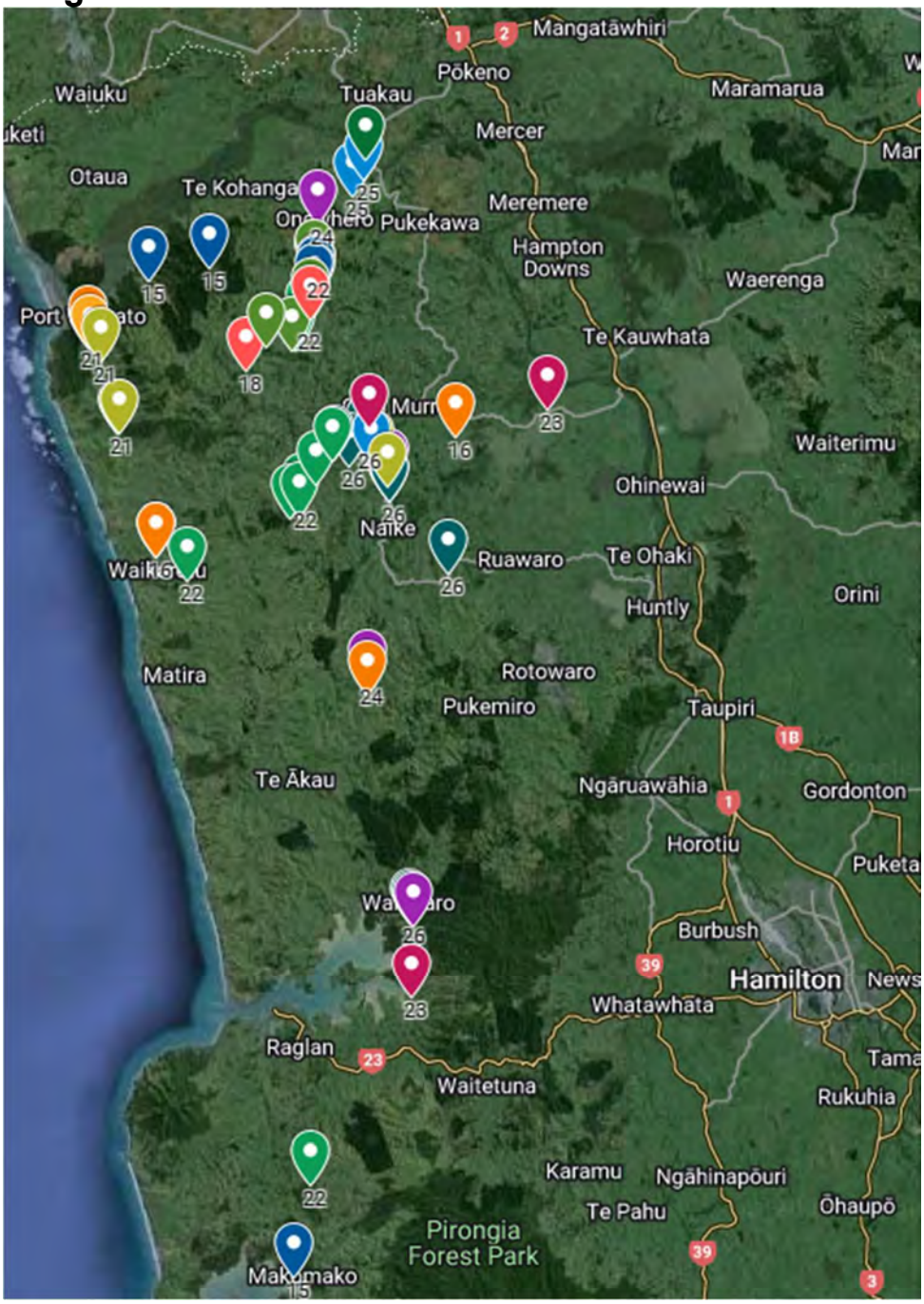


Council included for resilience funding in its 2024 – 27 LCLR application to NZTA. Subsequent to this, Council has received confirmation for funding of a limited amount of sites to the value of $3.6M through the Crown Resilience Programme.

Wairamarama-Onewhero Road Retaining Walls	Under/over slips	$350,000	$266,000
Waikaretu Valley Road Retaining Walls	Under/over slips	$180,000	$137,000
Onewhero-Tuakau Bridge Road Retaining Walls	Under/over slips	$1,000,000	$760,000

Highway 22 Resilience and Retaining Improvements	Under/over slips	$2,200,000	$1,672,000
Waikato district small retaining wall risks (7 sites)	Under/over slips	$740,000	$562,000
Otaua Road 10 Bridge - Embankment retaining	Under/over slips	$350,000	$266,000
			$4,820,000

3.7 Investment Priorities – Asset Condition

What is our response

The District's ratepayers vary in their profiles, background and ability to pay. For example, while some ratepayers may be considered more affluent, there are also significant elements of socio-economic deprivation. This, coupled with an older and ageing population, can create significant affordability issues. The issue of affordability presents constraints for the on-going provision of cost-effective infrastructure services. Projects have had to be prioritised, and in some cases deferred. Throughout this process of evaluation, more weight has been given to Council's core infrastructure and associated services and to critical assets. There is potential for this prioritisation and budget constraint to increase risks to the delivery of services or require unbudgeted expenditure. Prioritisation and management of risk will continue to be a focus throughout the delivery of Council's activities.

There is no getting away from the need to lift the level of investment across maintenance and renewals into our network. This will need a long term approach of gradual investment over successive LTPs.

Asset condition is monitored through a focus on ensuring quality data capture to inform planning and programming of all maintenance and renewal activities. The ThinkProject RAMM database is utilised for capture of all data and all contracts for maintenance of the asset have access to enter information as planning and delivery of works are undertaken. Currently the WDA manage this database, and have a Data Quality Plan documenting how they will manage the data. The new maintenance contracts will similarly be required to monitor and ensure the quality of the data, and for these measure and value contracts the RAMM data will be used to document their progress claims each month.

The Asset Valuation assessment also provides council with confirmation of the Confidence of data, with the 2024 report indicating an overall confidence rating of B as per the table below:

3.10 CONFIDENCE GRADING

Confidence grading has been assigned to the source data, unit cost rates and to other items as appropriate. The confidence grades range from A (Highly reliable) through to E (Unknown) and are further explained below. Data from the RAMM database was generally considered to have a weighted average rating of B to C.

The confidence ratings used are summarised in Table 3-1.

Table 3-1: Confidence Grade

Grade	Label	Description	Accuracy
A	Highly Reliable	Data based on sound records, procedures, investigation, and analysis which is properly documented and recognised as the best method of assessment.	± 5-10%
B	Reliable	Data based on sound records, procedures, investigation and analysis which is properly documented but has minor short comings, for example, the data is old, some documentation is missing, and reliance is placed on unconfirmed reports or some extrapolation.	± 10-15%
C	Uncertain	Data based on sound records, procedures, investigation, and analysis which is incomplete or unsupported, or extrapolation from a limited sample for which grade A or B data is available.	± 15-25%
D	Very Uncertain	Data based on unconfirmed verbal reports and/or cursory inspection and analysis.	± 25-40%
E	Unknown	Based on a best guess from an experienced person.	± 50-60%

Our judgement of the overall accuracy of the data used in this valuation is B-C (± 15%) tabulated below.

Table 3-2: Confidence Grading for Roading Assets

	Confidence Grading					
	ORC			ORDC		
Asset	Quantity	Unit Cost	Value	Life	Remaining Life	Value
Pavement Surface	A	B	B	B	A	A-B
Pavement Basecourse	B	B	B	B	B	B
Pavement Sub-base	B	C	C	-	-	B-C
Pavement Subgrade	B	B	B	-	-	B
Bridges and Large Culverts	B	B-C	B	A	A	A-B
Drainage	B	B	B	B-C	B-C	B-C
Footpaths	A	B	B	B-C	B-C	B-C
Railings	A	B	B	C	C	C
Retaining Walls	A	B	B	C	C	C
Signs	B	B	B	B	B-C	B-C
Street Lighting	B	B	B	B	B-C	B-C
Surface Water Channel	B	B	B	C	B	B-C
Overall						B

Extract from the WDC Roading Asset Valuation 2024 report.

Deterioration modelling of the pavement and surfacing is carried out every three years to understand the trends in pavement deterioration and inform investment programmes. The dTIMS modelling report is sourced through RATA through a shared contract that all Waikato councils can join, RATA also manages the pavement strength data collection necessary to inform the dTIMS modelling. The latest dTIMS report from 2023 indicates as follows that the condition of the pavement and surfacing is currently reasonable compared with other districts, however this condition is showing signs of deterioration and the average age of the pavement and surfacing is increasing at a rate that will make it difficult to manage in the future.

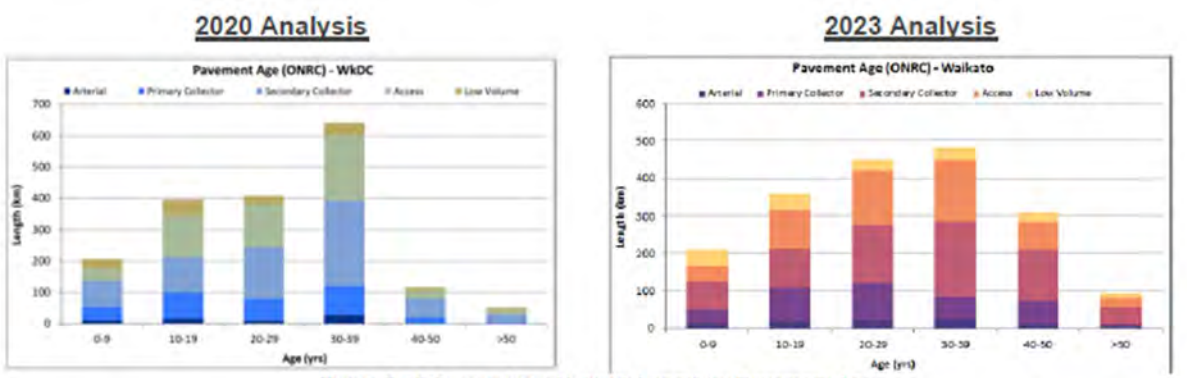


Figure 2-16 Comparison: Network Length by Pavement Age

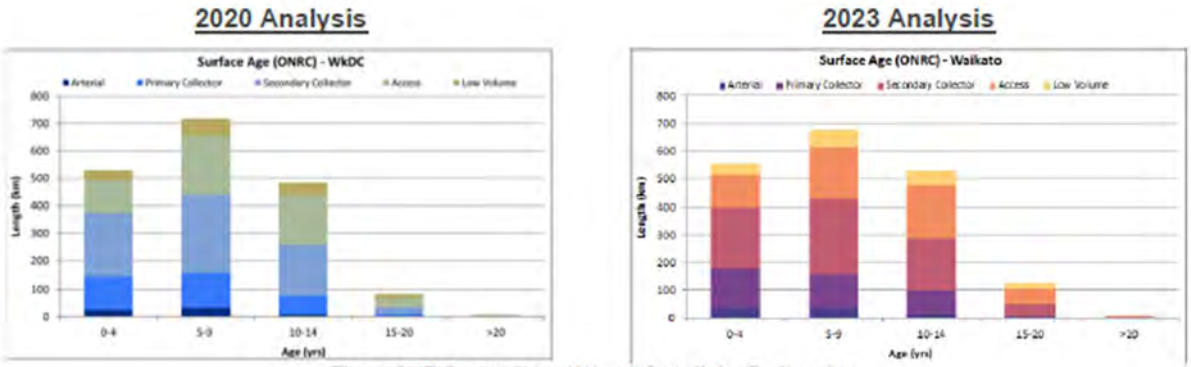


Figure 2-17 Comparison: Network Length by Surface Age

The report indicates there has been no increase on cracking, poor texture or flushing, all of which are key indicators of condition of surfacing.

- The length of network with less than 1mm of mean texture depth has not changed since 2020 indicating surface texture not being a major issue on the network.
- The length of the network with greater than 8% flushing has not notably increased since 2020.

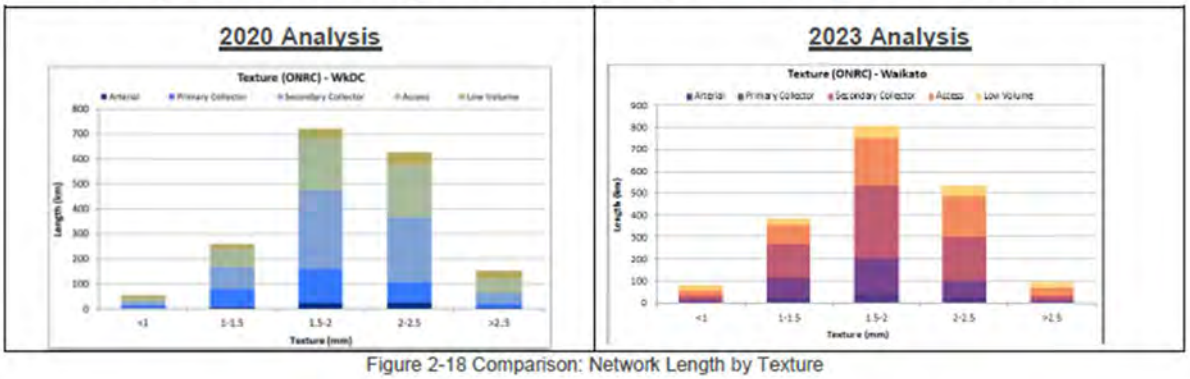


Figure 2-18 Comparison: Network Length by Texture

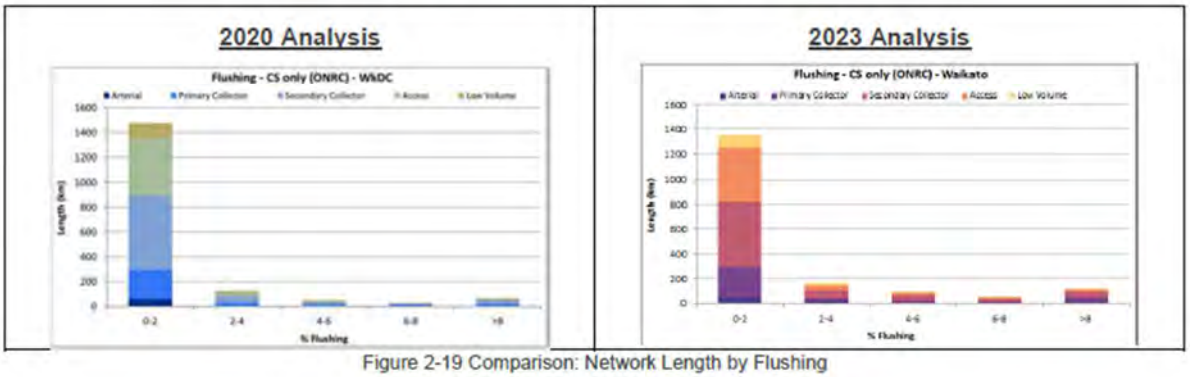


Figure 2-19 Comparison: Network Length by Flushing

Gradual increase in roughness and rutting, but at a very slow rate.

While this is a positive sign that maintenance has achieved appropriate levels of service, the problem statements indicate that the investment required to keep the assets at this level is increasing faster that is affordable. While maintenance is the priority, the condition of the asset will decline if levels of renewal are not increased from the current trend shown below.

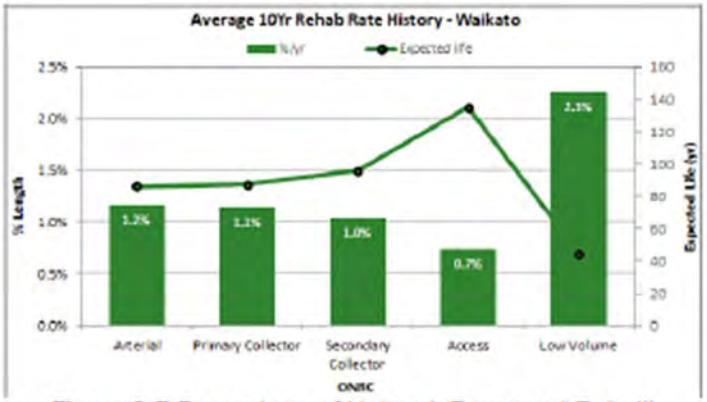


Figure 2-7 Percentage of Network Pavement Rebuilt

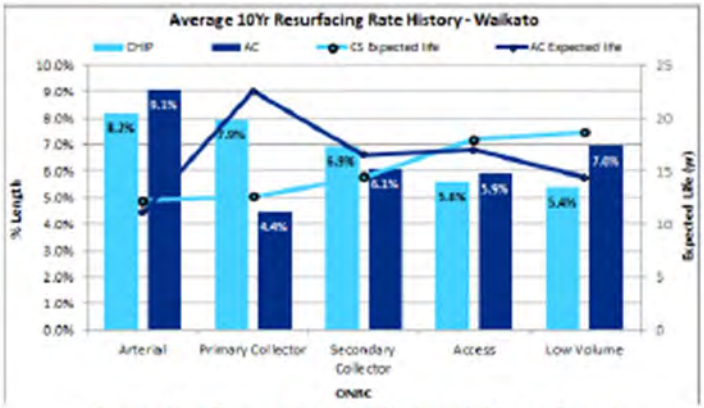


Figure 2-8 Percentage of Network Resurfaced

The dTIMS report notes that with the current pavement renewal rates of less than 1% per year, percentage of network with high number of seal layers will increase, increasing the risk of seal instability.

Programme Business Case

3.8 Investment Priorities - Road Safety Delivery

During the last LTP period we have delivered a number of Road to Zero projects, with significant sections of our rural connector road being targeted for improvement. These improvements included signage and roadmarking upgrades and barrier treatments as appropriate. Examples are provided as follows:

Gordonton Road – roadmarking and barrier treatments

District Wide Schools

A district wide programme of speed management around schools has been rolled out with lower speed limits, signage (permanent and electronic) and roadmarking to create a standardised threshold treatment for all schools. This provides a consistent message to drivers by highlighting the locations of the schools and also reiterates the behaviours expected of drivers during the start and end of the school day.

Speed Management Plan

Programme Business Case

Council is developing a 10-year speed management plan for the district and includes rationalisation of speed limits alignment of user expectations with the topographical constraints and/or community expectations of behaviour. Consideration of future growth areas has also been included to enable speed limits to be set at an early stage providing alignment for Council, developers and communities and avoid the necessity to retrofit speed limits in growth areas. Future improvements to roads to support changes in speed limits if and when required have also been identified to assist with programme development. Changes to speed limits will be on-going as growth in the district continues and new roads are added to the network or changes of use require speed limits to be adjusted.

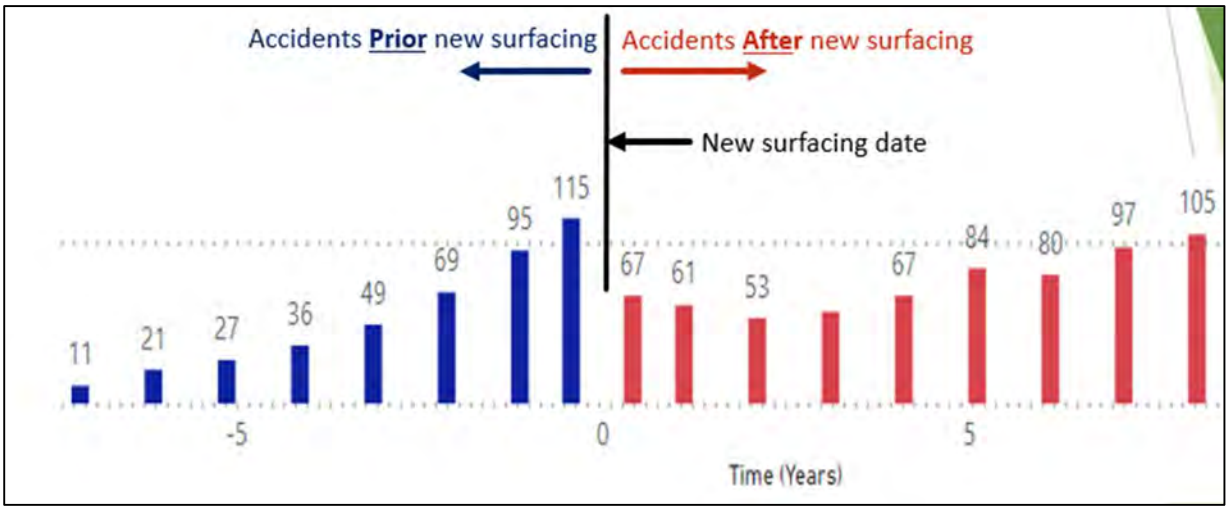
The intention is for the plan to be reviewed every 3 years in alignment with the Long Term Plan funding cycle to provide alignment with funding opportunities. The plan will also be reviewed when significant changes in development or funding occur necessitating a change to the implementation plan.

It should be noted that Council has been receiving an increasing number of requests for speed humps to address the communities concern with vehicle speeds. The GPS has indicated that this type of speed management will not be funded and as such will either need to invest in alternative forms of speed management and/or fund these types of treatments without government support.

Emerging Issues

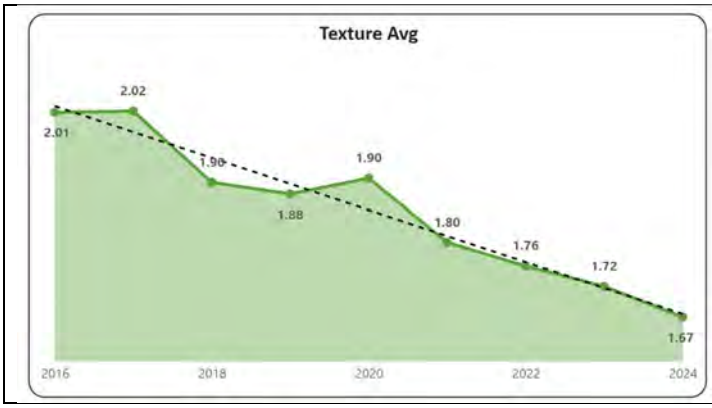
Loss of control on bends and straight roads continues to be the districts largest crash type. This type of crash can be attributed to a number of factors, one of which is the road surface. Testing across the network has identified that there is a texture issue and a backlog in SCRIM sites that require resurfacing which is likely to be contributing to this crash rate. The installation of barriers can assist with reducing the severity of a crash by stopping vehicles colliding with other hazards, however it does not address the factor contributing to the crash.

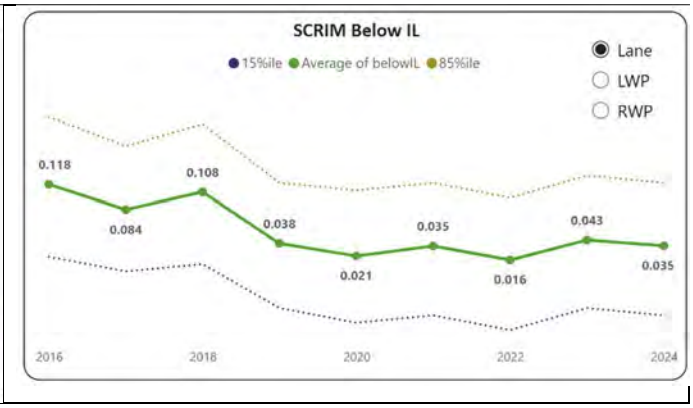
Figure 19 Relationship between Vehicle Accidents& Aging Surfacing



This chart shows the relationship between vehicle accidents in wet conditions and the increasing surface age on our roading network.

The blue columns represent the quantity of the wet road accidents that have occurred in the years leading up to a new surfacing, with the black vertical line representing the timing of a new surfacing, and the red columns show the number of accidents that have happened each year after a new surfacing was constructed. Once a new surface is applied, the accident rate in wet conditions, effectively drops by close to 50%.





Road Safety Promotion

Waikato District Council participates in regional road safety promotion activities in partnership with other road controlling authorities. This is undertaken through NZTA work category 432 which provides for safety promotion, education and advertising activities that promote the safe use of the land transport network through education, advertising, awareness raising and by public information to users of the transport network.

Safety promotion, education and advertising activities have the following objectives:

- advancing the priorities and initiatives identified in the Safer Journeys Strategy action plan
- achieving safer outcomes by working with communities to identify and address local land transport safety issues
- developing and motivating national, regional and local land transport safety partnerships to ensure an integrated approach to safety outcomes

Our coordinator puts in place programmes focused on key road safety messaging consistent with regional direction, specifically youth driving, fatigue, speed, restraints, cycle training and awareness, motor cycle training and awareness. Waikato works with its neighbouring Councils at Hamilton and Waipa to deliver important community programmes in conjunction with specialist organisations. An example of this is the Holden Young Driver Programme which provides day long training to young drivers that includes vehicle safety, distractions, sober driving/peer pressure, understanding speed and also driving skills (one on one).

Programme Business Case

Programme Business Case

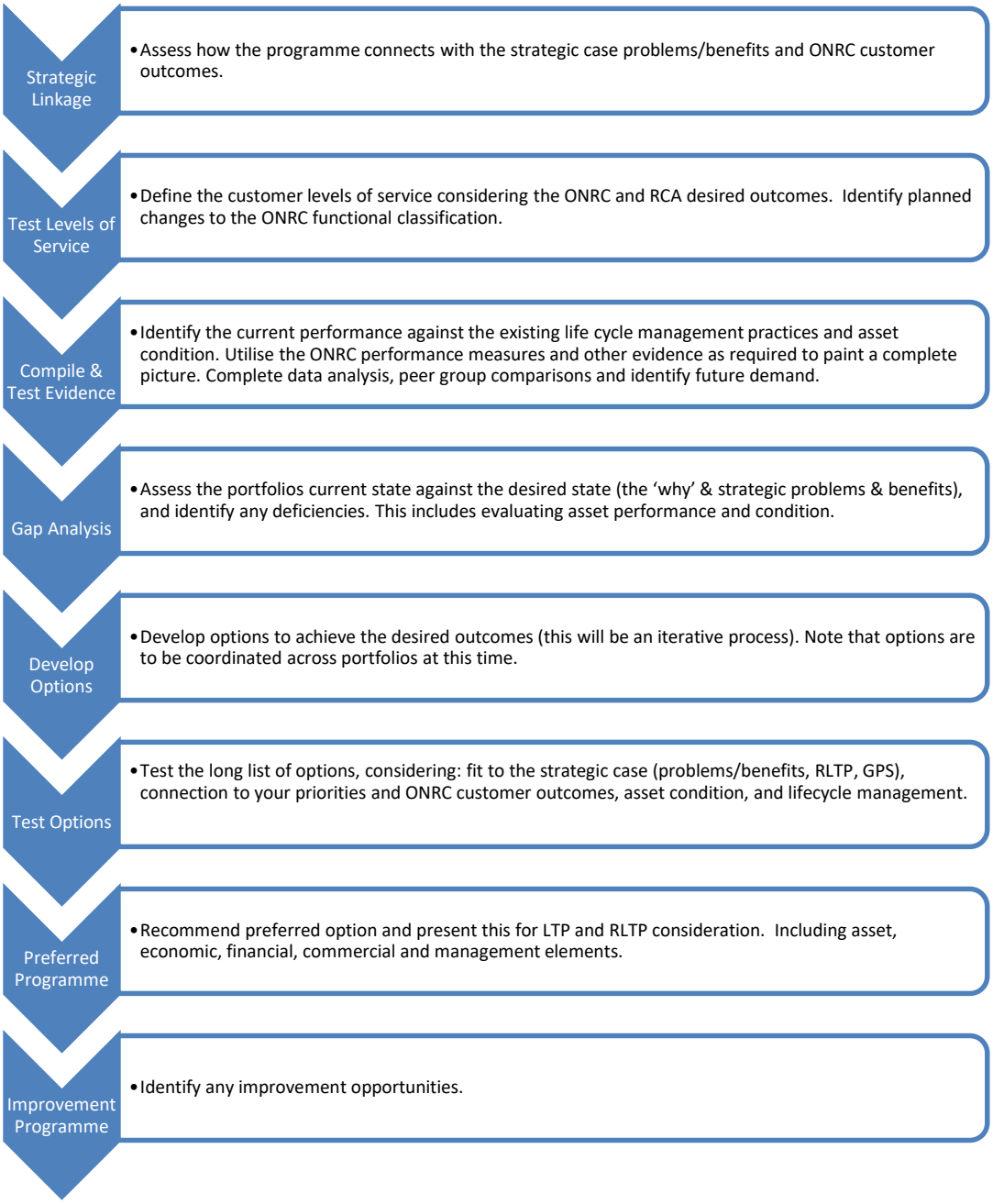
4. [1]Programme Business Case

This section presents the Programme Business Case(s) across the various work categories that are funded jointly with Waka Kotahi. It provides the strategic response of the planned future state, identifies a programme of works or activities that deliver on the strategic case, with asset management information that identifies maintenance, operations, renewals and improvement/new works programmes.

Where appropriate, work categories covering maintenance and renewals have been grouped (i.e. drainage maintenance and drainage renewals or structures maintenance and structural component replacement).

The PBC's follow the key headings listed below.

Figure 20 PBC Key Headings



1

4.1 Work Category 111 Sealed Pavement Maintenance, 212 Sealed Road Resurfacing and 214 Sealed Road Rehabilitation

111 Sealed Pavement Maintenance

Work category 111 provides for the routine care of sealed pavements to maintain their structural integrity and serviceability.

Examples of qualifying activities include, but may not be limited to:

- pavement dig-outs, patching and pothole repairs
- pre-reseal repairs
- unsealed shoulder maintenance on sealed roads
- protective coverings over the road where stock cross at grade
- road protection against stock damage.

Work Category 212 provides for planned periodic resurfacing of roads.

Examples of qualifying activities include, but may not be limited to:

- conventional maintenance chip reseals
- second coat seals, except on sub-division roads
- asphaltic surfacing not exceeding 40 mm average depth
- void-filling seal coats
- texturing seals
- emulsified bitumen seals commonly known as ‘slurry seals’
- milling old surface and resurfacing not exceeding 40 mm average depth
- other approved special-purpose chip seals
- raising service covers and reinstatement of pavement markings and raised pavement markers as a result of resurfacing.

Work category 214 provides for the replacement of, or restoration of strength to, sealed pavements where other forms of maintenance and renewal are no longer economic

Examples of qualifying activities include, but may not be limited to:

- granular overlays
- rip and relay
- pavement stabilisation
- asphaltic overlays or grader-laid asphaltic material
- pavement replacement (including the use of recycled materials)
- structural asphaltic concrete rehabilitation

Strategic Linkage

Programme Business Case

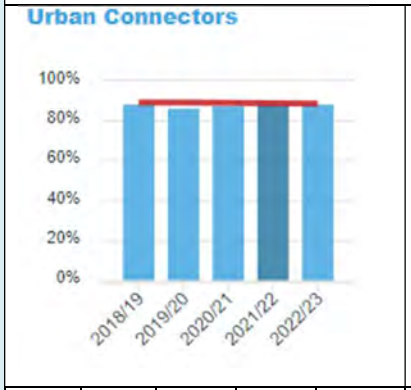
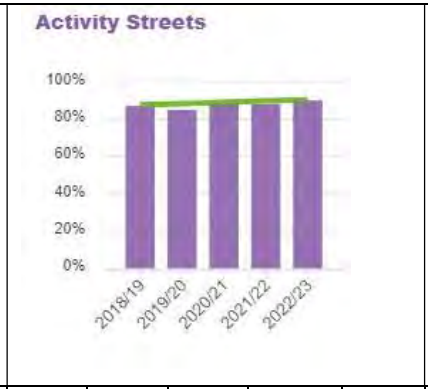
GPS Outcomes	***Increased Maintenance and Resilience*** ***Safety*** ***Value for Money***
RLTP Outcomes	***Safety objective:*** *A safe, accessible transport system in the Waikato region where no-one is killed or seriously injured.* ***Resilience objective:*** *An efficient and resilient land transport system that ensures communities have route security and access to essential services.* ***Accessibility objective:*** *An integrated transport system that provides transport options for differing community access and mobility needs.* ***Climate change objective:*** *An environmentally sustainable, energy efficient and low carbon transport system that delivers emissions reductions and enhances communities' long-term resilience to the effects of climate change.*
Waikato Council Outcomes	

Programme Business Case

TEST LEVELS OF SERVICE

Note that safety measures are covered under W/C 341 Low Cost/Low Risk

<table>
<tr><td>Council Customer LoS</td><td colspan="20">The Roading Group of activities aims to build a fit-for-purpose transportation network that connects communities, essential services and supplies, and gives people choices about how they move around our district.</td></tr>
<tr><td>Performance

Smooth Travel Exposure</td><td colspan="20">Sealed Roads Performance Measure - The average quality of ride on a sealed local road network, measured by Smooth Travel Exposure (Target 96%).</td></tr>
<tr><td></td><td colspan="5"> 
</td><td colspan="5"> 
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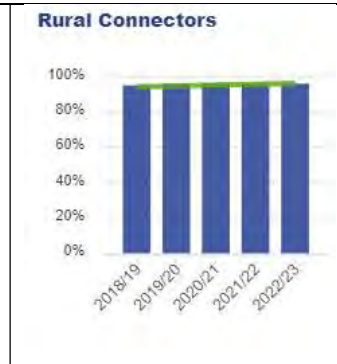
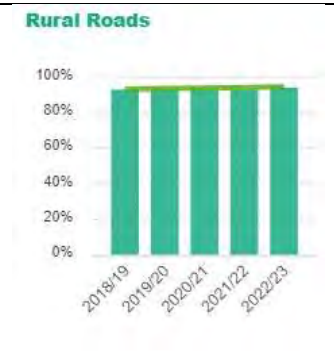
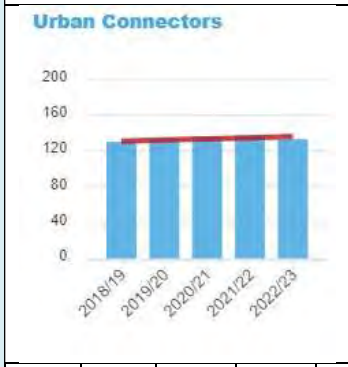
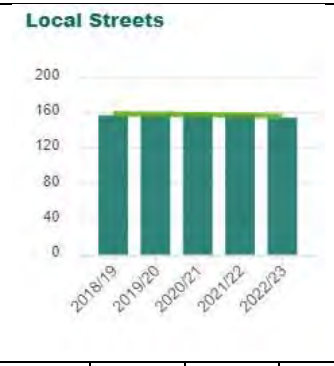
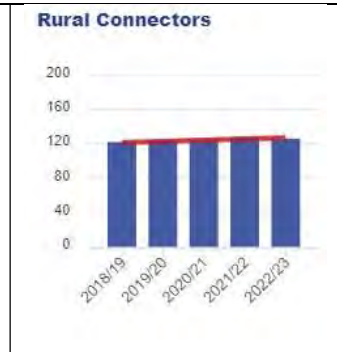
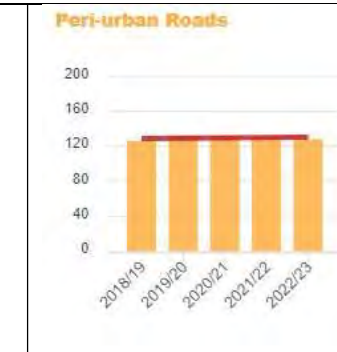
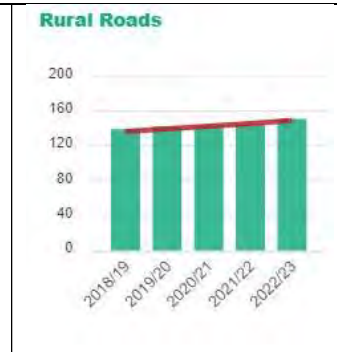
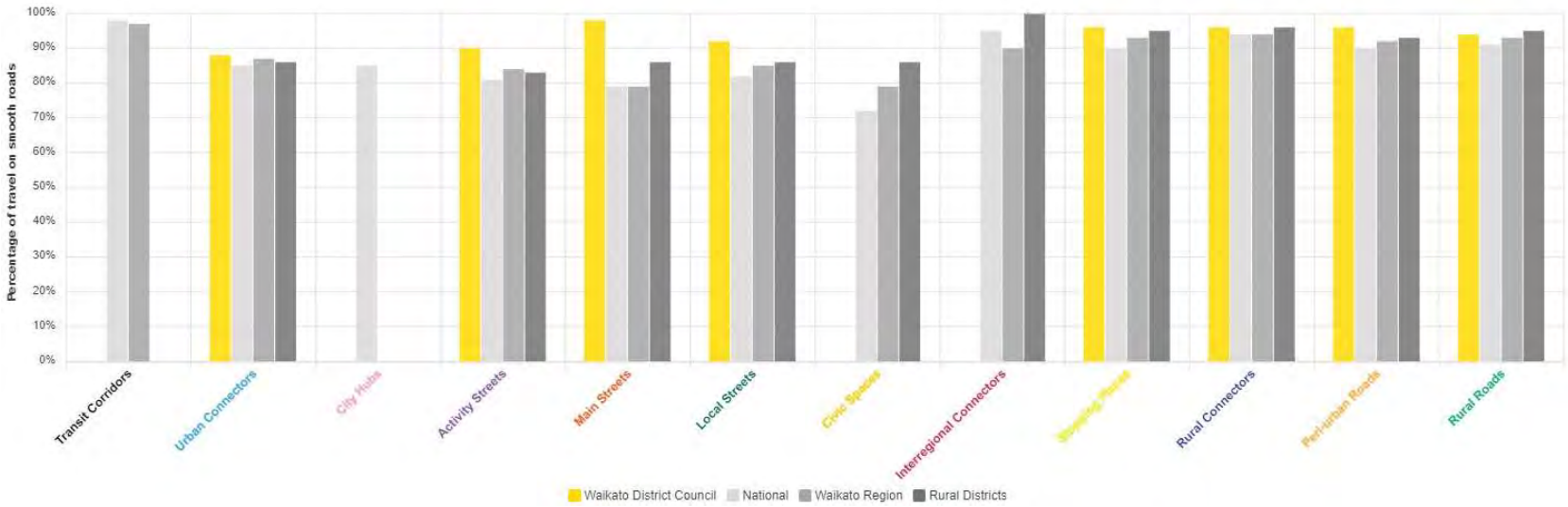
																				
	89	94	89	91	96	95	96	96	96	96	95	95	96	96	96	93	93	93	93	94
	As evidenced in the graphs above, STE is displaying negative trends for all road categories, however for our highest VKT road category (Rural Connectors 71%) the results are only 1-2% from the target. Our highest volume roads continue to be the focus of our investment.																			
Performance - Roughness	**Sealed Roads Performance Measure** - The charts show the spread of Peak Roughness (95% percentile) of roads in the network, by ONF. Roughness provides a measure of the ride quality of the road. It does not provide absolute information on the structural integrity of a pavement but does give a broad indication of trends on the overall state of the sealed network. The higher the roughness number, the rougher the ride.																			
																				
	130	133	136	137	133	146	149	149	150	153	99	166	176	133	143	157	158	158	159	154

Programme Business Case

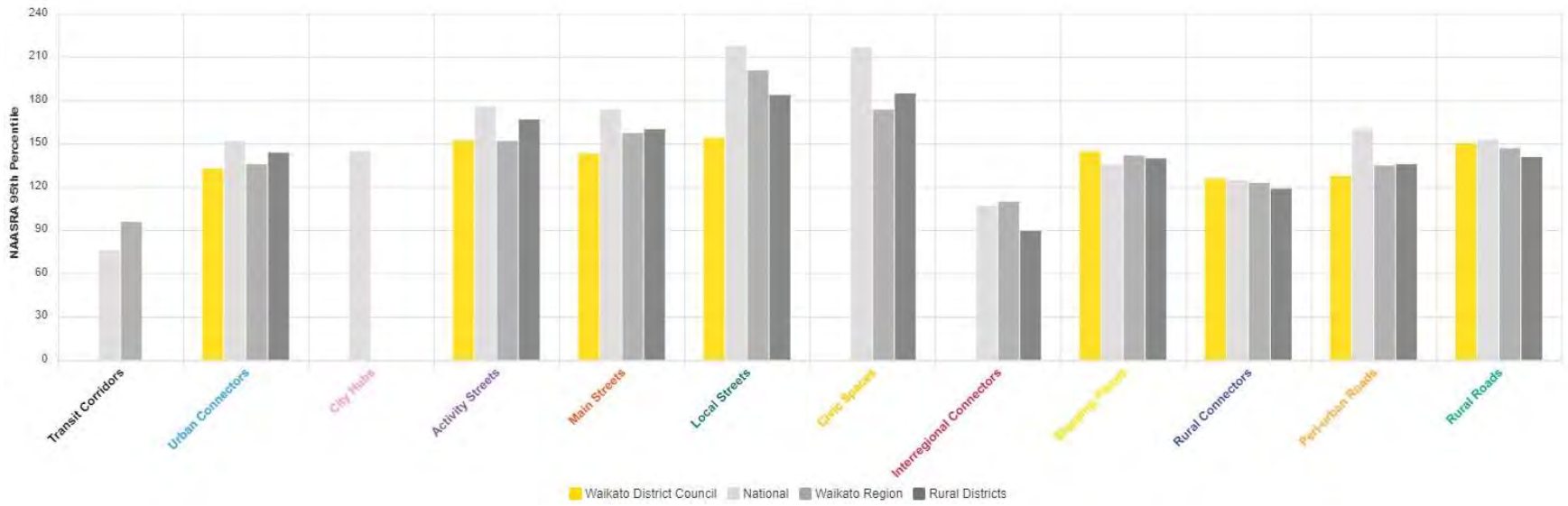
																				
	141	142	148	147	145	122	124	125	127	126	126	132	132	131	128	139	142	143	144	151
	The overall roughness of the network is good. The IRI readings of around 85% of the network have been maintained under 4m/km (104.69 NAASRA value) which is considered to be nominal roughness value. However, the trend for our higher volume roads is increasing suggesting an emerging issues with our pavements in these areas.																			
How do we compare against peer group	**Smooth Travel Exposure (STE) – 2022/23**																			

Programme Business Case



Peak Roughness (NAASRA) – 2022/23

Programme Business Case

	
What are we doing to deliver the LoS	Managing the maintenance of sealed roads to minimise faults Managing the resurfacing and rehabilitation of sealed roads to maintain the level of service Ensuring compliance with response times in Council's Request for Service System Data collection timeliness and accuracy
How do we measure our performance	Performance is measured and reported on in Councils Annual Report. Quality assurance checks take place on a monthly basis across a percentage of works completed. Continual updating and analysis of quantity and type of network faults using the Contractor collected 'All Faults data'. Analysis of condition data collected via RATA. Analysis of ONF reporting.

Programme Business Case

COMPILE & TEST EVIDENCE (This section contains the bulk of the Life Cycle Management section)

Sealed Roads

There are 204km of urban (8% of the network) and 1,655km of rural (92% of the network) sealed roads maintained on the Waikato Council network.

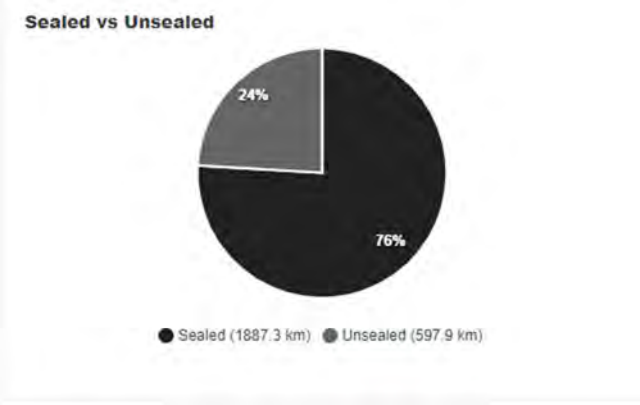


Figure 21 Sealed/Unsealed Split

Safety

High Severity Crashes are increasing on the Rural network as outlined in Problem Statement 4. The most significant pavement factor is that the number of wet road crashes is higher than for our peer group and all of NZ.

Growth and SH Revocation

The numbers of assets will grow as new residential areas are developed (Pookeno, Tuakau, Te Kauwhata, Ngaaruawahia, Raglan). State Highway sections to be revoked to WDC are still being worked through and will likely take effect within this LTP period (Huntly section, SH26 and SH1B). The addition of the ex SHs will add to our Urban Connector network.

Condition

Overall condition trends for the sealed pavement network can also be reviewed in terms of the surface Condition Index (CI) and the Pavement Integrity Index (PII). The CI is a function of visual condition faults including cracking, scabbing, potholes, pothole patches and flushing. Roughness is generally the main influencing factor for PII. Both are indicating a slight decline over time in particular for our higher volume roads.

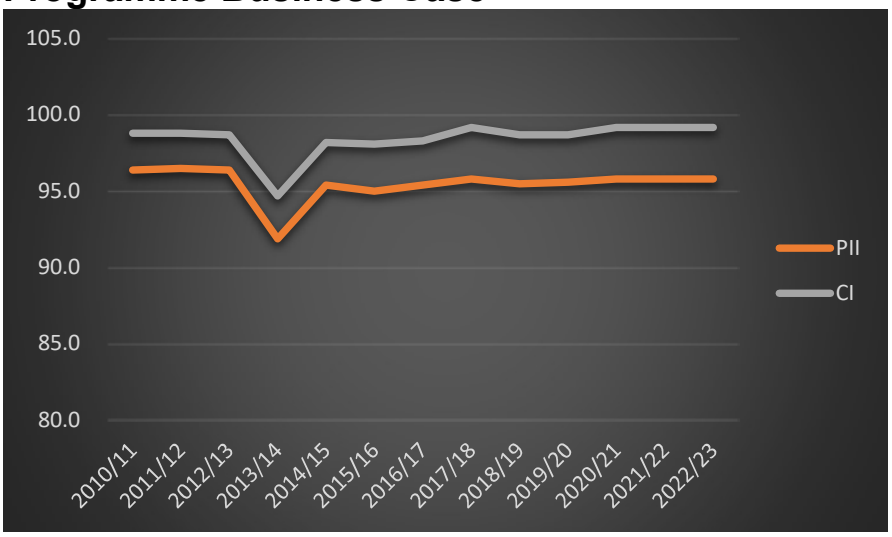


Figure 22 Pavement Condition (note a lower value indicates better condition)

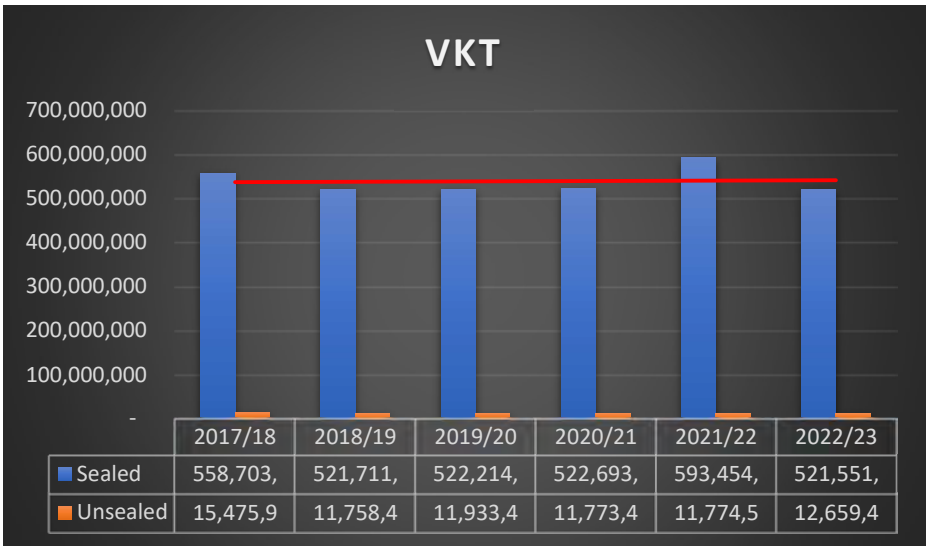
The average NAASRA Roughness across the sealed road network for 2021/22 is 106. There was very little change in average NAASRA over the 5 year period.

Travel Demand

Travel demand (based on Vehicle Kilometres Travelled) has remained relatively static for WDC as shown in the graph below.

The length of the road network has not changed and we expect that fluctuations will continue following the impacts of road closures, less people visiting the district as a result of Cyclone Gabrielle.

Figure 23 Vehicle Kilometres Travelled (VKT)



Peat Subgrades

Many roads in the north eastern part of the district are constructed over peat subgrades. The peat has a high capacity for shrinking and expanding. As a result, the peat settles unevenly and that affects the surface shape of the road. Where the lower base layers have failed and peat has intruded into the base, expensive digout and replacement of all the pavement is required. Where differential settlement occurs the surface becomes deformed and vehicle ride is affected - often to the point where safety is compromised.

The upper pavement layers will usually still be in good condition but reshaping is required to restore a safe riding surface. Design pavement life is seldom achieved as surface shape defects require intervention before end of life is reached.

Heavy Traffic Increase

Freight originating in the Waikato Region is expected to grow by 50% from 2012 -2042 and 70% of that travels by road. We can expect similar levels of growth in the volumes of freight carried on local roads. HPMV , 50MAX and 45/46 tonne truck rules have been introduced to help with this freight task, but the additional load on our roads is increasing the rate of pavement failures.

Construction Traffic

In areas where land development is occurring, the surrounding roads carry an increased load of construction materials over and above the usual level of heavy traffic. This is particularly evident around Pokeno and on roads adjacent to or haul roads used for construction of Waikato Expressway. These pavements were never designed to carry a lot of HCV's and some have experienced rapid "end of life" failure where the only viable option has been a pavement renewal.

Rail Crossing Maintenance

There are a large number of level crossings of the NIMT and ECMT railways. Most of them are road over rail. Under the terms of the "Deeds of Grant" maintenance of the pavement at these crossings is carried out by Kiwi Rail, but at our cost. A programme for these works has been provided by Kiwirail and the cost included in the programme. Maintenance of rail over road crossings is carried out by Kiwirail at their cost.

Sealed Road Resurfacing

Resurfacing sealed pavement is a key in achieving well managed core infrastructure and the balance in expenditure between maintenance and expensive renewals. Failure to resurface sealed pavements has a direct impact on Whole of Life costs, pavement condition and safety.

The need for resurfacing can be one, or a combination of, the following failure modes.

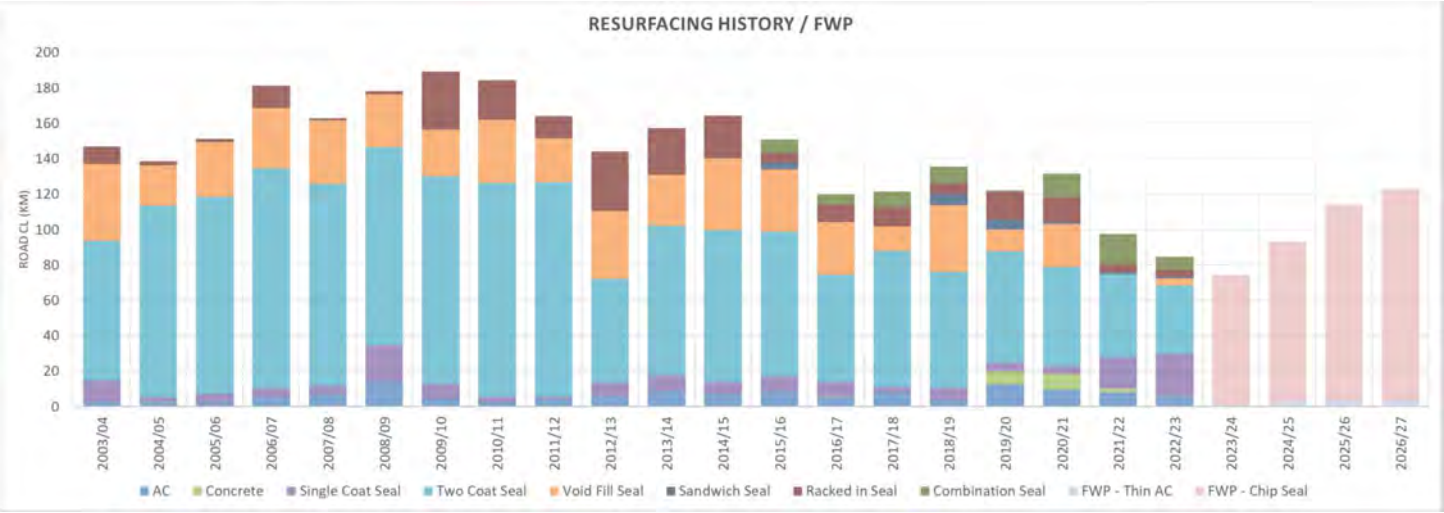
- Age of the bitumen binder which has become oxidised and no longer holds the chips securely, has lost its elasticity and does not provide adequate waterproofing.
- Potholes regularly occurring during periods of wet weather
- Cracking of the surface which then allows water to penetrate into the basecourse. This can be due to age, but more commonly due to excessive movement in the base layers. Widespread potholes and pavement failure can follow.
- Flushing of the surface where the binder has risen around the chips so that there is free bitumen on the surface. Also the polishing of surfacing aggregate as a result of traffic wear. These situations reduce skid resistance and can be a safety concern on corners or approaching intersections and other locations where braking or cornering are required.

Table 3 Resurfacing Achievement

Year	Length Achieved (km)	% of Network Sealed
2018/19	131.97	7.08
2019/20	103.12	5.57
2020/21	119.34	6.42
2021/22	87.25	4.67
2022/23	76.84	4.07

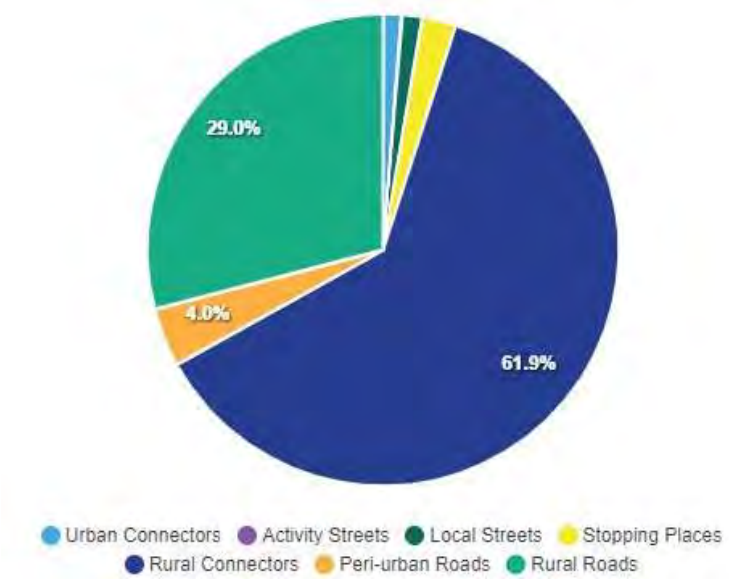
Councils LOS for resurfacing is >5%, one could argue that this a relatively soft target and in part has driven the downward trend in condition and created a backlog. The backlog has also been created by weather events impacting on programmes, particularly evident in 2022/23.

Figure 24 Resurfacing History/FWP



Chipseal surfacing for 2022/23 showed over 60% of the lane km was delivered on rural connector roads, followed by rural roads which combined are approximately 90% of our network and where you would expect the majority of our works to take place.

Figure 25 Chipseal delivery 2022/23 (Transport Insights)



Programme Business Case

Texture and Flushing

Texture is a safety related measurement in terms of discharging the run-off and maintaining the contact between tyres and aggregates especially for the high-speed environment. Flushing, which is typically caused by excess bitumen going onto the top of the road surface, reduces the texture.

Although surface texture and flushing do not reflect pavement strength, they have a significant impact on the safety level of the road. Therefore, both are a trigger of surfacing treatments.

Cracking

Cracking significantly reduces the waterproofing, which causes unexpected pavement deterioration. Resurfacing is required to seal a cracked surface before water ingress into the pavement and it starts to lose strength integrity.

The 2023 dTIMS analysis notes that our surfacing age has increased in terms of the number of surfaces >10yrs. Flushing is also on the rise and is a key concern as it relates to road user safety.

Resurfacing Strategy, Planning and Programme

Resealing is recommended to form the key maintenance strategy for sealed roads. It is widely accepted that protection of the pavement by having sound waterproof sealed layers is the most important element in maintenance of sealed roads.

In developing a works programme the aim is to get the best value for funds provided. The following factors need to be considered.

- The need to preserve the pavement asset
- Road user safety
- Optimising Risk versus Cost
- Optimising the timing of resurfacing by identifying defects that drive resealing
- Capital works that may affect the programme.
- Delivery of the work programme also has to ensure
- That best value is found during the tender process
- That detailed seal design and construction ensure design lives are achieved.

Seals seem to be suffering from flushing and cracking earlier than would be anticipated by age and traffic volume alone (increasing surfacing defects in condition rating). This suggests a need for shorter seal cycles to address cracking or review of spray rates. Flushing, which can cause safety problems, can be more proactively managed. It is one of the primary condition factors that trigger early resurfacing. Treatment of flushing is undertaken by:

- using pre-surfacing treatments (i.e. water cutting)
- maintaining surface drainage
- use of high air void seals
- Pavement recycling

Resurfacing is the best treatment for surface cracking but the detailed design of the seal coat needs to seek the best crack prevention result. This may result in higher cost treatments that will yield a longer life.

This programme has an increase in seal length from the current level, but less than the optimal model suggests as we are operating in the very low to low budget options.

Table 4 Proposed 2024-27 Resurfacing Programme

Year	Length (km)	% of Network Sealed
2024/25	103.85 CS 3.08 AC/TAC	5.78
2025/26	113.64 CS 3.08 AC/TAC	6.31
2026/27	131.28 CS 3.03 AC/TAC	7.26

Note that additional SCRIM funding is requested under LCLR (14km per annum or 0.8%) which goes some way to treating texture/safety issues, but also allows that backlog in resurfacing to be gradually caught up over time.

Sealed Road Rehabilitation

This treatment is triggered when the pavement layers are requiring excessive maintenance. There may be shallow shear failures of the basecourse, rutting in the wheel tracks, loss of shape and excessive roughness, or cracking.

A pavement that is cracked and has required maintenance repairs can be kept serviceable by timely resurfacing to restore the waterproofing, but this does not fix the underlying problem of a weak pavement layer.

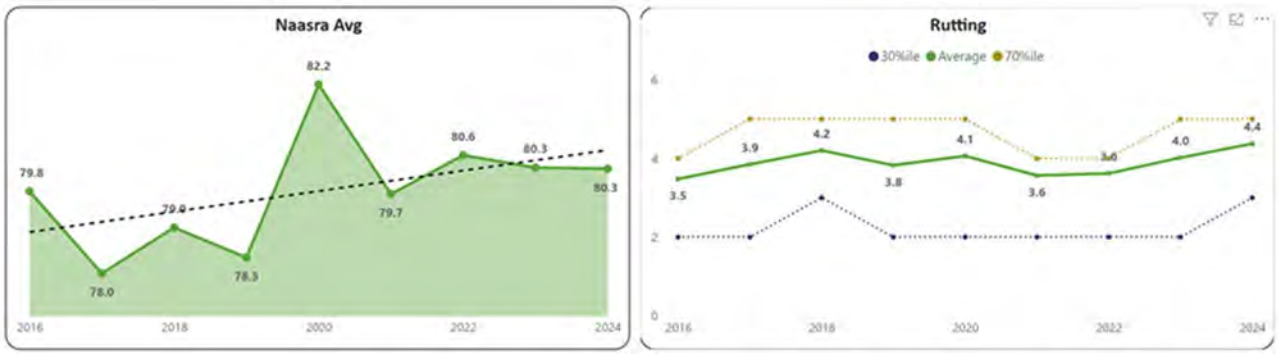
The level of service to the motorist is affected by rutting, which may initially result in water lying in the wheel tracks and potholes or shallow shear failures which cause unevenness on the surface and can potentially cause motorists to take evasive action and maybe lose control of their vehicle. Motorcyclists are more vulnerable. Cracking does not initially cause any issues to the road user but if left untreated will develop into the other fault types.

Pavement Rehabilitation Strategy and Programme

Although the network is expected to grow, from both development driven growth and from revocated sections of State Highway, we would not anticipate any rehabilitation requirements in the short to medium term and therefore no impacts to programme or funding. However the urban growth in areas like Pookeno will have impacts on surrounding pavement life due to construction related traffic and increased AADT. This means that in some cases programmed works is having to be juggled against new developments which further compounds condition and increased customer complaints.

Roughness and rutting indicate a gradual increase over time, albeit at a slow rate.

Figure 26 Profiles of road Roughness, Rutting



Programme Business Case
FWP Prioritisation

Below are some screen shots showing the dashboard of various power BI reports that the WDA have developed to assist with developing FWPs including a PBI report on prioritising FWP sites. The FWP Prioritisation uses various data attributes, including the JunoViewer rankings, to calculate a ranking for every TL on the network and is used as part of the annual FWP compilation process.

NPV justifications for rehabs is developed from the annual costs which are calculated from a maintenance cost curve that is created using similar TL's, as that of the TL being evaluated (same pavement family).

Figure 27 NPV Example

2 **PV of annual maintenance costs** (year 1 to 40 inclusive)

Total = $ 2,006 x 20 19 = $ 40,493 **(a)**

3 **PV of periodic maintenance costs**

Time zero 1st July in the year 2023/24

Year	Type of maintenance	Amount $	SPPWF	Present value
0	Backlog	224,315	1.00	224,315
1	Reseal	30,900	0.96	29,712
10	Reseal	30,900	0.68	20,875
17	Rehabilitation	189,520	0.51	97,294
18	2nd Coat Seal	30,900	0.49	15,253
32	Reseal	30,900	0.29	8,808

As highlighted in the snippet below, the annual maintenance cost is calculated for each individual year of the analysis period based on the existing pavement age at each year of the analysis period. The average annual cost is calculated from this and entered as the "annual maintenance cost" as highlighted in the snippet above. For this example, as highlighted below, it shows the annual maintenance cost starting from $0 after the pavement age reaches 34yrs as this will be the age of the pavement prior to the timing of the deferred rehab shown for this strategy.

Figure 28 Maintenance Cost Analysis

The figure below shows historical delivery and proposed FWP. As evidenced in the plot the downward trend in length delivered over consecutive years is at levels that are not conducive to providing a reliable asset for road users and suggest a pavement life in excess of 330 years. There are many variables that have contributed to these low levels including the increase in costs to deliver this type of works. In some cases, the design has changed and necessitated a thicker pavement and therefore greater costs.

Figure 29 Pavement Rehabilitation History/FWP

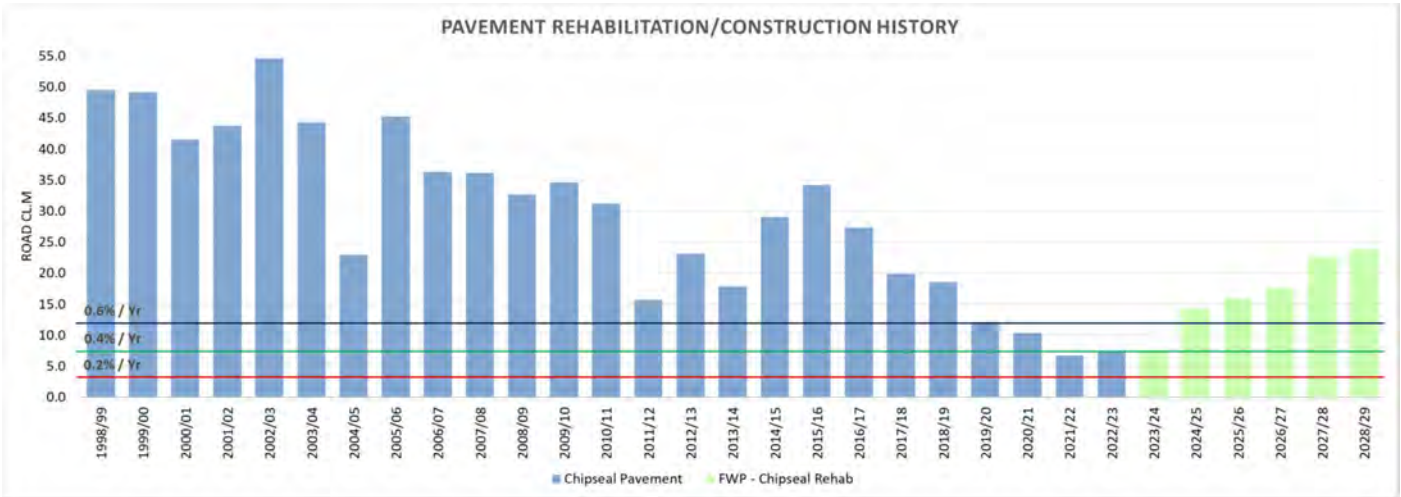


Table 5 Proposed 2024-27 Rehabilitation Programme

Year	Length (km)	% of Network Sealed
2024/25	15	0.8

2025/26	16.5	0.9
2026/27	21	1.1

Funding Levels

The three year funding (2024 - 2027) for pavement and surfacing renewals has been recommended at $17.0M to $17.5M per annum via dTIMS reporting. This level will be able to maintain the good condition of both the chipseal and AC surfaces, as well as a pavement renewal programme to meet predicted deterioration over the analysis period. Our funding request for the three year period is at the lower end of the dTIMS scenarios, approx. $10.8M - $16.3M over the 3 year funding period.

We acknowledge that we are underfunded in these W/Cs and have been over consecutive years. Our discussions with our Council have steered towards a gradual increase in funding over the next 10 years to get to the required funding levels to bring about a stable network. Affordability for our ratepayers is the key consideration in amongst all the other activities that the Council delivers.

Year 1 of the LTP represents a very low level of funding and so we will continue to see deterioration, years 2 and 3 see a gradual increase, but at this time still represent low levels of funding. As a result we will continue to see an increase in seal and pavement age with associated defects.

Are there any gaps identified?	Increased maintenance, unstable surface (multiple layers) and texture/flushing is driving renewals Sweating the asset is no longer tenable Funding from both central government and locally is required to bring about a restorative programme of works Affordability is a key constraint

Programme Business Case

DEVELOP OPTIONS

W/C 111 Sealed Roads Maintenance	Option Description	Benefits of Option	Negative Consequences of Option
Reduction	Reduce the amount of maintenance on the sealed roads including pre-seal repairs (impacts on resurfacing programme).	No benefits provided under this option except for a reduction in Level of Service and likely increased maintenance costs.	Deferred maintenance increases existing backlog and exposure to asset related risk/failure due to lack of budget. Increased reactive maintenance or unplanned interventions that impacts on existing programmed works Level of service will reduce, impacts on safety and customer satisfaction Do minimum from a contract is the lump sum.
Status Quo	Maintain the current quantum of works and budgets, identified works through regular network inspections and programming as required.	No benefits provided under this option except for a reduction in Level of Service/performance measures and increased network deterioration. Assists with affordability management.	The status quo budget even with an uplift to account for CPI is not considered adequate for the network. Deterioration will continue, customer satisfaction will continue to be a challenge, costs to make good will increase into the future.
Increase budget/work level	It is difficult to maintain the required levels of service at the existing funding levels. We have a significant backlog in stab repairs that is increasing year on year. The increase in funding also takes into account the need for a greater pre-seal repair programme as a result of an increase in resurfacing requirements		Funding increase adds to complications if opex expenditure is increased across Council and impacts on rates. Challenges affordability.

W/C 212 Sealed Road Resurfacing	Option Description	Benefits of Option	Negative Consequences of Option
Reduce the Programme	Not considered further	Short-term funding gain.	Increase in reactive maintenance, long term deterioration of the surface condition, compromising waterproofness and pavement performance.
Status Quo	Maintaining the current levels of resurfacing will see a continual deterioration of the asset. This deterioration in surface condition could continue to compromise the waterproofness of the	Maintains funding at current levels.	

	pavements, and likely result in an increase to reactive maintenance on the sealed roads.		Road user safety is potentially compromised by not addressing surface texture issues. RFS will increase along with customer dissatisfaction
Increase budget	The amount of resurfacing is assessed each year, based on a network needs basis. Data analysis and field inspections determine the candidate sites which generate the programme. Resurfacing is now part of the maintenance contract. A three year and ten year programme provide budgets for planning purposes.	Current LOS customer and technical measures maintained or improved Road user safety is maintained through provision of adequate surfacing Maintains average surfacing lives at current levels Ensure pavements are kept waterproof therefore protecting the investment in pavement and maximising pavement life.	Challenges affordability.

W/C 214 Sealed Road Pavement Rehabilitation	**Option Description**	**Benefits of Option**	**Negative Consequences of Option**
Reduce the programme	Not considered further . Current backlog in resurfacing evidenced.	Short-term funding gain.	Deterioration will continue, therefore requiring an increase in maintenance spend. Road user safety is potentially compromised RFS will increase along with customer dissatisfaction
Status Quo	In conjunction with the preferred options for sealed pavement maintenance and pavement resurfacing, the level of investment for this option will not allow us to maintain network condition.	Short-term funding gain and potential easing of burden on the rate payer, but just defers the inevitable future cost.	At less than 0.75% return per annum, pavement condition will continue to deteriorate, in particular roughness and rutting
Increase budget/work level	Recent years rehab lengths have been less than 0.5%. Whilst this sweating of the asset has been promoted for over a decade, the result is an increased need in maintenance works and unfavourable deterioration trends. The budget request is for a graduated increase over the next 3-10 year period.	Road user safety is maintained through provision of rehabilitated pavements – creating a smoother travelled surface	Costs are higher. Challenges affordability.

Programme Business Case

TEST OPTIONS

W/C 111 Sealed Roads Maintenance	Option Summary	Level of Service Outcome	Costs of Option
Do minimum/Reduction	A reduction in the funding would continue to undermine the work that has been undertaken by Council to identify and address maintenance works that adds resilience and amenity outcomes to the sealed road network. Less than ideal weather conditions, including the impacts from significant storms and cyclones has impacted on the overall condition of the network.	Reduction in customer and technical LoS Potential increase in RFS and customer satisfaction	2021/24 Approved Funding allocation
Status Quo (Preferred)	The current level of funding is not considered adequate to maintain the network to a satisfactory level of service. Our metrics are exhibiting negative trends across most of the technical measures, in particular roughness. The current funding levels do not provide adequate funding for the increased pre-seal repairs.	Maintains a largely reactive maintenance programme that targets the high priority/safety related defects on our higher volume roads. Lower volume roads will experience a decline in LOS. Accounts for increased market costs (CPI etc)	2024/25 = $4,779,919 2025/26 = $5,496,907 2026/27 = $6,321,443 **Total = $16,598,269**
Increase budget/work level	Increase in pavement repairs to facilitate a faster response to issues relating to intervene as a result of safety are decreased. More proactive/preventative lower cost treatments to extend surfacing and pavement lives (reduce renewal spend). The outstanding no. of maintenance jobs is lowered to a manageable level and maintained. Includes an allowance for growth in the network and consequential maintenance requirements.	Sealed pavement faults are mostly responded to in a timely manner, proactive maintenance is partially enabled. Pre-seal repairs to match increase in resurfacing. Impacts rates and therefore challenges affordability.	2024/25 = $5,496,907 2025/26 = $6,321,443 2026/27 = $6,577,299 **Total = $18,395,648**

W/C 212 Sealed Road Resurfacing	Option Summary	Level of Service Outcome	Costs of Option
Do minimum/Reduction	The key message here is that by reducing the renewal budget (rehabilitation and resurfacing), there is a	Reduction in customer and technical LoS	Reduction from the approved 2021/24 budget = $15,645,819

Programme Business Case

	significant increase to the reactive pavement maintenance forecasts.	Potential increase in RFS and customer satisfaction	
Gradual Increase (preferred)	The current achievement/programme is below what is required to maintain the sealed road surfaces to the required condition. The backlog of sites requiring treatment continues to grow.	Under this level of surfacing we are not keeping pace with the surfacing requirements, we are seeing condition deteriorating across all of our metrics. Safety is compromised with texture issues across the network, seal cycles are becoming shorter, flushing continues to be a problem.. Options seeks gradual increase and future sustained investments	2024/25 = $5,656,593 2025/26 = $6,505,080 2026/27 = $7,480,843 **Total = $19,642,516**
Increase budget - Network Needs	This preferred option can only be achieved alongside the preferred option for W/C 111 is also chosen otherwise we need to revert to the base option for this W/C 212. Safety will be improved through the skid resistance strategy utilising SCRIM testing and using these results to target and carryout resurfacing of low skid resistance treatment lengths therefore reducing accidents where road factors such as flushing is an issue. We have included a request specifically for SCRIM in our LCLR programme, which provides additional safety benefits, but also addresses the backlog in SCRIM surfacing that we have on the network	Road surface condition is improved, asset consumption is stabilised over time with sustained investment. Increases length of resurfacing to between 7-8% per annum. Challenges affordability.	2024/25 = $9,233,871 2025/26 = $9,506,701 2026/27 = $9,554,701 **Total = $28,295,273**

W/C 214 Sealed Road Pavement Rehabilitation	**Option Summary**	**Level of Service Outcome**	**Costs of Option**
Do minimum/Reduction (Actual)	Reducing the rehabilitation budget will result in an increase to the pavement maintenance forecasts. There will also be a corresponding increase to the programme for the next LTP period.	Reduction in customer and technical LoS Potential increase in RFS and customer satisfaction Possible increase in safety risk	Reduction from the approved 2021/24 budget = $13,497,678
Gradual increase (Preferred)	Programme has delivered approx. <0.5% per annum. Condition is decreasing, rutting trend increasing	Possible reduction in customer and technical LoS, pavement condition will continue to deteriorate. Option seeks gradual increase and future sustained investments	2024/25 = $5,231,879 2025/26 = $6,801,443 2026/27 = $8,841,876 **Total = $20,875,198**

Programme Business Case

Increase budget	The current backlog of outstanding work will be maintained and managed In conjunction with the preferred options for Sealed pavement maintenance and routine drainage maintenance, the current level of customer requests will be reduced In conjunction with the preferred options for This preferred option maintains a similar level of investment over the first 3 years and then increases for the rest of the assessment period to allow for the increase in pavement age and recognises the need to counter the increasing level of unstable seal layers	Road condition is improved, asset consumption is stabilised over time with sustained investment. Challenges affordability.	2024/25 = $9,582,600 2025/26 = $9,197,141 2026/27 = $9,246,700 **Total = $28,026,441**

PROGRAMME BUSINESS CASE

PREFERRED PROGRAMME

Is there a case for investment?	Funding the pavement maintenance and renewals programmes at the preferred levels provides Council with the ability to maintain the required level of service, continue to contribute positively to road user safety and keep the network at a condition that allows our ratepayers and residents to go about their everyday lives, and for our roads to continue to support the local tourist market. Furthermore, the investment in surfacing and pavement itself provides essential waterproofing and timely rehabilitation to prevent deterioration that will require costly intervention in future years. As per our strategic case, we are also signalling a need to continue the investment in drainage including high lip removal, water tabling and culvert replacements/realignment to remove water away from the pavements, therefore further protecting the investment.

Work Category	**2021/24 Approved Funding (TIO)**	**Funding Request (Preferred Programme)**		
		2024/25	**2025/26**	**2026/27**
111 Sealed Roads Maintenance	$13,949,416	$4,779,919	$5,496,907	$6,321,443
TOTAL				**$16,598,269**

Work Category	**2021/24 Approved Funding (TIO)**	**Funding Request (Preferred Programme)**		
		2024/25	**2025/26**	**2026/27**
212 Sealed Road Resurfacing	$15,645,819	$5,656,593	$6,505,080	$7,480,843
TOTAL				**$19,642,516**

Work Category	**2021/24 Approved Funding (TIO)**	**Funding Request (Preferred Programme)**		
		2024/25	**2025/26**	**2026/27**
214 Sealed Road Rehabilitation	$13,497,678	$5,231,879	$6,801,443	$8,841,876
TOTAL				**$20,875,198**

IMPROVEMENT PROGRAMME

Nil improvements identified.

4.2 Work Category 112 Unsealed Pavement Maintenance & Work Category 211 Unsealed Road Metalling

Work category 112 provides for the routine care of unsealed pavements to maintain their structural integrity and serviceability. Examples of qualifying activities include:

- grading
- flanking
- spot metalling and pothole repair
- restoration of the correct camber
- maintenance of the running course.

Work Category 211 provides for the planned periodic renewal of pavement layers, including top surface metal, on unsealed roads. Examples of qualifying activities include:

- Planned periodic renewal of pavement layers, including top surface metal, on unsealed roads for the purpose of either:
  - replacing wearing course aggregate, or
  - restoring pavement strength

Strategic Linkage

GPS Outcomes	***Increased Maintenance and Resilience*** ***Safety*** ***Value for Money***
RLTP Outcomes	***Safety objective:*** *A safe, accessible transport system in the Waikato region where no-one is killed or seriously injured.* ***Resilience objective:*** *An efficient and resilient land transport system that ensures communities have route security and access to essential services.* ***Accessibility objective:*** *An integrated transport system that provides transport options for differing community access and mobility needs.* ***Climate change objective:*** *An environmentally sustainable, energy efficient and low carbon transport system that delivers emissions reductions and enhances communities' long-term resilience to the effects of climate change.*
Waikato DC Council Outcomes	

PROGRAMME BUSINESS CASE

TEST LEVELS OF SERVICE

Levels of service are not specifically measured for this activity.

Intervention levels exist for grading compliance to include corrugations, potholes, visible clay and rutting.

COMPILE & TEST EVIDENCE

Unsealed Roads

There are a total of 603km of unsealed road maintained on the network. Nearly all of it is rural with 2km classified as urban. Unsealed roads make up 25% of the road network and provide access to rural communities (residents, farming, forestry, tourism and recreational). These roads usually have relatively low traffic volumes, but the types of vehicle can range from bicycles, quad bikes, private cars, tour bus, farming tractors, construction vehicles, to forestry trucks.

Unsealed roads are regularly inspected (minimum once per month) by the Alliance to check for damage or condition issues where the asset no longer meets the specified levels of service (corrugations, potholes, shape correction). Any works required to bring the road back to the desired level of service are identified on the inspection are included in the Alliance's programme of work which is reviewed monthly. The high priority work is approved for the following month. Generally, roads with higher traffic volumes are given a higher priority combined with what the inspectors are identifying, occasionally resource is redirected depending on localised impacts from forestry or construction and inclement weather.

The following discusses the current state of the activity in the form of root issues, cause and effect which results in increased maintenance cost and increased customer complaints as there is low life expectancy.

What is root issue?	What does it cause?	What is the effect of this?
Historically neglected unsealed road drainage	Increased deterioration of asset. Storm water running onto carriageway causing scouring, washing away of aggregate and saturated pavements	Increased digouts/ pavement repairs and increasing grading frequency.
Soil that is sensitive to high moisture content	Deformation and deterioration of pavement	Increased digouts/ pavement repairs and increasing grading frequency.
Natural events (storms and increasing periods of heavy rainfall)	Deterioration of pavement material (Aggregate loss, under slips) making the road unstable.	Restricted access/road closures and reduced road user safety
Incomplete or insufficient unsealed network data- Full drainage network Inspections have not been fully completed therefore have not been able to fully quantify outstanding maintenance required.	Planning and programming issues as condition are unknown.	Difficult to achieve targeted maintenance treatments where there is more proactive/preventative maintenance.
Increased environmental awareness (dust issues)from	High number of customer complaints due to new customer expectations.	Increased frequency of grading and Re-metalling

Auckland overflow into rural north Waikato		
Unplanned use from changes in farm practices, forestry harvesting and rally events.	Increase in heavy commercial vehicles that increase pavement deterioration and dust causing corrugating	Increased digouts/ pavement repairs and increasing grading and remetalling frequency. Increased dust and associated complaints

Maintenance

Maintenance of the unsealed roads is about keeping the asset functional and fit for purpose throughout the life cycle, allowing the asset to deteriorate until rehabilitation or renewal is needed. Network classification informs the level of maintenance expected for each treatment length. Lower classification roads will have a higher tolerance of deteriorating condition, as the appetite for risk is higher due to the lower usage. Whereas high classification roads have a lower tolerance of risk and subsequently be maintained to a higher degree. While a formal condition assessment or summary is not captured for unsealed roads the use of All Faults means the ability to highlight areas requiring maintenance or renewal activities and as such can ensure the expected levels of service are adhered to.

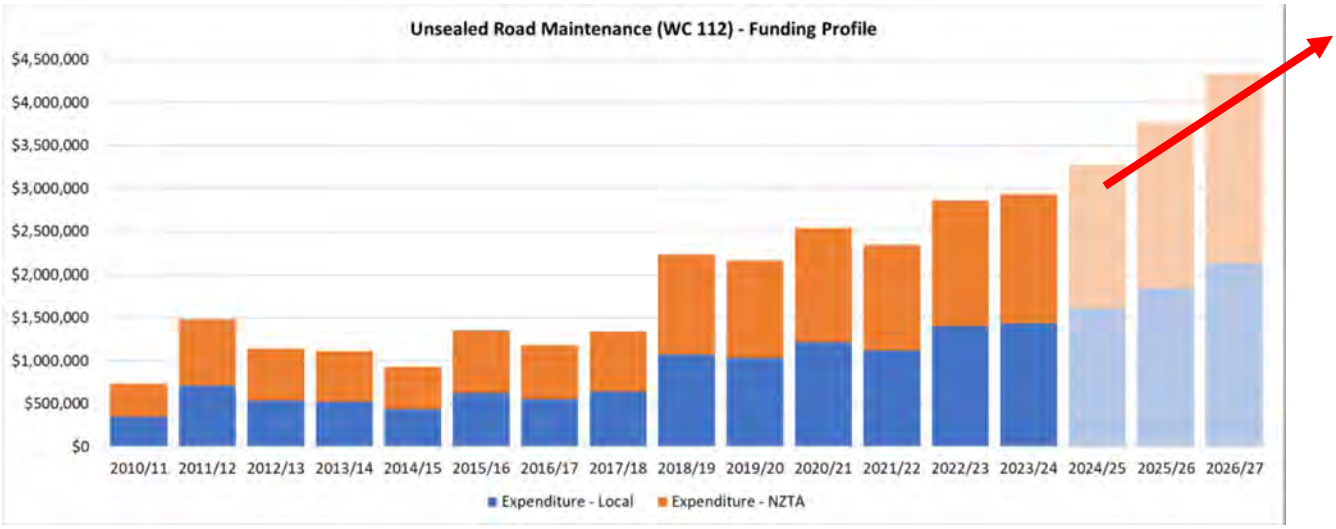
The current grading programme sees our collector roads on the unsealed network graded (on average) every two months in winter and every three months in summer. Our CAT12M graders are using Queensland Mining Tip Cutting Edges mostly on the western network which have been providing good results, productivity remains a challenge.

Grading is undertaken on a cyclical basis, but we do sometimes have to jump to more urgent grading jobs. On average roads receive 2 to 3 grades per year, although some roads receive up to 6 grades per year (e.g. Waitetuna Valley Rd, Whaanga Rd). Klondyke Road in the western area of the network whilst typically having very low volumes of traffic, contains a large pine forest operation which requires constant monitoring. The Alliance carries out the following:

- Light Grading (Grader only) approx. 850 km
- Medium Grading (Grader and Roller)approx. 620 km
- Heavy Grading (Grader, Roller, Watercart and Traffic Control) approx. 40 km

Our unsealed roads maintenance costs are some of the highest in the country.

Figure 30 Unsealed Roads Funding Profile



PROGRAMME BUSINESS CASE

Metal Blends and Trials

Trials of locally quarried materials have proven to be successful and have been rolled out across the district. This pavement treatment uses a bespoke blend of local materials, and as more local quarries become capable of producing the material it will be rolled out across the network of unsealed roads in the district as part of the ongoing routine maintenance of these routes.

Impacts of Forest Harvest

Council staff are in contact with the main forestry harvesters to keep ahead of significant mature woodlots. Further work can be undertaken in this space so that we remain better informed. Small lots do catch us unawares and unfortunately we are reacting in these cases to restore roads to an acceptable level of service.

The Operative District Plan requires that owners of forestry plantations in excess of 5ha submit to Council a Forestry Harvesting Notice 3 months in advance of works commencing. This is an improvement action for the team going forward.

As briefly touched on earlier, Klondyke Road in our western area contains large pine forest plantations and operations although sporadic damage this very low volume road. It is one of the more expensive roads in our district to maintain due to the forestry operations.

Quarry Locations - West

- Waikorea Valley Rd – Crushed Limestone ; GAP20, GAP40 & GAP65 as well as limestone slabs if required,
- Waingaro Quarry on Otorohaea Trig Road – Crushed bluestone/greywacke ; GAP20, GAP40, MAP40, GAP65 and run of pit,
- Waitetuna Valley Rd – Crushed bluestone/greywacke including GAP40, MAP40, GAP65 and run of pit if required,
- Fillery Rd – Crushed Limestone – Still getting up to full production but will have GAP40 & GAP65
- Waingaro Rd – Stevensons – Crushed greywacke – all sizes available except MAP products

Quarry Locations - East

- Ward Quarry on Swann Rd Te Kauwhata – Crushed Bluestone/greywacke ; GAP20, GAP40, GAP65
- Stevensons Quarry – Tauhei – Crushed Bluestone / Greywacke ; All aggregates except MAP40

Managing Dust

Dust is primarily the suspension of fine particles (less than 75µm) from the loosening and disturbance of the road surface by vehicles and wind. The presence of fines is generally due to a lack of binding moisture arising from dry and windy weather, typically during the summer months.

Managing dust is an important aspect of maintaining an unsealed road network. Dust is the loss of fines at the surface. Pavements lose their water shedding ability which in turn results in increased risk of pavement failure due to moisture penetration. The loss of fines also causes the wearing layer to become coarse over time, which leads to aggregate loss and rougher surface texture and ride. These contribute to higher maintenance costs, higher vehicle running costs, increased material replacement costs and inevitably customer complaints.

Renewals

PROGRAMME BUSINESS CASE

The unsealed network is more dynamic than the sealed network as it responds adversely to heavy rain, periods of dry weather, peak traffic flows and heavy loads.

Unsealed roads usually require pavement renewal for one of two reasons:

- Failure of the pavement structure in a similar manner to that which occurs on sealed pavements, and
- Insufficient renewal of the metal surface, resulting in traffic running on the pavement structural layers, eroding and damaging them.

Investigation has found that there has been no Pavement Renewal Works undertaken on the wider unsealed network since 2015 with no significant investment in the Raglan, Te Mata and Te Akau areas for the better part of 10 years. The work that was done in the West is nearing the end of it's useful life and needs further work to restore strength and shape although the subbase layer is still performing adequately.

Unsealed roads pavement metalling is identified through inspection, network knowledge and maintenance need. Environmental factors also influence works programmes.

Table 6 Proposed Unsealed Roads Renewals

Road name	Length (m)	Average width (m)	Source Quarry	Project cost	Notes
Southern Network					
Ruakiwi Rd	1064	5	Combination O Trig & Waikorea	$ 75,000.00	End of seal to Mangiti Rd intersection
Mangiti Road	700	3	Waingaro - O Trig	$ 40,000.00	Bottom of hill about 100m from CRV Ambreed farm entrance along to start of uphill section. Drainage works needed along this section to be able to accommodate storm flow. Some work already completed here in 23/24

PROGRAMME BUSINESS CASE

Whaanga Rd	2792	4	Te Pahu Limestone and JDC	$ 135,000.00	From end of seal at northern end to cattle stop where you enter DoC land. If quantities allow, extend through to Te Toto Gorge carpark. Will need to do some trimming of overhead vegetation first to be able to raise the hoist for spreading safely.
Te Akau South Rd	1320	3.5	Waingaro - O Trig	$ 65,000.00	Kauri Flats area ending at Mangiti Road intersection.

Northern Network					
Waikaretu-Wairamarama Road	1200	5		$ 190,000.00	Programme from HEB
Baker Road	400	4		$ 75,000.00	Programme from HEB
Port Waikato – Waikaretu Road	450	5		$ 80,000.00	Programme from HEB

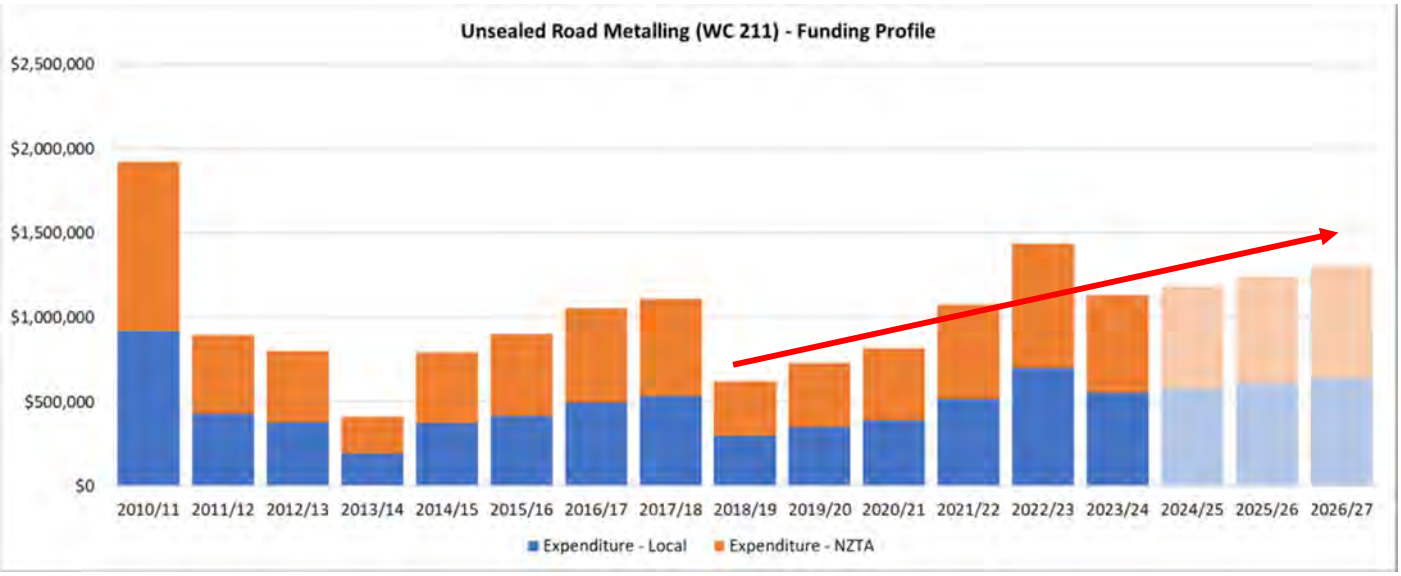
District Wide					
Te Papatapu Rd	700	5	Te Pahu Limestone and JDC	$ 75,000.00	Section along beside tidal flats at the back of Aotea Harbour. Comprised of mostly uncohesive silt and some aged worn aggregate that doesn't bind up.
Phillips Rd	879	3.5	Te Pahu Limestone and JDC	$ 65,000.00	Section either side of Ruby Lane. Minimal aggregate combined with black ironsand giving zero cohesion and/or bearing strength.

PROGRAMME BUSINESS CASE

Te Akau Coast Rd	2756	4	Waingaro Quarry and Te Puea Limestone	$ 130,000.00	From end of seal at south end up to intersection with Waimai Valley Road
Old Mountain Rd	940	3	Te Pahu Limestone and JDC	$ 40,000.00	Section at east end from the end of the pines down to the end of seal by the old quarry. Need to check culverts and SWC's before doing the resheet.
Kneebone Road	1809	5	Tauhei	$ 120,000.00	Down to subbase from end of seal at Te Hoe end along to the Fonterra entance by the hill on the right. Entered in July Programme
				$ 1,090,000.00	

PROGRAMME BUSINESS CASE

The chart below shows historical and forecast renewals expenditure. As evidenced funding is increasing, however the level of funding remains borderline for the amount of roads we have in the district. Further work is required to better understand the network requirements which needs to be matched with the maintenance programmes including drainage WCs 113 and 213.



Disposal

There are no plans to dispose of any roads at this time, nor lower the service levels to allow lower classification roads that are currently sealed to revert to being unsealed.

Are there any gaps identified?	Imbalance between maintenance costs and renewal costs Historically renewals are underfunded, this will need gradual increase over successive LTPs Unsealed Roads Strategy

PROGRAMME BUSINESS CASE

DEVELOP OPTIONS

W/C 112 Unsealed Pavement Maintenance	Option Description	Benefits of Option	Negative Consequences of Option
Reduce budget	Reduce the amount of maintenance on the unsealed roads such as grading frequency and or spot metaling. Provides no mechanism for reactive works.	Decreased cost for the work activity	Customer complaints will increase Unsealed surface condition will generally deteriorate Road user safety may be compromised
Status Quo/Maintain the existing level of work	Maintain the current maintenance levels for the unsealed roads, including frequency of grading and application of metal to maintain surface, shape and side drainage.	Maintains current LOS for road users Maintains customer complaints at current levels	Does not improve the current network, will continue to see deterioration over time
Increase budget/work level	Increase maintenance works including grading frequency, metal allocation and general repairs	Improved level of service Improves road user safety Reduces customer complaints	Increased costs for the work activity. Challenges affordability

W/C 211 Unsealed Roads Metalling	Option Description	Benefits of Option	Negative Consequences of Option
Reduce budget	Decreasing unsealed roads metalling budget will increase frequency of maintenance interventions as surface condition will deteriorate and customer complaints will increase.	Decreased cost for the work activity	Customer complaints will increase Unsealed surface condition will generally deteriorate Road user safety may be compromised
Status Quo	Maintain current levels of unsealed roads metalling.	Maintains current LOS for road users Maintains customer complaints at current levels	Does not improve the current network, will continue to see deterioration over time
Increase budget/work level	Increase levels of unsealed roads metaling and strengthening works. Of which we are seeing	Improved level of service	Increased costs for the work activity.

	significant benefits as it relates to maintenance spend on those sections that have been improved.	Improves road user safety Reduces customer complaints	Challenges affordability.

TEST OPTIONS & PREFERRED PROGRAMME

W/C 112 Unsealed Roads Maintenance	Option Summary	Level of Service Outcome	Costs of Option
Reduction	Reducing the budget would basically allow for lump sum work to continue. No other interventions will be able to given effect to and the network will deteriorate and a backlog of deferred works will need to be addressed in the next LTP. Road user safety will also be compromised as defects are not addressed in a timely manner.	Customer satisfaction will decrease Road user safety will decrease Level of service (council measure) will not be achieved	Assumes reduction to the 2021/24 LTP approved funding
Status Quo	Maintains the current level of intervention including maintenance of the wearing course and grading frequency. As evidenced in the funding request we are increasing the investment over the three year period.	Customer satisfaction will decrease	LOS B funding: 2024/25 = $3,282,749 2025/26 = $3,775,162 2026/27 = $4,341,436 **Total = $11,399,347**
Increase budget/work level	Increasing the budget challenges affordability.	Customer satisfaction will increase	Option exceeds $11.4M over the three year period.

W/C 211 Unsealed Roads Metalling	Option Summary	Level of Service Outcome	Costs of Option
Reduction **Status Quo**	Reducing the budget would lessen the amount of metal renewals available for the unsealed network. No other interventions will be able to be given effect to, the network will deteriorate and a backlog of deferred works will need to be addressed in the next LTP. Road user safety will also be compromised as defects are not addressed in a timely manner.	Customer satisfaction will decrease Road user safety will decrease **THIS LEVEL OF FUNDING IS NOT ADEQUATE**	2024/25 = $1,182,000 2025/26 = $1,241,000 2026/27 = $1,303,155 **Total = $3,726,255**

PROGRAMME BUSINESS CASE

Increase budget/work level	While an increase challenges affordability there is a need to understand better the unsealed network as it relates to renewals and shape correction. We are doing some work in this area to better inform FWP prior to new contracts starting in 2025.	Customer satisfaction will increase	Option exceeds $3.7M over the three year period.

PROGRAMME BUSINESS CASE

PREFERRED PROGRAMME

Is there a case for investment?	The preferred programmes for maintenance and renewals reflect a gradual increase in investment over the three year period. These budgets have been workshopped and agreed to with Council in light of affordability discussions across all of Councils activities. Whilst we acknowledge that the renewals budget is not sufficient, we are undertaking detailed works to better inform our FWP prior to new maintenance contracts commencing in July 2025.

Work Category	**2021/24 Approved Funding (TIO)**	**Funding Request (Preferred Programme)**		
		2024/25	**2025/26**	**2026/27**
112 Unsealed Roads Maintenance	$7,675,234	$3,282,749	$3,775,162	$4,341,436
TOTAL				**$11,399,347**

Work Category	**2021/24 Approved Funding (TIO)**	**Funding Request (Preferred Programme)**		
		2024/25	**2025/26**	**2026/27**
211 Unsealed Road Metalling	$3,813,465	$1,182,000	$1,241,100	$1,303,155
TOTAL				**$3,726,255**

IMPROVEMENT PROGRAMME

Unsealed Roads Strategy

4.3 Drainage

Work Category 113 Drainage Maintenance & Work Category 213 Drainage Renewals

Work category (WC) 113 and 213 provides for the work necessary to maintain and renew the function of the drainage assets to capture and convey stormwater.

Examples of qualifying activities include, but may not be limited to:

- cleaning of kerbed water channels, sumps and cesspits in urban areas (30 percent of total cost)
- routine maintenance, repair and reinstatement of surface water channels and routine maintenance and repair of sub-soil drains
- stream clearing and debris removal to maintain water courses through culverts (cross-sectional area less than 3.4 square metres)
- removal of berms impeding drainage (high lip removal)
- renewal of culverts having a cross-sectional area less than 3.4 square metres
- repair and replacement of kerb and channel, provided that the deterioration is likely to adversely affect the performance of the pavement.

The purpose of this asset group is to provide adequate drainage for water runoff from the carriageway. Protecting the road edge and pavement materials (basecourse/sub-base) from stormwater intrusion prevents deterioration of the pavement layers and therefore protects the effective life of that asset. From an asset risk perspective, drainage assets represent a significant risk to the transportation network, where the cost of repairing the consequences of failure generally exceed the value of the asset causing the failure.

Strategic Linkage

GPS Outcomes	***Increased Maintenance and Resilience*** ***Safety*** ***Value for Money***
RLTP Outcomes	***Safety objective:*** *A safe, accessible transport system in the Waikato region where no-one is killed or seriously injured.* ***Resilience objective:*** *An efficient and resilient land transport system that ensures communities have route security and access to essential services.* ***Accessibility objective:*** *An integrated transport system that provides transport options for differing community access and mobility needs.* ***Climate change objective:*** *An environmentally sustainable, energy efficient and low carbon transport system that delivers emissions reductions and enhances communities' long-term resilience to the effects of climate change.*

PROGRAMME BUSINESS CASE

Waikato DC Council Outcomes	

PROGRAMME BUSINESS CASE

Asset Information (updated 26/03/2024)

Drainage asset data is summarised in the tables below.

Asset Component	Unit	Total
Kerb and channel	(all types m)	437,094
Culverts (all diameters m)	(all diameter m.)	116,757
Sumps, Catch pits, Soak Pits, Drop Chambers (ea.)	(ea.)	4,709
Enviropods (Raglan)	(ea.)	29
Flume	(m)	324
Manhole	(ea.)	567
Rain Garden	(ea.)	129

Culverts	Length (m)
Up to 300 diameter	72,693
335 – 525 diameter	21,201
550– 775 diameter	7,899
800 – 1200 diameter	8,902
1250 – 1800 diameter	2,497
>1800 diameter	3,565
Total Culverts	**116,757**

Channel Type	Number	Length (m)
Dished Channel (Half pipe)	4	220
Dished Channel (Concrete)	168	12,205
Kerb Only (Concrete)	192	22,975
Slot Channel (Concrete)	10	409
Mountable Kerb Only (Concrete)	294	8,389
Kerb & Channel (Concrete)	1465	342,744

Mountable Kerb & Channel (Concrete)	1033	62,351

Condition Data

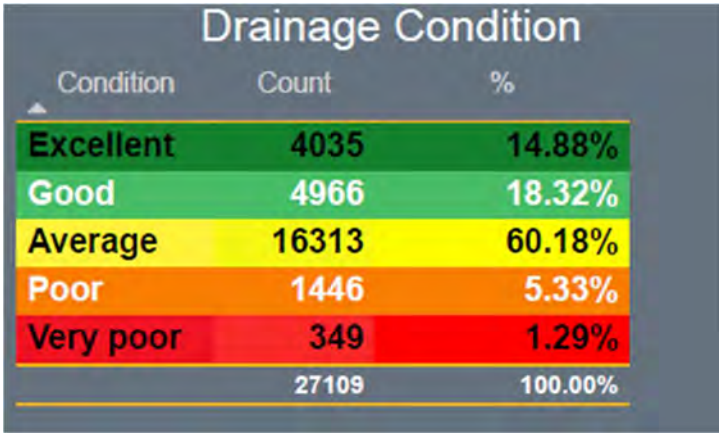
The capacity of the drainage asset to cope with the catchments is generally adequately designed and constructed. As the condition of the asset deteriorates other factors start to determine the assets capacity for managing the flow from the catchments. This can be compounded by change in adjacent land use e.g. where a heavily vegetated block is turned into pastoral land or hard surface. This is not common in the rural network and urban drainage development is protected through the consent process.

The condition of the roading asset relies heavily on the quality of the drainage controls in place. In order to maintain a sound pavement, the surface water and ground water cannot be allowed to enter the pavement base course. Inadequate drainage often manifests itself in the form of pavement failure.

The objective for drainage renewals is to ensure that any drainage assets that are unfit for purpose or that are not achieving required performance levels are replaced and where required increased capacity.

Opportunity to align replacement of drainage assets of inadequate capacity with pavement renewals has proven to be the most economic and effective method of maintaining and renewing the drainage asset. Further drainage assets are being added where protection of the network is required by controlling water flow. This work is being carried out to ensure desired levels of service are being achieved.

Surface Water Channels generally maintain their shape well but require periodic maintenance to remove vegetation and detritus build-up from the channel invert to maintain flow and capacity. This is an area where more work is required alongside our maintenance contractor to reshape as required, particularly in the rural network.



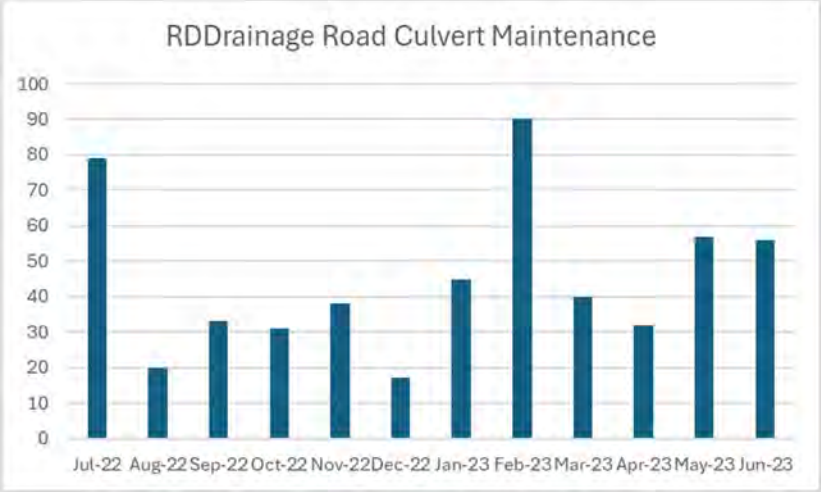
The condition of the drainage assets suggest that the frequency of inspection is not adequate for our network, with over 60% of the assets classified as being in average condition.

CRM Data

Spikes in drainage CRM data coincide with either the winter period or periods of prolonged or heavy rainfall or extreme events such as Cyclone Gabrielle.

Table Drainage RFS Data

PROGRAMME BUSINESS CASE



Maintenance

Kerb & Channel Operations and Maintenance

To ensure that kerb and channel operates efficiently and to maximum design capacity at all times, a regular programme of channel cleaning is undertaken predominantly by a mechanical sweeper. Channel cleaning is sometimes supplemented by manual cleaning in areas identified as requiring additional attention due to:

- Frequency of flooding during rainfall
- Leaf fall during autumn/winter, and
- In response to request/complaint.

There are periodical maintenance requirements that are not extensive enough to be classed as capital, and it is often necessary to programme and repair short lengths of broken or failed kerb and channel. These works are identified by the Contractor (all faults), Council staff, or from ratepayer concerns or complaints.

The road maintenance contractor reports any defects observed during routine inspection patrols and logs the fault into the all faults programme. Condition surveys are undertaken periodically as part of the contract with council's Professional Services provider.

Damaged and malfunctioning kerbs identified by the contractor or reported via CRM's are programmed for repair according to the following criteria:

- Public safety.
- Accelerated deterioration of the adjacent pavement is occurring, or is likely to occur.
- Inconvenience occurring to road users, pedestrians and/or property owners.

Surface Water Channel Operations and Maintenance

The road network inspectors reports any defects observed during routine inspection patrols and logs any faults into the all faults programme.

Unplanned maintenance is generally in response to requests from the public via council's CRM system and usually relate to defective assets. A high level of responsiveness is required from the Contractor to prevent potential damage to other roading assets and adjoining properties.

Planned maintenance includes the programmed repair of damaged and malfunctioning assets identified by the Contractor, council staff or the public. Typical works include:

- Removal of high berm preventing the flow of stormwater from the pavement to the channel. This is usually undertaken on a cyclic basis in conjunction with pre-reseal repairs on sealed roads and re-metalling and maintenance grading on unsealed roads.
- Spraying of channel inverts and inlet/outlets of stormwater receiving structures to control vegetation.
- Cleaning by machine (small digger/grader) when the build-up of detritus is sufficient to impair performance.

Culvert Operations and Maintenance

Culvert maintenance is the work necessary to keep the waterway clear of debris throughout the length of the culvert, its approach and discharge channels. All drainage culverts crossing roads are maintained as roading assets. Culverts that cross private entranceways are not maintained by the Council. These are the responsibility of the property owner.

It is expected that the Contractor shall instigate a proactive approach to culvert maintenance, through regular inspections and appropriate maintenance.

Culverts are cleaned where possible in conjunction with each inspection. Debris, including all litter, rubbish, detritus, and vegetation is removed from culverts so that normal water flow is maintained and care is taken so that the culverts are not damaged during cleaning operations.

Rain Gardens

We have seen a proliferation in the number of rain gardens being constructed across our district as a result of new developments. The WRC Stormwater Guidelines and the Regional Infrastructure Technical Specifications (RITS) requirements related to the discharge of stormwater the quality thereof have driven the change. The maintenance of these assets brings its own set of challenges particular around the frequency and inspection regimes also attached with each asset. Council has 129 of these assets in RAMM.

Renewals

Kerb and channel renewals usually take place in conjunction with the upgrading or reconstruction of the adjacent pavement sections, footpaths and berms, usually as part of an integrated programme with other capital works including resurfacing, footpaths and street upgrade projects.

Culverts are renewed when they are unable to perform their functions safely and satisfactorily to the agreed level of service. This can occur through breakage, corrosion, blockage, change in run off characteristics requiring a greater waterway capacity, and lack of length (often caused by end breakage over the years).

Sumps are renewed when the kerb and channel they serve is renewed. Parts of the original sumps may be reused, e.g. barrels and the piped outlets depending on the condition, but this is done on a case by case basis.

New Capital

New culverts are typically created in conjunction with road upgrades and construction works. The need for other new culverts generally arises from the need to improve or resolve identified drainage issues. There is no formally identified or programmed need for new culverts that might be required to maintain the current agreed levels of service.

New drainage facilities are also created as a result of subdivisions and development being vested with Council and in conjunction with growth related capital works.

PROGRAMME BUSINESS CASE

New sections of kerb and channel are acquired when:

- New sections of kerb and channel are constructed in by the Council where there was no kerb and channel previously.
- New kerb and channel constructed by the Council as part of rural intersection improvements.
- New kerb and channel is vested in the Council after it has been constructed in new subdivisions by private developers.

Gap Analysis

Are there any gaps identified?	Culvert condition inventory Replacement FWP Network Drainage Strategy Rain garden maintenance and renewals

PROGRAMME BUSINESS CASE

DEVELOP OPTIONS

W/C 113 Drainage Maintenance	Option Description	Benefits of Option	Negative Consequences of Option
Reduce budget	The do minimum covers routine maintenance, allows for minimal reactive works or programmed items such as water tabling and high shoulder removal to continue to protect pavement assets.	No benefits provided under this option except for a reduction in costs	Deferred maintenance and exposure to asset related risk/failure due to lack of budget. Level of service will reduce Customer dissatisfaction will increase Decrease in network resilience Potential for costs to increase in W/C111 Sealed Pavement Maintenance
Status Quo/Maintain the existing level of work	Routine maintenance expenditure targeted at maintaining assets in their current condition. Other maintenance items (pro-active) undertaken to address issues over the course of the year (i.e. customer complaints or sudden failure) might not be funded. Minimal amount of SWC works and high shoulder removal.	Maintains the level of funding and allows for quantum of routine and programmed work to be carried out. Risk that programmed works is deferred to allow for reactive works creating backlog Does not address identified deficiencies in water table drains	The status quo does not provide sufficient funding to address maintenance requirements. Possibly risk of greater funding required to address issues that are deferred
Increase budget/work level	Drainage inspections are identifying programmable works in conjunction with a need to implement reinstatement of water tables and high shoulder removal to protect the pavements.	Drainage assets provide an essential service to the integrity of the pavement network and to provide a level of protection to road infrastructure and property from flooding. Maintain and manage customer satisfaction	Increase in budget may need to be balanced out elsewhere in the roading programme.

W/C 213 Drainage Renewals	Option Description	Benefits of Option	Negative Consequences of Option
Reduce budget	Drainage renewals currently targets deficient culverts, areas of flooding risk and defective K&C. K&C where possible is linked to other works such as pavement rehabilitation or roading upgrades. A	Decrease in overall costs	Increase maintenance costs over time due to deferral of work could also impact on pavement resilience.

	reduction just lessons the amount of work that can be undertaken.		May reduce levels of accessibility, resilience and road user safety Will impact on W/C 111 Sealed Pavement Maintenance and W/C 214 Pavement Rehabilitation – may cause some roads to be rehabbed earlier than expected
Status Quo	As above, but maintain existing levels of funding	Allows current programmes of work to continue and to target areas of the network that would benefit from continued investment, particularly around re-alignment and capacity issues.	No improvements to network resilience above current levels Overall condition of the drainage assets will decrease
Increase budget/work level	As per above but includes a focus on improving network resilience.	Improvements to overall drainage assets condition Improve network resilience and accessibility at identified network hotspots Enable drainage works to be undertaken with other project work.	Increase in funding may place pressure on Councils financial position. Continue to protect investment in pavement assets and over time will see a reduction in pavement costs

TEST OPTIONS & PREFERRED PROGRAMME

W/C 113 Drainage Maintenance	Option Summary	Level of Service Outcome	Costs of Option
Reduction	If the budgets were reduced we would need to target maintenance to where the best outcomes would be achieved, routine works would take preference. Reactive works would be programmed on risk to asset and or property.	Anticipate that customer satisfaction would decrease and RFS would increase. Other technical LoS for pavement assets would likely decrease.	Assumes reduction to the 2021/24 LTP approved funding
Status Quo	Maintain current levels of work which currently does not address adequately the need to increase investment into water tabling and high shoulder removal	Maintains current levels of service, but expect deterioration of the condition over time and compromises investment in pavement assets. Continued issues with resilience.	Assumes the 2021/24 LTP approved funding $2,919,622 with a marginal uplift to account for CPI
Increase budget/work level (preferred)	Also recognizes the need to maintain the investment in water tabling and high shoulder removal alongside other routine activities such as culvert jetting and routine inspection programme. Full time drainage crew on the network.	Increase in level of service over time and subsequent improvements to pavement investment over time.	2024/25 = $2,795,851 2025/26 = $3,215,228

			2026/27 = $3,697,512 **Total = $9,708,591**

W/C 213 Drainage Renewals	Option Summary	Level of Service Outcome	Costs of Option
Reduction	This presents the lowest cost of the options, however network condition will deteriorate as and it is likely that a backlog of works will continue.	Reduced LoS outcomes is likely and network resilience will decline. Unplanned interventions will place pressure on existing budgets.	Assumes reduction to the 2021/24 LTP approved funding
Status Quo (Actual)	This option considers renewal of 25 – 35 culverts per annum depending on size, location, consenting and design (depth, catchment etc).	Maintains current LoS and contributes to increased resilience, amenity and safety and continues to protect the investment in pavement assets through the provision of appropriate drainage to remove stormwater away.	2024/25 = $1,519,000 2025/26 = $1,746,850 2026/27 = $2,008,878 **Total = $5,274,728**
Increase budget/work level	Not considered in this LTP	Increase in level of service over time and subsequent improvements to pavement investment over time	2024/25 = $2,559,000 2025/26 = $2,728,000 2026/27 = $2,386,000 **Total = $7,673,000**

PROGRAMME BUSINESS CASE

PREFERRED PROGRAMME

Is there a case for investment?	The preferred programmes for maintenance and renewals reflect a gradual increase in investment over the three year period. These budgets have been workshopped and agreed to with Council in light of affordability discussions across all of Councils activities. Council will be entering into new maintenance contracts as at July 2025. Th uplift in year 2 reflects shifts in the cost evidenced in the maintenance market over previous years. Year 3 reflects an uplift in programmed works to support increases in pavement works.

Work Category	2021/24 Approved Funding (TIO)	Funding Request (Preferred Programme)		
		2024/25	2025/26	2026/27
113 Drainage Maintenance	$6,951,126	$2,795,851	$3,215,228	$3,697,512
TOTAL				**$9,708,591**

Work Category	2021/24 Approved Funding (TIO)	Funding Request (Preferred Programme)		
		2024/25	2025/26	2026/27
213 Drainage Renewals	$3,847,061	$1,519,000	$1,746,850	$2,008,878
TOTAL				**$5,274,728**

IMPROVEMENT PROGRAMME

Culvert condition inventory

Network Drainage Strategy

Programme Business Case

4.4 Bridges, Large Culverts & Retaining Walls

Work Category – Structures (to cover off 114 Maintenance and 215 Component Replacement)

Work category 114 and 215 provides for the work necessary to maintain and renew the function, structural integrity and appearance of:

- road bridges
- retaining structures
- guardrails
- stock access structures/underpasses
- footpaths on road structures (i.e. pedestrian overbridges)

Work Category 216 Bridge Replacement

W/C 216 provides for the like for like replacement of bridges and structures which are at the end of their serviceable life for condition reasons.

Strategic Linkage

GPS Outcomes	***Increased Maintenance and Resilience*** ***Safety*** ***Value for Money***
RLTP Outcomes	***Safety objective:*** *A safe, accessible transport system in the Waikato region where no-one is killed or seriously injured.* ***Resilience objective:*** *An efficient and resilient land transport system that ensures communities have route security and access to essential services.* ***Accessibility objective:*** *An integrated transport system that provides transport options for differing community access and mobility needs.* ***Climate change objective:*** *An environmentally sustainable, energy efficient and low carbon transport system that delivers emissions reductions and enhances communities' long-term resilience to the effects of climate change.*
Waikato DC Council Outcomes	

Programme Business Case

TEST LEVELS OF SERVICE

There are currently no levels of service specific to bridges that are measured and reported on.

COMPILE & TEST EVIDENCE

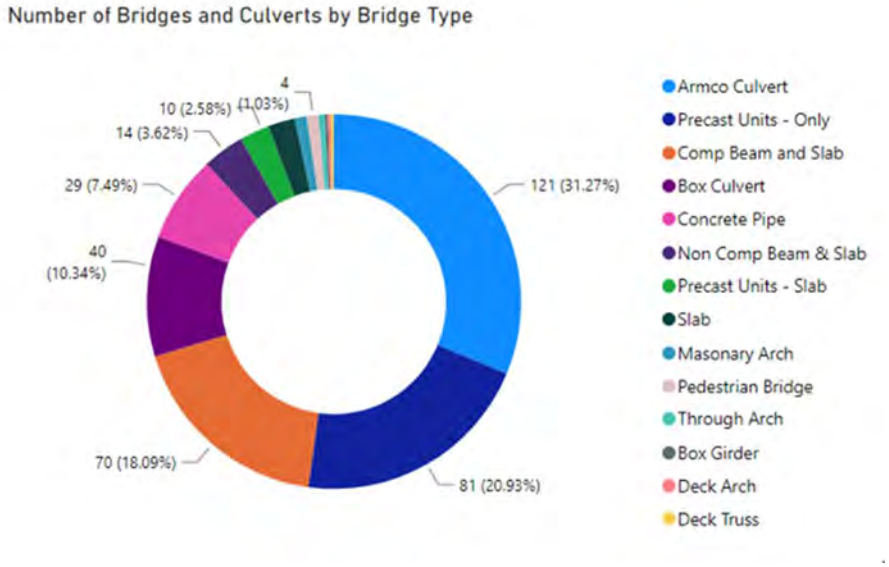
The bridge component is made up of:

- Bridge structures
- Large culverts where the waterway area is >3.4m2
- Retaining walls (within road reserve to support the road)

Activities delivered through the road pavements assets and their respective Waka Kotahi funding work categories are summarised in the table below.

W/C No.	Work Category Name	Key Function	Work Activities
114	Structures Maintenance	Remedy defects	Painting, minor repairs, clearing and cleaning
151	Network and Asset Management	Professional services, financials and work programmes	Condition inspections, forward works programmes, investigation, design and delivery
215	Structural Component Replacement	Restore functionality and asset integrity	Replace decks, structural members, corrosion repairs, strengthening works
216	Bridge Replacement	Like for like replacement	Replace an existing structure, bridge, large culvert

Bridge Inventory



Council has 387 bridges and large culverts in its inventory with a replacement value of $471.55M.

Major Bridges

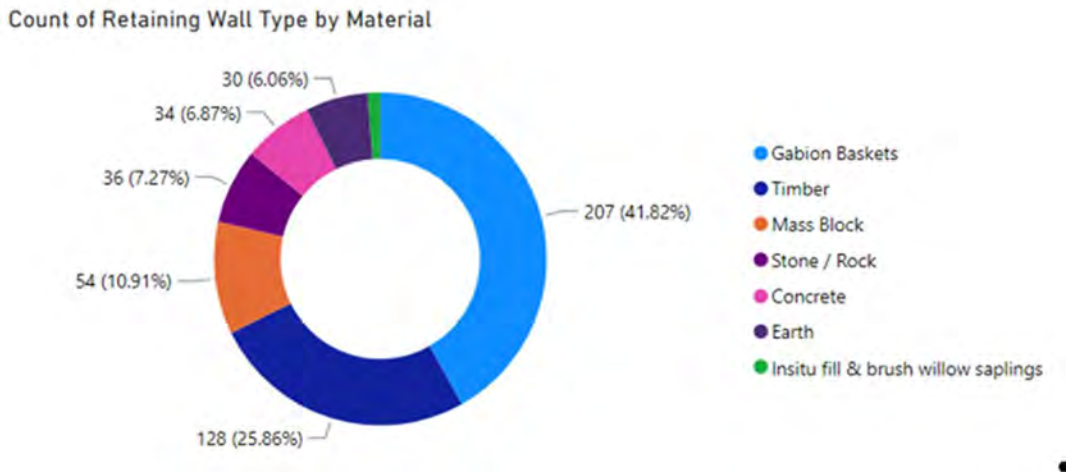
Council has a number of significant structures in its inventory, which represent a significant replacement cost in forthcoming years. Works has been carried out Mercer Ferry and Tainui Rd Bridge at significant cost and disruption to the travelling public. Whilst not yet vested, two key bridges are to be vested as part of the Huntly SH1 revocation.

Table 7 Significant Bridges

Road Name	Length	Lanes	Bridge No.	Name	Bridge Type
TAINUI BRIDGE RD	327	2	290	Tainui Bridge	Through Arch
GLEN MURRAY RD	276	1	65	Glen Murray - Rangiriri #1 Bridge (with Lights)	Box Girder
RIVER RD (TUAKAU)	211	2	3439	Tuakau Bridge	Bow String Arch
MERCER FERRY RD	159	2	3466	Caesar Roose Bridge	Comp Beam and Slab
GREAT SOUTH RD (TAUPIRI)	135	2	3563	Waikato River Bdge Ngaruawahia	Deck Truss
WAINGARO RD	111	2	353	Waipa Bridge	Precast Units - Only
HOROTIU BRIDGE RD	87	2	3131	Horotiu Bridge	Through Arch
WAINUI RD	85	1	360	Bryant Home #1 Bridge	Comp Beam and Slab
TE HOE RD	75	1	308	Te Hoe #2 Bridge	Comp Beam and Slab
WAIKOKOWAI RD	73	2	2010	Waikokowai Rail Over Bridge	Precast Units - Only
ORINI RD	60	2	200	Orini #1 Bridge	Comp Beam and Slab
SH 1 (POKENO - HAMILTON BY PASS)	60	4	3554	Onion Road over bridge	Precast Units - Slab
MCCONNELL RD	53	1	171	McConnell #1 Bridge	Non Comp Beam & Slab
FALLS RD	50	1	51	Falls #2 Bridge	Precast Units - Only
OLD RD	50	1	195	Old Bridge	Precast Units - Only

Retaining Wall Inventory

Council owns and manages 495 retaining walls as identified in the RAMM database. Retaining structures are a critical component of the network as they provide stability to otherwise unstable areas of the roading corridor. Typically walls are constructed as a response to the effects of a storm event whereby sections of road or drainage assets, or even bridges have been affected, whether it is overslips, underslips or scour. There is a multitude of repair options, hence the variety contained within the database. The type of repair is dependent on location, depth, ground materials and even risk acceptance. In any given year, depending on the severity of a storm event our retaining walls inventory can grow. The majority of these assets have relatively long lives (depending on the material) and maintenance requirements are low. The inventory will grow following on the cyclone events of early 2023.



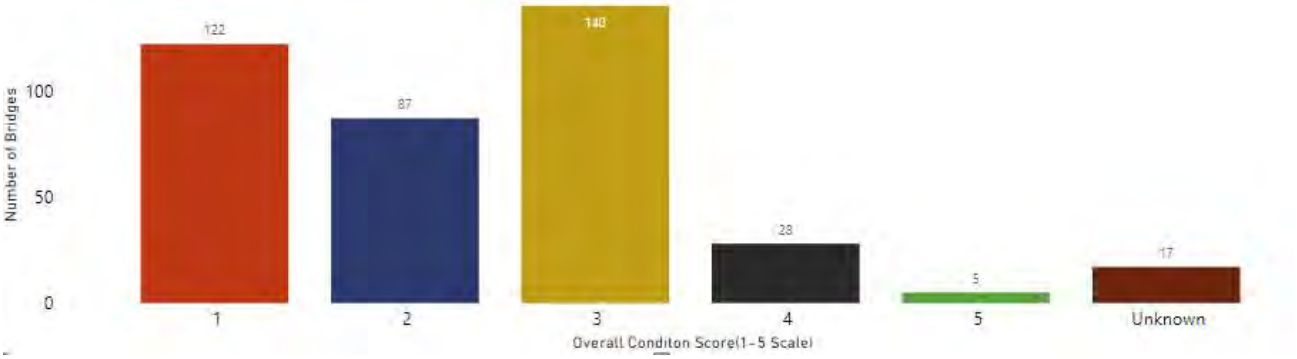
Condition Data

Bridge condition is assessed every two years by the bridge consultant in accordance with the current Waka Kotahi Bridge Inspection Policy for Bridges and Large Culverts (waterway area greater than 3.4m^2).

The best condition bridges are generally all concrete construction, particularly double hollow core deck bridges. The double hollow core concrete deck bridges are robust, low maintenance and designed to carry full HN-HO loadings. Council will consider this type of construction for all future bridge replacements where possible and work toward having this as a standard bridge type throughout the District.

The best condition culverts are generally concrete box culverts or concrete pipe culverts. These culverts are robust, low maintenance and designed to carry full HN-HO loadings. Council will consider this type of construction for all future large culvert replacements where possible and work toward having this as a standard large culvert type throughout the District.

Figure 31 Bridge Condition



The figure above shows the condition as assessed in 2023. The number of bridges in Fair to Poor condition is approximately 27% (approx. 134 structures).

Weight Capacity

Council currently has 21 approved restricted bridges in total advertised in accordance with both the Heavy Motor Vehicle Regulations 1974 – Regulation 11 (‘the Regulations”) and the Waka Kotahi Vehicle Dimensions and Mass (VDAM) Rule 2016.

Table 8 Weight Restricted Bridges

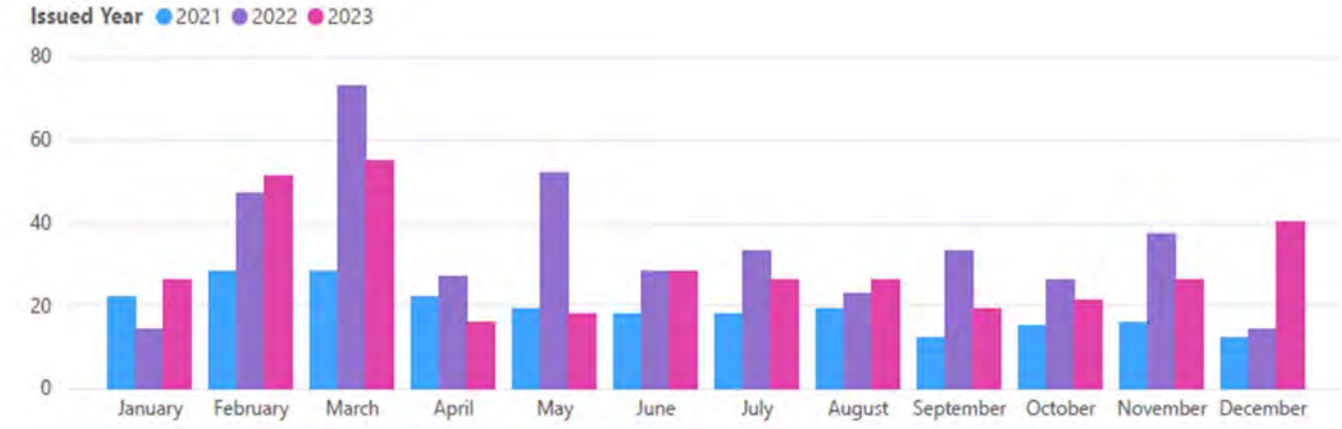
Name of road bridge	Mass limits		Maximum speed limit (km/h)
	Maximum mass on any 1 axle	Gross mass (maximum sum of axle mass)	
Blackett Road RP168 Bridge, Whatawhata	4,300kg	50% Class 1	30
Harrisville Rd RP3199 Bridge, Buckland	-	2 axles: 12T / 3 axles: 17T 4 axles: 20T / 5 axles: 25T 6 axles: 29T / 7 axles: 32T 8 axles: 35T / 9 axles: 39T	-
Harrisville Rd RP8230 Bridge, Tuakau	-	2 axles: 12T / 3 axles: 17T 4 axles: 20T / 5 axles: 25T 6 axles: 29T / 7 axles: 32T 8 axles: 35T / 9 axles: 39T	-
Mercer Ferry Road RP11 Bridge, Mercer	-	-	10
Steen Road RP623 Bridge, Waitakaruru	-	-	15
Tahuna Road RP8933 Bridge	-	2 axles: 12T / 3 axles: 17T 4 axles: 20T / 5 axles: 25T 6 axles: 29T / 7 axles: 32T 8 axles: 35T / 9 axles: 39T	30
Te Putu Street RP242 Bridge, Taupiri	-	70% Class 1	30
Waipuna Road RP7470 Bridge, Waerenga		2,000 kg	10
Buckland Road RP6201 Bridge, Tuakau	-	44,000 kg	-
Coalfields Road RP5643 Bridge, Kopuku	-	44,000 kg	-
Glen Murray Road RP133 Bridge, Rangiriri	-	44,000 kg	-
Highway 22 RP20276 Bridge, Glen Murray	-	44,000 kg	-
Horotiu Bridge Rd RP370 Bridge, Horotiu	-	44,000 kg	-
Maxwell Road RP2067 Bridge, Maramarua	-	44,000 kg	-
Otonga Valley Rd RP190 Bridge, Raglan	-	44,000 kg	-
Pioneer Road RP1825 Bridge, Pokeno	-	44,000 kg	-
Proctor Road RP4773 Bridge, Te Hoe	-	44,000 kg	-
River Road RP2924 (Tuakau) Bridge, Onewhero	-	44,000 kg	-
Riverview Road RP00 Bridge, Huntly	-	44,000 kg	-
Wainui Road RP957 Bridge, Raglan	-	44,000 kg	-
Waiterimu Road RP126 Bridge, Waiterimu	-	44,000 kg	-

Overweight Permits

As evidenced in the figure below, overweight permits have been increasing year on year. This indicates that our structures are incurring greater volumes of heavy traffic. This impact of the increased loading is a reduction in the overall serviceability of the structure, that is, its effective useful life is diminished at a faster rate.

Numbers have increased post 2021 and we will continue to see an upward trend in the district.

Figure 32 Permits Processed



Barriers

Barriers and rails provide a key safety component to the network. They reduce the severity of a crash by preventing an errant vehicle from a drop, a solid object, or submersion into a stream/river that would otherwise likely result in serious injury or death.

Maintenance

The Lifecycle Management Plan objective for structures maintenance is to conduct regular inspections to identify maintenance requirements for the Districts bridges. Bridge inspections continue to be completed in accordance with Council's bridge maintenance policy. Typical defects include;

- Missing or loose nuts on holding down bolts
- Concrete cracking or spalling
- Expansion joint defects
- Rusted bolts and handrails
- Rotting timber decks/boards and railings
- Piers cluttered with debris

Regular maintenance issues such as the painting of handrails and sweeping of decks are carried out on a regular basis and are charged as a lump sum item through the maintenance contract. More significant maintenance issues such as repairs to expansion joints or bracing of timber piles generally require some input from the consultant in terms of design and approval of the works.

As the bridge stock ages, more extensive maintenance of timber and concrete structures will be required. Maintenance work is carried out by the Alliance. Repair work is carried out using similar materials to those being replaced and with materials that will give the longest repair life for the least cost.

Guardrail and handrail maintenance is typically reactive and based on vehicular damage and environmental damage (flooding). General network inspections identify non-compliances and ensure remedial works are carried out in a timely manner.

Bridge Inspections

Waikato manages its bridges and other significant structure assets through SAMS contract through WLASS/ Colab. The Structures Asset Management Services (SAMS) Contract was awarded to Beca Ltd in

Programme Business Case

September 2022. The objective of SAMS is to maximise the safety and operational life of the Councils structural assets.

Since 2020/21 Waikato is using NZTA S6 inspection programme. Which have included Principal Inspection, higher level of inspection outcomes, with the objective of reducing the risks of unidentified structural defects.

General Inspection – Two yearly inspection, comprise a visual inspection of all parts of the structure that can be inspected without the need for special access equipment or traffic management arrangements.

Principal Inspection – 6 Yearly close examination, within a touching distance, of all inspectable parts of a structure. Utilising access equipment and/or traffic management works as required.

Special Inspection – These are carried out to monitor specific known defects / potential issues on selected structure associated with HPMV routes.

All maintenance items identified during the inspections are prioritised as follows:

High Priority

Includes maintenance of any component which:

- Is unsafe to the public
- Has a medium to high risk of failure
- Is in poor condition and requires prompt action

Medium Priority

Includes maintenance of any component which:

- Is not a high priority but should be done soon to ensure structural integrity and safety of structure is maintained to an acceptable standard.

Low Priority

Includes maintenance of any component which:

- If delayed will not have a significant adverse effect on safety, structural integrity or future costs.

Maintenance and Renewals Issues

Initial observations reveal a substantial number of structures (at least 100) are classified as critical and high-priority and in need of physical intervention (some will also require investigation and design). This figure was ascertained from a review of the FWP list generated by the SAMS consultant. As such further validation of the document is needed to confirm this exact number. Although it is difficult to further prioritise the items in the critical and high categories it would seem prudent to aim to address these items over the next 10 years.

Validating the FWP includes checking the latest inspection report associated with each line item to provide a baseline to evaluate the recommendations from the perspective of a network provider as opposed to the expectations recommended by consultant services. Affordability and risk perception seem to be the two differing views when it comes to decision making in this regard. This process is essential for an accurate assessment of the current network condition.

While a detailed overview is lacking, initial high-level (likely conservative) cost estimates suggest the following for the critical and high priority items:

- 114 Structures Maintenance: $4.5 million

- 216 Structural Renewal (excluding minor culvert drainage): $2.4 million
- 215 Structures Component Replacement: $1.2 million
- 151 Professional Services Investigation and Design: $1.8 million
- Drainage Minor Culverts: $3.6 million (Drainage Budget not Structures – Old corroded Armco culverts <2mØ)

Total: Approximately $13.8M

Even though this is an extensive piece of work and will require adequate funding, resources, and strategic planning it is still deemed realistic to reduce this network risk over the next 10 years. A reasonable number of the work items are low cost but moderate to high risk therefore it would be beneficial to have an efficient procurement method to ensure a value for money approach.

Main Structures Works

W/C 114 Structures Maintenance

Concrete-line invert x 11 High Priority Culverts	$625,000
Concrete Repairs x 21 High Priority	$100,000
Retaining Wall Repairs x 11 High Priority	$265,000
Scour/Erosion Works x 18 High Priority	$475,000
Timber Repairs x 2 High Priority	$10,000

Figure 33 Fullerton Road Culvert Replacement

Figure 34 Whitikahu Road Culvert Replacement

Programme Business Case

Strategic Context | Test Levels of Service | Compile and Test Evidence | **Gap Analysis** | Develop Options | Test Options | Preferred Programme | Improvement Programme

Are there any gaps identified?	Proportion of the network not available to Class 1 or 50MAX vehicles 10 year and 30 year replacement forecast

Programme Business Case

DEVELOP OPTIONS

W/C 114 Structures Maintenance	Option Description	Benefits of Option	Negative Consequences of Option
Do minimum	Reduce the amount of work activity undertaken on bridges and structures.	No benefits provided under this option except for a reduction in costs	Deferred maintenance and exposure to asset related risk/failure due to lack of budget. Level of service will reduce
Status Quo	Routine maintenance expenditure targeted at maintaining structure assets in their current condition. Other maintenance items (pro-active) undertaken to address issues over the course of the year (i.e. customer complaint) might not be funded.	Maintains the level of funding and allows for quantum of routine and programmed work to be carried out.	The status quo does not provide sufficient funding to address maintenance requirements.
Increase budget/work level		Allows deferred maintenance to be caught up and minimises the risk of further failure across the assets. Allows consistency of required maintenance that includes routine items and programmed works identified from the inspections. Allows prioritisation of high priority works to be programmed including those sites that require specialist treatment or resource consent	Increase in funding may place pressure on Councils financial position. Increase in budget may need to be balanced out elsewhere in the roading programme. Challenges affordability.

W/C 215 Structures Component Replacement	Option Description	Benefits of Option	Negative Consequences of Option
Status Quo	Schedule of works identified prioritised and estimates prepared for funding submission. Work undertaken by specialists depending on complexity of task. Resilience work undertaken to prevent deterioration of assets if this is determined as having long term benefits	Decrease the risk of structural failure Reduces deterioration of assets in line with depreciation, extends life in some instances	No improvements to network accessibility above current levels
Increase budget/work level	There are a number of structural assets that require various component replacements (i.e. corbels, beams, new rails etc). including a programme for concrete renewals, and upgrades.	Allows deferred component replacement works to be caught up and minimises the risk of further failure. Improve the level of service	Increase in funding may place pressure on Councils financial position. Increase in budget may need to be balanced out elsewhere in the roading programme. Challenges affordability.

	A considerable amount of corrosion work is required based on some armco structures. An enhanced budget is required to address these items.		

W/C 216 Bridge Replacement	Option Description	Benefits of Option	Negative Consequences of Option
Do minimum	Do not undertake bridge replacement	Limited impact on overall costs	Increased structural and maintenance costs over time due to deferral of work May reduce levels of accessibility Risk of structure failure resulting loss of access, death or serious injury
Status Quo	Noting this is a shift in funding from W/C 341 LC/LR. Associated improvements will be funded from W/C 341. Assumes no change to overall budget as funding is removed from one W/C to another for bridge and structure replacements.	Dedicated funding available to replace bridges and structures that are in poor condition and can no longer provide the required level of service (supported by a present value end of life economic analysis).	No improvements to network accessibility above current levels.
Increase budget/work level			Increase in funding may place pressure on Councils financial position. Increase in budget may need to be balanced out elsewhere in the roading programme.

TEST OPTIONS & PREFERRED PROGRAMME

W/C 114	Option Description	Level of Service Outcome	Costs of Option
Do minimum/Reduction	A reduction in the funding would undermine the considerable work that has been undertaken by Council to identify and address maintenance works that adds resilience and amenity outcomes to the structures assets.	Does not contribute to improving accessibility and is likely to increase unavailability to the road network over time as structures deteriorate and bridge restrictions are imposed	Reduces level of funding below $2.685M
Status Quo	The current maintenance programmes are not covering the quantum of work required to maintain the structural assets.	Maintains the current level of service, but does not address the maintenance programmes as identified via the SAMS contract.	Maintains level of funding at approx. $2.685M

Programme Business Case

Increase budget/work level (Preferred)	An increase in the structures budget is required to programme over the next three year period. Structures have been tested with weather events of January and February and continued wet weather over the first 6-8 months of 2023.	This is the least cost long term option, and will deliver the desired outcomes and LOS. It will allow for planned intervention required as the result of inspections to maintain structures in serviceable condition	2024/25 = $1,268,776 2025/26 = $1,459,092 2026/27 = $1,677,956 **Total = $4,405,825**

W/C 215	Option Description	Level of Service Outcome	Costs of Option
Status Quo	The required budgets are prepared based on a list of prioritised renewal treatments identified from a robust schedule of inspections. This strategy ensures early intervention preventing the need for reactive repairs and poor outcomes for customers. This enhanced investment is greater than the current LTP.	This is the least cost long term option, and will deliver the desired outcomes and LOS. It will allow for planned intervention required as the result of inspections to maintain structures in serviceable condition	2024/25 = $1,000,000 2025/26 = $1,050,000 2026/27 = $1,102,500 **Total = $3,152,500**

W/C 216	Option Description	Level of Service Outcome	Costs of Option
Do minimum/Reduction	Not considered at this time		
Status Quo	22 large culvert structures for replacement that will require design and consenting. Some of the ARMCOs are over 6m deep. The budgets required for these sites are over $200K. This is a three-year programme in itself.	Replacements based on condition will restore the level of service for the asset.	2024/25 = $1,000,000 2025/26 = $1,050,000 2026/27 = $1,330,000 **Total = $3,380,000**

Programme Business Case

PREFERRED PROGRAMME

Is there a case for investment?	Structure assets are an integral part of the network and the maintenance and renewal of these long life assets requires continual investment. Some investments such as the works recently completed for the Tainui Bridge in Huntly and the Mercer Ferry Bridge (both over the Waikato River) require comprehensive health and safety requirements to be met (i.e. scaffolding/working from height) and or resource consents (works in watercourse etc). Allowing sufficient budget to and time is essential to continue to protect the bridge assets and to achieve their design life. In the 10 -30 yr horizon, Waikato will have some significant funding decisions to make on some its higher value bridges, particular those crossing the Waikato River. Decisions will also need to made regarding the future form of the Wainui Road bridge in Raglan.

Work Category	**2021/24 Approved Funding (TIO)**	**Funding Request (Preferred Programme)**		
		2024/25	**2025/26**	**2026/27**
114 Structures Maintenance	$2,685,802	$1,268,776	$1,459,092	$1,677,956
TOTAL				**$4,405,825**

Work Category	**2021/24 Approved Funding (TIO)**	**Funding Request (Preferred Programme)**		
		2024/25	**2025/26**	**2026/27**
215 Structures Component Replacement*	4,478,932	$1,000,000	$1,050,000	$1,102,500
TOTAL				**$3,152,500**

Work Category	**2021/24 Approved Funding (TIO)**	**Funding Request (Preferred Programme)**		
		2024/25	**2025/26**	**2026/27**
216 Structures	$250,775	$1,000,000	$1,050,000	$1,330,000
TOTAL				**$3,380,000**

IMPROVEMENT PROGRAMME

Bridges serving single properties. Assets have been identified and discussed with Council to commence a process to hand these assets to the landowners.

Programme Business Case

4.5 Work Category 121 Environmental Maintenance

Work category (WC) 121 provides for the routine care and attention of the road corridor to maintain safety, aesthetic and environmental standards.

Examples of qualifying activities include, but may not be limited to:

- vegetation control (specific conditions apply for funding)
- litter collection on rural roads
- removal of, and protection against, graffiti on road structures
- any special treatment of run-off from the road to maintain water quality (rain gardens)
- sweeping loose chip and detritus from road intersections
- removal of rocks and minor slip material from the road or catch fences
- maintenance of rest areas
- maintenance of protection planting, including maintenance pruning
- non-recoverable costs arising from clearing the carriageway of damaged vehicles, crash debris and spillages that are not the responsibility of emergency services, and
- non-recoverable costs associated with removal of abandoned vehicles from road reserves.

Strategic Linkage

GPS Outcomes	***Increased Maintenance and Resilience*** ***Safety*** ***Value for Money***
RLTP Outcomes	***Safety objective:*** *A safe, accessible transport system in the Waikato region where no-one is killed or seriously injured.* ***Resilience objective:*** *An efficient and resilient land transport system that ensures communities have route security and access to essential services.* ***Accessibility objective:*** *An integrated transport system that provides transport options for differing community access and mobility needs.* ***Climate change objective:*** *An environmentally sustainable, energy efficient and low carbon transport system that delivers emissions reductions and enhances communities' long-term resilience to the effects of climate change.*
Waikato DC Council Outcomes	

PROGRAMME BUSINESS CASE

Environmental Maintenance

The purpose of environmental maintenance (WC121) is to maintain vegetation and therefore sight distances to the required levels and to enhance safety. The mowing envelope includes high mowing of vegetation (impeding vision and hindering trucks and high vehicles). Removal of trees in high risk areas or where pavement is affected is also undertaken where funding allows.

Examples of activities currently undertaken by the road maintenance contractor include:

- Vegetation Control (spraying, roadside mowing and vegetation control)
- Removal of minor slips, litter and other loose debris accumulating on roads
- Clearing vehicle accident debris and spillages

Rural Mowing

- One full round of mowing per year (sealed and unsealed)
- 1.5m wide on straights and outside corners (can be 2.5m on arterials such as Great South Road)
- 3.0m on inside of corners including intersections
- We run with a flat bed mower and a reach arm mower so the high trim is completed at the same time (as per attached diagram)
- High trim will not get larger branches, these need to be removed separately.

Rural Spraying

- One full round of spraying (sealed and unsealed)
- Spraying includes the following:
- Street furniture
- EMPs, Signs, Guardrail
- Bridge abutments
- Culvert inlets and outlets (including entranceway culverts)
- Water tables (not open drains)
- Traffic Islands
- Kerb and channel

Urban Spraying

- Three rounds per year
- Spraying includes the following:
- Kerb and channel
- Traffic Islands
- CBD cobbled areas, carparks and laneways

Pest Plants

- Only spray what is on the WRC Regional Pest Management Plan (RPMP)
- Spray ¼ of network per year
- Wildling trees under 3.0m included in this.

High Trim

PROGRAMME BUSINESS CASE

Has been completed separately in the past but is currently included while undertaking the general rural mowing.

Tree Felling

Discretionary based on inspectors, weather, old or damaged trees.

Median island plantings.

Plantings in roundabouts and off ramps off SH1 (Te Kauwhata, Pickering Rd, Orini Rd, Bollard Rd, Authur Main Drive, Greenhill/ Pardoa Blvd as examples)

Rural footpath trimming (e.g Raglan, Rangiriri)

Trees Under Powerlines

This is an emerging cost for Council. In the wake of Cyclone Gabrielle there was increased pressure to review the Hazard from Trees (2003) Regulations through a lens of resilience and climate change. Essentially the aim of the regulations is to provide clarity on the rights and responsibilities of those who own vegetation, such as trees and plants, and 'works' owners, such as electricity line owners or operators, where trees and electricity lines share space.

Our roading and open spaces teams are approached regularly by both WEL and Counties Power regarding the clearing of vegetation under power lines. The Council currently utilise the "no interest notice" that are still a part of the 2003 regulation (albeit under a review in 2023). There is some pushback from the lines operator and dialogue remains strained.

The costs to Council would be significant in this regard, against a budget that is already tight, given what we can afford to spend on pest plant control. What we are also finding is that mature trees sitting in the road reserve (likely planted as shelter belts) are also becoming hazards in high wind areas.

Slip and Debris Removal

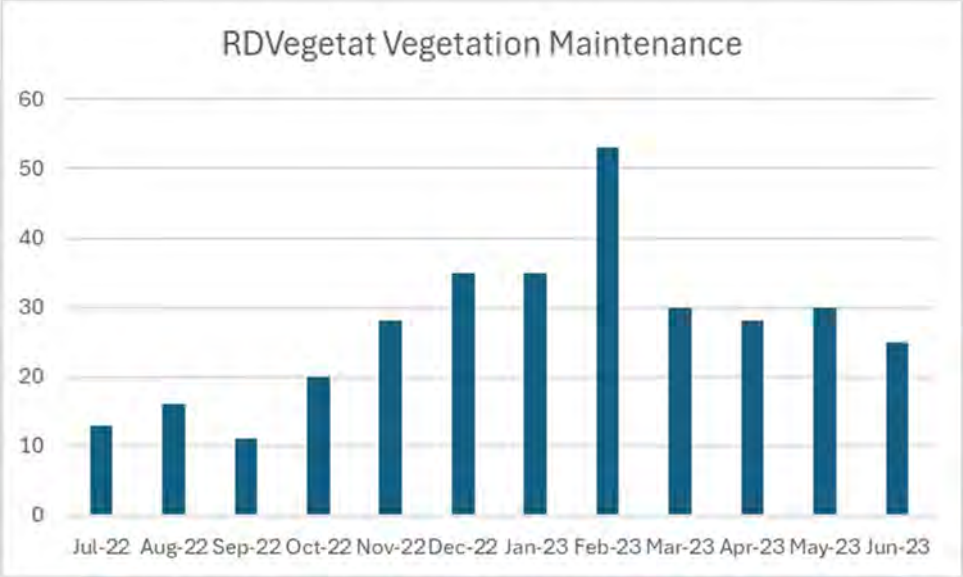
Much of the Councils rural network is constructed in medium relief topography which passes through steep sided cuttings subject to slips and soil fretting, with associated high maintenance.

A high proportion of the rural network has a high incidence of erosion due to proximity to meandering streams, rivers and ocean, steep and unstable cuttings, steep gradients, and overhanging trees.

The expense generated in maintaining safe travel for road users and ensuring drainage structures and water table drains are clear is significant and hard to forecast from one year to the next. This is a critical preventative activity that prevents costly repairs to other transportation assets from uncontrolled water runoff.

Figure 35 CRMs Received

PROGRAMME BUSINESS CASE



Historical Expenditure

This is one of the harder budgets to manage across the work categories given that it is subject to weather influences. Storms can create slips that may not attract qualify for emergency works, but nonetheless need to be cleared to maintain access and prevent further damage such as scour. Great growing weather can result in enhanced growth of roadside vegetation and extreme heat can bring with it fire danger. The last couple of years, we have had to remove a large number of hazardous trees from the around the network, in some cases large 'old man' pines can be in the 10s of thousands to remove, this places pressure on our already stretched budget. Council is investigating the impacts of forestry and set backs from rural roads that puts in place a long-term management plan to assist in the control of these large trees that get left behind from clear-felling operations.

Are there any gaps identified?	Large network requires considerable expense for vegetation control.

PROGRAMME BUSINESS CASE

DEVELOP OPTIONS

W/C 121 Environmental Maintenance	Option Description	Benefits of Option	Negative Consequences of Option
Reduction	Reduce the budget over the LTP period, focus would be on minimum requirements to be delivered as per contract specifications. Ordered works would be minimized or in the case of clearing small slips following rainfall that programmed works would reduce, or that required budget would be taken from another maintenance category.	The only benefit would be a reduction in overall budget for the work category.	Levels of service would be impacted in relation to amenity, accessibility and safety is would also be compromised should mowing and vegetation clearances not be achieved. Likely to receive more RFS and or complaints due to network appearance. Negative impacts for road users and detracts from the essential visitor experience sought after by visitors.
Status Quo	The current approved budgets allow for the required quantum of works to be carried out as required in the maintenance specification. Budget is also allocated to ordered works such as nuisance tree clearance, dealing with abandoned vehicles and clearing small slips. Mowing and general envelope control is maintained, along with essential sweeping and litter collection.	Safety – maintained sightlines which will reduce the likelihood of crashes and serious injury Amenity – the appearance of the road corridor is maintained to current LOS (litter, Graffiti, vegetation control, spraying) Accessibility and resilience of network is maintained through proactive removal of obstructions from roads and drainage assets	Maintains the high cost of maintaining the WDC network
Increase budget/work level	The budget identified for this W/C is increased based on previous years. It also reflects a desire to increase the amount of safety related works, vegetation trimming, hazard tree removal and also allows for cleaning of cobbled areas across the district in accordance with subsidy edibility rules.		Maintains the high cost of maintaining the WDC network and challenges affordability.

TEST OPTIONS

W/C 121	Option Description	Level of Service Outcome	Costs of Option
Reduction	Reduction would see a general decline in network appearance and potentially increasing road user safety risk.	Levels of service would decline and detract from the road user experience. Increase in customer complaints, RFS and general dissatisfaction with the network appearance. Safety could be compromised if vegetations	Assumes reduction to the 2021/24 LTP approved funding

PROGRAMME BUSINESS CASE

		and obstructions are not cleared in a timely manner according to the contract specifications	
Status Quo	Maintaining the status quo (based on new budgets) allows Council to achieve desired levels of service to be able to respond as necessary to reactive works.	This option struggles to deliver the desired levels of service and contract outcomes including timeliness of interventions to maintain safety, resilience and network appearance	Assumes the 2021/24 LTP approved funding plus CPI
Increase budget (Preferred)	The budget identified for this W/C is increased based on previous years. It also reflects a desire to increase the amount of safety related works, vegetation trimming and hazardous tree removal.	Safety – maintained sightlines which will reduce the likelihood of crashes and serious injury Amenity – the appearance of the road corridor is maintained to current LOS (litter, Graffiti, vegetation control, spraying) Accessibility and resilience of network is maintained through proactive removal of obstructions from roads and drainage assets	Funding Request: 2024/25 = $2,814,892 2025/26 = $3,237,125 2026/27 = $3,722,694 **Total = $9,774,711**

PROGRAMME BUSINESS CASE

PREFERRED PROGRAMME

Is there a case for investment?	The environmental maintenance activity provides for the routine care and attention of the road corridor to maintain safety, aesthetic and environmental standards, and provides for the reactive reinstatement of the transportation assets following adverse weather. With such a large network we are struggling with vegetation control including mowing and spraying. Large number of rural trucking firms are requesting over and above high trim/branch removal. Similarly powerlines companies, WEL and Counties Power are requiring higher levels of service for the removal of vegetation including pest plants under their lines.

Work Category	**2021/24 Approved Funding (TIO)**	**Funding Request (Preferred Programme)**		
		2024/25	**2025/26**	**2026/27**
121 Environmental Maintenance	$8,458,590	$2,814,892	$3,237,125	$3,722,694
TOTAL				**$9,774,711**

IMPROVEMENT PROGRAMME

No improvements have been identified for this W/C

4.6 Work Category 122 Network Services Maintenance & 222 Traffic Services Renewals

Work category (WC) 122 and 222 provides for the work necessary to maintain and renew key assets associated with the carriageway. The majority of these assets are key to road safety and amenity.

Examples of qualifying activities include, but may not be limited to:

- maintenance and renewal of:
  - traffic signs as accepted by Waka Kotahi's policy
  - road delineation marker posts
  - pavement markings (including bus priority lane and cycleway markings on all non-separated road surfaces)
  - signs required for stock crossings
  - sight rails
- operation, maintenance, renewal and power costs of:
  - carriageway lighting
  - belisha beacons and lighting at pedestrian crossings.

Council has recently completed the streetlight conversion programme utilising the increased financial assistance rate (FAR) from Waka Kotahi. The intent of the LED roll out was to make savings on the on-going maintenance costs and electrical charges incurred for the network.

Strategic Linkage

GPS Outcomes	***Increased Maintenance and Resilience*** ***Safety*** ***Value for Money***
RLTP Outcomes	***Safety objective:*** *A safe, accessible transport system in the Waikato region where no-one is killed or seriously injured.* ***Resilience objective:*** *An efficient and resilient land transport system that ensures communities have route security and access to essential services.* ***Accessibility objective:*** *An integrated transport system that provides transport options for differing community access and mobility needs.* ***Climate change objective:*** *An environmentally sustainable, energy efficient and low carbon transport system that delivers emissions reductions and enhances communities' long-term resilience to the effects of climate change.*
Waikato DC Council Outcomes	

PROGRAMME BUSINESS CASE

TEST LEVELS OF SERVICE

There are no specific levels of service for this Work Category.

COMPILE & TEST EVIDENCE

Traffic Services

Traffic Services aid the safe and orderly movement of vehicular and pedestrian traffic and indicate road use restrictions and other information. A good standard of traffic services can contribute significantly to a safer road network.

Streetlighting

The streetlight network is maintained via a Streetlight Maintenance Supply Partner arrangement, through the Waikato District Alliance (ITS being the supply partner). Overall maintenance of the streetlight network involves lamp replacements, fault repairs, emergency response for damage. All pole damage replacement works are completed using approved LED luminaires.

Replacing existing luminaires with new LED technology, will greatly reduce maintenance cost, due partly as the luminaires are new, but mainly due to the greatly extended life of the LED luminaire not requiring regular lamp changes. Increased reliability means that night survey work to identify outages is greatly reduced.

As with most streetlight networks throughout New Zealand, the WDC network is controlled on and off by way of both ripple control signals and Photocell units that are provided and maintained by any of the three lines companies which form part of a wider power supply network. These include Counties Power, WEL Networks and Waipa Networks. There is a cost to maintaining the ripple control plant, system and relays in the network that gets passed on to WDC. The signal is sent via the power lines each evening and morning that triggers the relays that turn the streetlight circuits on and off. The timing of the on/off ripple control signals is determined by a clock with backup daylight sensor and the duration of the “on” hours are logged and collated each month, to allow the calculation of energy consumption for billing purposes. This type of control only provides the ability to turn lights on and off with the lamps on at 100% output levels.

Streetlighting Condition

Through routine maintenance and inspections, it has been concluded that the lighting around the network is in average condition overall, inclusive of poles owned by the Council, brackets and lights which encompass lamps, gear etc.

The condition of the street lighting inventory is not at this time rated in any formal way. Maintenance and renewal programmes have been well funded in recent years but the overall condition of the asset is still considered to be borderline satisfactory based on current operational performance.

The general lighting stock, specifically the street lighting poles, is ageing and whilst not currently presenting any immediate issues, there needs to be a planned renewal programme to prevent the lighting poles

deteriorating to such a level that they do become an issue in the future. It is recommended that a full asset condition survey is carried out to update the general condition assessment of the lighting inventory and so allowing a renewal programme to be developed.

We have a number of bespoke street lighting columns throughout the district which are beginning to deteriorate. The poles are no longer manufactured and therefore replacement parts or complete light poles are no longer available. The issue here is that to replace individual random poles on a road will mean that we have different pole styles along the same road. Due to this and the fact that the original poles not replaced will soon require replacement anyway, it is logical and more cost effective to replace all of the poles in individual roads at the same time. Again, if the bespoke poles are replaced with a standard non-painted steel pole and not a decorative pole then considerable cost savings could be made.

Lux Surveys

Lux surveys were carried out for urban areas in mid 2024. The urban survey This survey covered 518 road sections (200 kms) located at the following main urban areas of the district being Raglan, Ngaruawahia, Huntly, Te Kauwhata, Pokeno and Tuakau.

The survey was carried out by Odyssey Energy (2009) Limited, and comprised the following:

- Illuminance data collection (post LED upgrade audit comprising measurement of road lighting levels using the Lux Mapping measuring system.

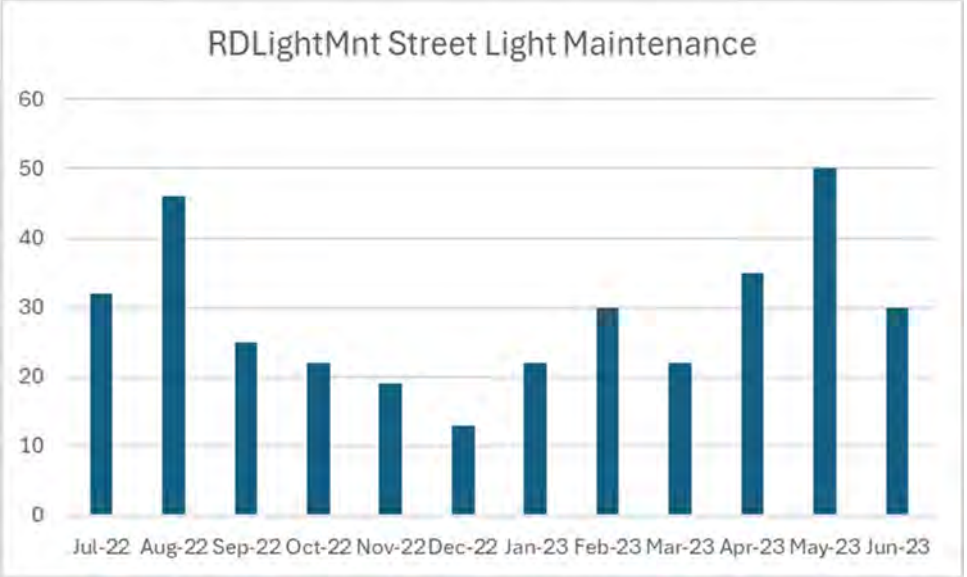
The purpose of this survey was to evaluate the performance of the LED lights and to provide Council with the following data:

- Excel spreadsheets detailing lighting lux levels versus coordinate's data that can be used by WDC for further analysis and evaluation of road lighting performance after
- LED upgrade including maintenance and upgrade priorities.
- GPS survey route data.
- Post processing to detail the road lighting category target lighting levels and produce basic priority upgrade list.
- Lux survey summary

The information gained from the lux surveys will assist the Council in the development of a new Streetlighting Contract to be implemented in 2025 post the end of the current Alliance.

Request for Service Data

Figure 36 Streetlight RFS Data



Road Signs

Routine inspections are carried out by the Alliance and from these forward work programmes are generated. Signs are maintained in terms of uprightness, quality and reflectivity. Traffic Services asset data is summarised in the tables below.

Figure 37 Signs RFS Data

Road Markings

All existing road markings are replaced on a 12-month cycle by the Alliance.

Road Marking Component	Unit	Number
Centreline marking	m	158,380
Edgeline marking	m	112,586

No parking/stopping lines	m	40,822
Retro-Reflectorised Raised Pavement Markings (RRPM)	m	22,778
Parking lines	m	13,310
No overtaking	m	6,727
Intersection continuity lines	m	5,738
Give ways	each	538
Arrow markings	each	242
Stop	each	98
Disabled parking	each	78
Other markings	each	50
Pedestrian crossings	each	18
Bus Stops	each	19

Retro-Reflectorised Raised Pavement Markers (RRPM's)

Retro-reflectorised raised pavement markers (RRPMs) are maintained by the Maintenance Contractor in conjunction with pavement maintenance. RRPMs have a relatively short lifespan of between 2 to 3 years and hence are regularly replaced. The condition of the existing installations of RRPMs is considered to be good.

Edge Marker Posts (EMP's)

Plastic edge marker posts are utilised on the district's roads, they are maintained by the Maintenance Contractor.

Traffic Facilities Condition

As no formal rating process is undertaken on the traffic facility assets, the actual condition of the asset cannot be determined. This however is not a priority as the stock is continually inspected and maintained through consultant network inspections and routine inspections completed under the Maintenance Contract.

It can be assumed due to the revolving nature of the asset that it is in average condition. There are some very old signs on the network that are in poor condition. These are identified on an on-going basis through auditing and inspections, and replaced when they are no longer fulfilling their intended purpose.

Delivering Maintenance and Renewals

Traffic services include maintenance of all signs and delineation devices with the objective that all assets are fit for purpose. Any traffic services repairs identified on the inspection are included into the Contractors programme of work which is reviewed monthly by the Consultant and the high priority work approved for the following month. Vandalism is one the main drivers for replacement, some factions of the community see our signs as target practice for large bore firearms or as an opportunity to practice their artistic skills with a spray can. Similarly EMPs tend to be targeted from time to time.

PROGRAMME BUSINESS CASE

Renewal/replacement is an on-going process with needs identified by routine inspections or via the Council's query system. Contractor response times vary depending on the feature that has failed.

Areas in need of renewal are those that do not meet the standards for the level of service expected by road users or Council, do not meet the specifications required by Waka Kotahi guidelines or the Traffic Regulations or are not to the same standard as similar parts of the network. Identification can come from a number of sources including NZ Police, safety audits, members of the public, council or contractors.

Are there any gaps identified?	Recommended that a full asset condition survey is carried out to update the general condition assessment of the lighting inventory and so allowing a renewal programme to be developed.

PROGRAMME BUSINESS CASE

DEVELOP OPTIONS

W/C 122 Network Services Maintenance	Option Description	Benefits of Option	Negative Consequences of Option
Reduction	Core budgets to remain in place to pay for power costs, annual remark and core lump sum work carried out by the maintenance contractor. Limited reactive works.	No benefits provided under this option except for a reduction in costs	Network safety will be compromised Network appearance will deteriorate (markings, signage, lighting) Level of service will reduce Customer dissatisfaction will increase
Status Quo	Core budgets to remain in place to pay for power costs, annual remark and core lump sum work carried out by the maintenance contractor. Constrained response to lighting outages and general maintenance issues across the network.	Maintains the level of funding and allows for quantum of routine and programmed work to be carried out.	Any overspend would need to pulled from another maintenance budget, or works are deferred.
Increase budget/work level	Maintains a focus on contributing to road user safety and the general appearance of the network which benefits all road users including visitors and tourists to the district. Although an increase on previous years budgets by >50% it is a reflection of contract changes/rates for delivery including power supply and maintenance of the streetlight assets and reflective of 2023/24 annual plan budget The intention is to maintain the existing level of service	Network needs based on 2023/24 forecast expenditure. Allows for essential maintenance to streetlight assets, in particular LED cleaning. Contributes to road safety.	Increase to overall funding request, challenges affordability

W/C 222 Traffic Services Renewals	Option Description	Benefits of Option	Negative Consequences of Option
Reduction	Core budgets are allocated for renewals of signs, streetlight poles, brackets and luminaires and sight rails. Reducing the core budget would lessen the ability to undertake reactive works.	No benefits provided under this option except for a reduction in costs	Network safety will be compromised Network appearance will deteriorate (markings, signage, lighting) Customer dissatisfaction will increase
Status Quo	Core budgets are allocated for renewals of signs, streetlight poles, brackets and luminaires and sight	Maintains the level of funding and allows for quantum of core programmed and reactive work to be carried out.	Any overspend would need to pulled from another renewal budget, or works are deferred.

	rails. Reactive works in place to cover such things as broken or vandalized signs, sight rails etc		
Increase budget/work level	Allows for renewals of streetlight columns across the district alongside core renewals works	Allows for works identified through the inspection programme for renewals district wide for streetlighting assets.	Increase to overall funding request

PROGRAMME BUSINESS CASE

TEST OPTIONS

W/C 122	Option Description	Level of Service Outcome	Costs of Option
Reduction	These options, whilst it maintains a focus on the core aspects to cover lighting power costs, annual remark and general routine maintenance it does not allow for reactive works which may be required for safety reasons.	Network safety will be compromised Network appearance will deteriorate (markings, signage, lighting) Level of service will reduce Customer dissatisfaction will increase	Assumes reduction to the 2021/24 LTP approved funding
Status Quo			Assumes the 2021/24 LTP approved funding plus CPI uplift
Increased works programme (Preferred)	Enables current levels of work to be carried out to maintain traffic facilities assets. Maintains a focus on contributing to road user safety and the general appearance of the network which benefits all road users including visitors and tourists to the district. Acknowledges cost increases from power and a growing asset base from development to include road marking, signs, lights etc	This option will deliver the desired levels of service and contract outcomes including timeliness of interventions to maintain safety, resilience and network appearance	Funding Request 2024/25 = $3,257,675 2025/26 = $3,663,826 2026/27 = $4,130,900 **Total = $11,052,401**

W/C 222	Option Description	Level of Service Outcome	Costs of Option
Reduction	Reducing the renewals budget just increases the likelihood of road user issues on the network, compromising safety and the overall road user experience.	Network safety will be compromised Network appearance will deteriorate (markings, signage, lighting) Level of service will reduce Customer dissatisfaction will increase	Assumes reduction to the 2021/24 LTP approved funding
Status Quo	The status quo provides a limited ability to provide timely renewals or reactive works and does not allow for streetlight renewals to any great degree.	Levels of service to remain stable (possibly decline), depending on reactive works	Assumes the 2021/24 LTP approved funding plus CPI uplift
Increased works programme (Preferred)	Increase levels of renewals in particular for streetlight assets to be carried out. Maintains a focus on contributing to road user safety and the general appearance of the network which benefits all road users including visitors and tourists to the district.	This option will deliver the desired levels of service and contract outcomes including timeliness of interventions to maintain safety, resilience and network appearance.	Funding Request 2024/25 = $763,069 2025/26 = $801,222 2026/27 = $841,284 **Total = $2,405,575**

PROGRAMME BUSINESS CASE

PROGRAMME BUSINESS CASE

PREFERRED PROGRAMME

Is there a case for investment?	The costs associated to maintain and renew our traffic services assets have increased. Our annual power supply is in excess of $700K per annum and associated costs for streetlight assets are increasing. Across all of the urban areas there is a need to replace streetlight assets, in particular poles. Funding traffic services contributes to safety across the network, safety is a specific problem highlighted in the Strategic Case, it is an important aspect of the management of the network that requires our focus.

Work Category	**2021/24 Approved Funding (TIO)**	**Funding Request (Preferred Programme)**		
		2024/25	**2025/26**	**2026/27**
122 Traffic Services Maintenance	$6,481,996	$3,257,675	$3,663,826	$4,130,900
TOTAL				**$11,052,401**

Work Category	**2021/24 Approved Funding (TIO)**	**Funding Request (Preferred Programme)**		
		2024/25	**2025/26**	**2026/27**
222 Traffic Services Renewals	$1,732,850	$763,069	$801,222	$841,284
TOTAL				**$2,405,575**

IMPROVEMENT PROGRAMME

There are no improvements associated with these W/C's.

4.7 Footpaths and Cycleways

Work Category 125 Footpath Maintenance & Work Category 225 Footpath Renewals

Work Category 124 Cycle path Maintenance

Work category's (WC) 125 and 225 provides for the maintenance and renewal of public footpaths and facilities associated with public footpaths, such as pedestrian network connections, including stairs, alleyways and off-road connections.

Examples of qualifying activities include, but may not be limited to:

- footpath patching and pothole repairs
- maintenance of associated facilities including signs, lighting, and hand rails/guard rails
- footpath renewals, such as resurfacing or reconstruction

The purpose of footpaths is to provide a safe and efficient network of access ways catering for the movement of pedestrians. The need to provide footpaths is based on a combination of the traffic volume, road width and pedestrian demand.

WC 124 provides for the operation, maintenance and renewal of cycle and shared path facilities, including the operation of associated lighting.

Examples of qualifying activities include, but may not be limited to:

- maintenance and renewal of public cycle paths and shared paths and facilities. This may include signs, markings, traffic signals, lighting, handrails/guardrails etc
- routine work necessary to maintain the function, structural integrity and appearance of cycling infrastructure that provides access across or under roads, streets, highways, runways, waterways, railways or footpaths
- routine care of drainage facilities
- environmental maintenance of cycle paths and shared paths not directly associated with roadways, including litter collection and vegetation management where vegetation would impede safe access and use.

Strategic Linkage

GPS Outcomes	***Increased Maintenance and Resilience*** ***Safety*** ***Value for Money***
RLTP Outcomes	***Safety objective:*** *A safe, accessible transport system in the Waikato region where no-one is killed or seriously injured.* ***Resilience objective:*** *An efficient and resilient land transport system that ensures communities have route security and access to essential services.* ***Accessibility objective:*** *An integrated transport system that provides transport options for differing community access and mobility needs.*

	Climate change objective: *An environmentally sustainable, energy efficient and low carbon transport system that delivers emissions reductions and enhances communities' long-term resilience to the effects of climate change.*
Waikato DC Council Outcomes	

TEST LEVELS OF SERVICE

Footpaths are a key asset group in the district for safe and efficient movement of pedestrians and for the provision of alternative modes of transport to the vehicle. Council currently measures a number of customer and technical levels of service for the asset group.

ONRC Levels of Service	Waikato and ONRC LOS Measures	What is our Performance
Amenity	***Council Measures (DIA)*** % of customer service requests relating to footpaths to which Council responds within the LTP timeframe	2022/23 = 76.5% for footpaths
What have we been delivering	Condition rating is undertaken every two years and this forms the works programmes. Council has tried to move away from reactive works and looked to renew longer sections of path.	

COMPILE & TEST EVIDENCE

Footpaths

The footpath, pedestrian crossing and cycleway asset comprises of:

- Footpath, inclusive of kerb let downs, disabled crossings
- Pedestrian crossings
- Cycle-ways

Asset Inventory

The majority of the footpaths are within urban areas, there are only relatively small amount of footpath within the rural areas. Footpaths on State Highways are included in this asset as they are the maintenance responsibility of the Council while the State Highways themselves are the responsibility of Waka Kotahi.

Figure 38 Footpath Length by Type

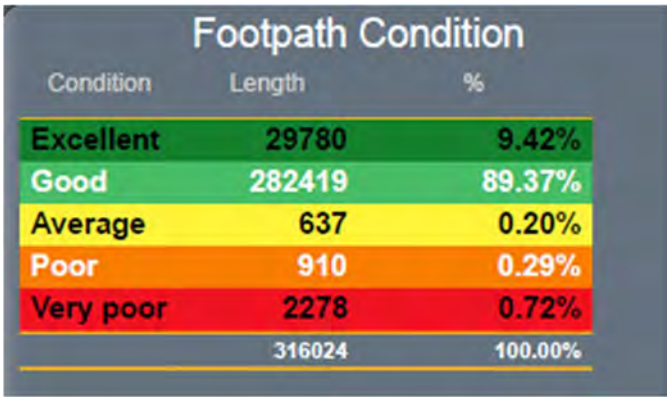
Footpath Type	Length (m)

Asphaltic concrete (black)	9015
Concrete	297138
Concrete (black)	149
Concrete (red)	760
Hoggin	2007
Interlocking blocks	5627
Metal	2229
Seal	2237
Slurry Seal	56
Timber	295
Unknown	81
	319,594

Asset Condition

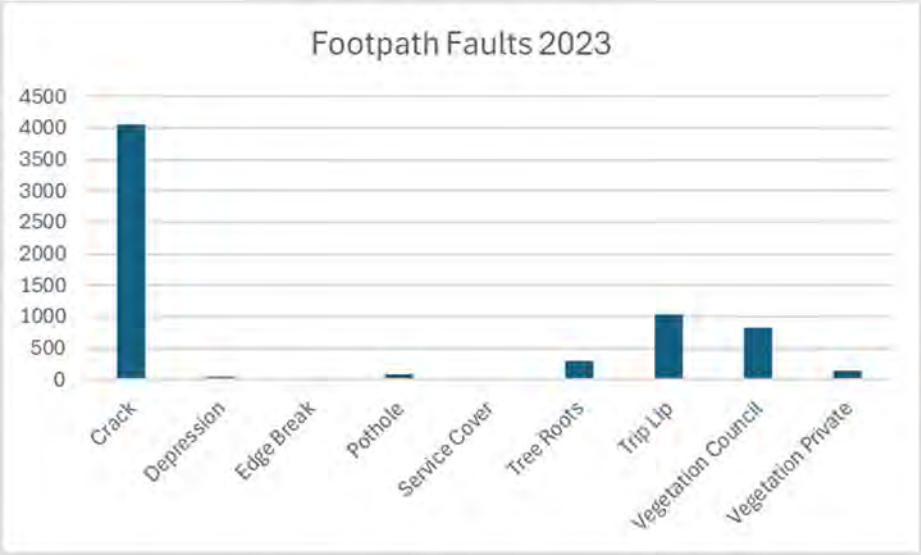
Cyclic inspections are undertaken to identify footpath defects and hazards for pedestrians under the Alliance contract. As evidenced in the figure below, the condition of the footpath asset would be considered as good overall.

Figure 39 Footpath Condition



Footpath rating is conducted every two years. Waikato has a contract with Co-Lab to manage the data collection (alongside other data collection contracts such as FWDs and Traffic Counting). The results for 2023 are shown below, our next data capture will be 2025. As evidenced, cracking is the main fault identified.

Figure 40 Footpath Rating Results 2023



Footpath Maintenance

In terms of maintenance, the footpath asset is generally maintained through renewal of longer sections of footpaths rather than addressing localised faults as reactive maintenance.

Maintenance activities include:

- Cracking, depression and trip hazard repairs
- Replacement of damaged sections of path
- Replacement of damaged vehicle crossings
- Footpath vegetation control

Asset failures are responded to with the initial objective of making the path safe as quickly as possible by the most economic method available, effecting temporary repairs if major repairs or renewals are required.

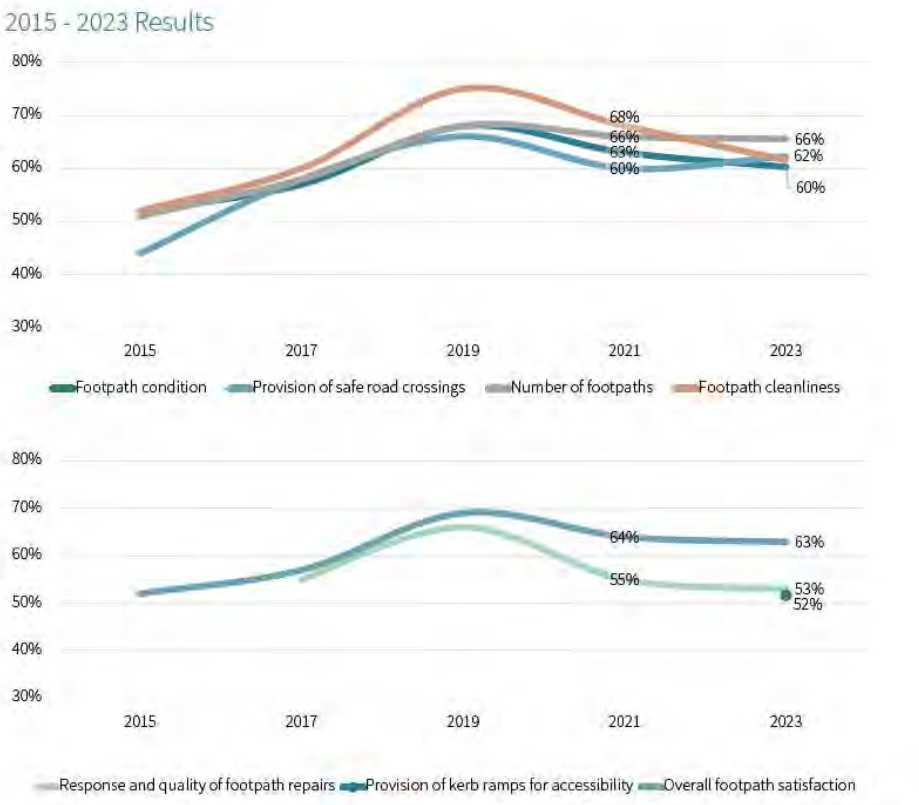
RATA Customer Satisfaction Survey 2023

The charts to the right show the results for the footpath measures from 2015 to 2023 for the Waikato district. Adequacy is based on the proportion of respondents who rated the attribute as 6 or higher on a 0 - 10 rating scale.

The highest rating footpath attribute for the Waikato district is the number of footpaths (66%), while the lowest rating is for the provision of kerb ramps for accessibility (52%) and the response and quality of footpath repairs (53%). All other measures are just above 60% with overall footpath satisfaction rated at 63%.

The results for the Waikato district have remained constant this year with most changes between 1% and 2%. The largest change is observed for footpath cleanliness (decrease of 8% since 2021) however, this is not a significant change.

Over time there has been a steady increase in most results with ratings peaking in 2019. This year's results maintain the results from 2021 and all sit significantly higher than the initial measures of 2015.



Footpath Renewal (new Work Category 225)

Footpath renewal is based on the need to maintain the asset in a safe, efficient and cost effective manner. The analysis of future condition rating surveys is likely to affect priorities and confirm whether or not the current levels of expenditure are appropriate to maintain the minimum level of service anticipated.

Concrete and interlocking block paths are generally replaced like with like. Interlocking blocks are used in areas where aesthetics are a primary consideration. Old Asphaltic Concrete footpath have the existing surfacing removed prior to resurfacing especially were additional layers can create problems with “high lips” causing difficulty in matching into adjoining surfaces.

New Capital

The timing of new subdivisions, and the footpaths they contain, is under the control of the property developers. This work is not funded by the Council and is not programmed in this, or any other Council plan. Council currently has budget allocations for new footpath works for each Ward. In the event that council do undertake any new works they are usually generated from submissions from the respective boards and programmed accordingly.

New capital is funded from W/C 341 Low Cost / Low Risk.

Cycleway/Shared Path

Te Awa Cycleway

The Te Awa Cycleway runs from Cambridge in the south (Waipa District) to Ngaruawahia in the north. There are several sections with Waikato District including existing sections in Horotiu to Ngaruawahia and the newly completed sections in Tamahere adjoining both the Waipa boundary and HCC boundary.

The cycleway maintenance is split between our Open Spaces team where it is not in road reserve and the Roading team where it is in road reserve. For the road reserve typical activities include mowing, spraying, sweeping, with a higher level of service provided in the Autumn months for leaf fall. There are ongoing discussions with our neighbour Councils around whether a single maintenance contract would be a better option to service this substantial asset, achieve a uniform LOS and create consistency in delivery for users and each Council contributing to its upkeep.

Figure 41 Newell Road Tamahere – Te Awa Cycleway

Figure 42 Truss Bridge (boundary with HCC)

Raglan Shared Path

Council applied for and received funding through the Climate Emergency Response Fund (CERF Initiative Programme) to construct a shared path along Wainui Road in Raglan. The shared path sought to increase

PROGRAMME BUSINESS CASE

connectivity between the urban fringe along Wainui Road to beach access providing a safer alternative for pedestrians and cyclists.

Are there any gaps identified?	Walking and Cycling Strategy needs to be updated.

PROGRAMME BUSINESS CASE

DEVELOP OPTIONS

W/C 125 Footpath Maintenance	Option Description	Benefits of Option	Negative Consequences of Option
Do minimum/Reduce	Reduce budgets for maintenance	No benefits provided under this option except for a reduction in costs	Deferred maintenance and exposure to asset related risk/failure due to lack of budget. Safety risk increases due to trip hazards or sections of path not being maintained Level of service will reduce Customer dissatisfaction will increase
Status Quo	The amount of footpath asset is growing, the vast majority is concrete which has a good base life and we would not anticipate failures in the first few years, however reactive works may be required where damaged is caused by vehicles etc	Maintains the level of funding and allows for quantum of routine and programmed work to be carried out.	The risk is that the level of funding does not adequately cover what is required. Risk that customer safety and dissatisfaction may increase
Increase budget/work level	The asset is considered to be in a good condition, the next rating round will confirm what if any deterioration has taken place and will contribute to forward works programmes and future funding requests. Older assets continue to be a focus alongside the reactive maintenance.	Maintains the asset base to the desired levels of service and customer expectations	Increase in funding may place pressure on Councils financial position. Increase in budget may need to be balanced out elsewhere in the roading programme.

W/C 225 Footpath Renewals	Option Description	Benefits of Option	Negative Consequences of Option
Do minimum/Reduce	Reduce budget for renewals	No benefits provided under this option except for a reduction in costs	Deferred renewals and exposure to asset related risk/failure due to lack of budget. Safety risk increases due to trip hazards or sections of path not being renewed Level of service will reduce Customer dissatisfaction will increase
Status Quo	The amount of footpath asset is growing, the vast majority is concrete which has a good base life and we would not anticipate failures in the first few years, however reactive	Maintains the level of funding and allows for quantum of routine and programmed work to be carried out.	The risk is that the level of funding does not adequately cover what is required.

	works may be required where damaged is caused by vehicles etc		Risk that customer safety and dissatisfaction may reduce
Increase budget/work level	The asset is considered to be in a good condition, the next rating round will confirm what if any deterioration has taken place and will contribute to forward works programmes and future funding requests.	Maintains the asset base to the desired levels of service and customer expectations	Increase in funding may place pressure on Councils financial position. Increase in budget may need to be balanced out elsewhere in the roading programme.

W/C 124 Cycle path Maintenance	Option Description	Benefits of Option	Negative Consequences of Option
Do minimum/Reduce	This is not considered further in this LTP.		
Status Quo	The cycle path asset (Te Awa) is in good condition, the level of service is higher than that of our footpath assets and there is currently a regular maintenance regime in place for the section from Waipa DC boundary to Hooker Road. The road section to Tamahere is maintained by the Alliance to not the same LoS.	Maintains the level of funding and allows for quantum of routine and programmed work to be carried out.	The risk is that the level of funding does not adequately cover what is required. Risk that customer safety and dissatisfaction may increase
Increase budget/work level	An increase in the budget has been requested to acknowledge some of the older sections in Ngaruawahia have experienced some movement and repairs have been required followed large weather events – a section was closed to the public for an extended period of time.	Maintains the asset base to the desired levels of service and customer expectations	The risk is that the level of funding does not adequately cover what is required. Risk that customer safety and dissatisfaction may reduce

OBJ

TEST OPTIONS

W/C 125 Footpath Maintenance	Option Description	Level of Service Outcome	Costs of Option
Do minimum/Reduction	Reduce the footpath maintenance programme	Decrease in existing levels of service	Assumes reduction to the 2021/24 LTP approved funding $743,605
Status Quo	Condition assessment of the footpaths is currently underway. Our budgets at this time reflect previous expenditure and the finding to date from the inspections.	Maintains levels of service, acknowledges that some issues may occur and that until condition rating is completed there are some unknowns in terms of length of renewals	Assumes the 2021/24 LTP approved funding $743,605 plus CPI uplift
Increase budget/work level	The asset is considered to be in a good condition, the next rating round will confirm what if any deterioration has taken place and will contribute to forward works programmes and	Maintains the asset base to the desired levels of service and customer expectations	Funding request 2024/25 = $399,413

	future funding requests. Older assets continue to be a focus alongside the reactive maintenance.		2025/26 = $459,325 2026/27 = $528,224 **Total = $1,386,962**

W/C 225 Footpath Renewals	Option Description	Level of Service Outcome	Costs of Option
Do minimum/Reduction	Reduce the budget	Decrease in existing levels of service	Assumes reduction to the 2021/24 LTP approved funding $299,330
Status Quo	Condition assessment of the footpaths is currently underway. Our budgets at this time reflect previous expenditure and the finding to date from the inspections. These budgets are driven at a ward level.	Maintains levels of service, acknowledges that some issues may occur and that until condition rating is completed there are some unknowns in terms of length of renewals	Assumes the 2021/24 LTP approved funding $299,330 plus CPI uplift
Increase budget/work level	The asset is considered to be in a good condition, the next rating round will confirm what if any deterioration has taken place and will contribute to forward works programmes and future funding requests.	Maintains the asset base to the desired levels of service and customer expectations	Funding request 2024/25 = $346,659 2025/26 = $370,925 2026/27 = $396,890 **Total = $1,114,474**

W/C 124 Cycle Path Maintenance	Option Description	Level of Service Outcome	Costs of Option
Do minimum/Reduction	Not considered in this LTP		
Status Quo	The cycle path asset (Te Awa) is in good condition, the level of service is higher than that of our footpath assets and there is currently a regular maintenance regime in place for the section from Waipa DC boundary to Hooker Road. The road section to Tamahere is maintained by the Alliance to not the same LoS.	Maintains the current LOS.	Assumes the 2021/24 LTP approved funding $111,076 plus CPI uplift
Increase budget/work level	An increase in the budget has been requested to acknowledge some of the older sections in Ngaruawahia have experienced some movement and repairs have been required followed large weather events – a section was closed to the public for an extended period of time.	Maintains the asset base to the desired levels of service and customer expectations	Funding request 2024/25 = $250,000 2025/26 = $280,000 2026/27 = $300,000 **Total = $830,000**

Programme Business Case

PREFERRED PROGRAMME

Is there a case for investment?	Funding footpaths and the cycleway contributes to safety, access and users health and wellbeing by offering alternative access across the network, safety is a specific problem highlighted in the Strategic Case, it is an important aspect of the management of the network that requires our continued focus. Being able to offer viable alternatives for pedestrians and cyclists to commute, exercise and enjoy the Te Awa cycleway asset contributes significantly to our Council Outcomes.

Work Category	**2021/24 Approved Funding (TIO)**	**Funding Request (Preferred Programme)**		
		2024/25	**2025/26**	**2026/27**
125 Footpath Maintenance	$500,000	$400,000	$420,000	$436,800
TOTAL				**$1,256,800**

Work Category	**2021/24 Approved Funding (TIO)**	**Funding Request (Preferred Programme)**		
		2024/25	**2025/26**	**2026/27**
225 Footpath Renewals	$609,568	$250,000	$262,500	$273,000
TOTAL				**$785,500**

Work Category	**2021/24 Approved Funding (TIO)**	**Funding Request (Preferred Programme)**		
		2024/25	**2025/26**	**2026/27**
124 Cycle Path Maintenance	$111, 076	$250,000	$280,000	$300,000
TOTAL				**$830,000**

IMPROVEMENT PROGRAMME

Walking and Cycling Strategy needs to be updated.

4.8 Minor Events

Work Category 140 Minor Events

Work category 140 enables funding from the National Land Transport Fund (NLTF) for the response to minor, short duration, natural events that reduce service levels on part of the transport network. Examples of qualifying activities include, but may not be limited to:

- Any activities that would otherwise qualify as emergency works except that the total cost of the works is less than $100,000 per event per Approved Organisation or Transport Agency (state highways) region, including:
  - removal of rocks and slip material from roads and cycleways that have resulted from minor events
  - repairs to road and cycleway surfaces in response to minor events
  - reinstatement of network facilities damaged as a result of a minor event.

Strategic Linkage

GPS Outcomes	***Increased Maintenance and Resilience*** ***Safety*** ***Value for Money***
RLTP Outcomes	***Safety objective:*** *A safe, accessible transport system in the Waikato region where no-one is killed or seriously injured.* ***Resilience objective:*** *An efficient and resilient land transport system that ensures communities have route security and access to essential services.* ***Accessibility objective:*** *An integrated transport system that provides transport options for differing community access and mobility needs.* ***Climate change objective:*** *An environmentally sustainable, energy efficient and low carbon transport system that delivers emissions reductions and enhances communities' long-term resilience to the effects of climate change.*
Waikato DC Council Outcomes	

COMPILE & TEST EVIDENCE

Current Delivery Strategy

The Minor Emergency works budget provides some contingency for significant events. As outlined above it is for events or sites that are under $100K in value to repair. Typically these sites that are funded under W/C 140 are not eligible for funding under W/C 141. The sites are overslips, scouring of the road surface

and or damage to drainage assets which require remedial works in order to bring the network back to normal operation, or at a minimum under traffic management.

Are there any gaps identified?	The number of vehicles impacted by unplanned events The number of instances where road access is lost

Programme Business Case

DEVELOP OPTIONS

W/C 140 Minor Works	Option Description	Benefits of Option	Negative Consequences of Option
Do minimum/Reduction	Reduce available budget to that approved in 2021/24 LTP (approx. $300K per annum).	Slightly reduces upward pressure on overall funding request	Once the funding is expended, we will need to utilise other maintenance budgets should we get further events that do not qualify for W/C141 Emergency Works. Delays could impact on residents, impact on road user safety, increase complaints and decrease customer satisfaction.
Status Quo	Maintain the current funding levels as this was deemed adequate to cover the small events that took place over the three year funding period	Maintains level of funding and provides a level of assurance that small events not exceeding $100K can be managed	
Increase budget/work level	Increase the current level of funding from that approved in 2021/24. The increase acknowledges that although events are random in nature that the current available funding allows for 4 events up to $125K each year. Increasing the budget provides a factor of safety so that other maintenance budgets are not used to cover the shortfall ie WC121 Environmental Maintenance.	The benefit is more related to piece of mind, in knowing that the funding is there. The higher funding is only required should we get a number of small events over the course the year.	

TEST OPTIONS & PREFERRED PROGRAMME

W/C 140	Option Description	Level of Service Outcome	Costs of Option
Do minimum/Reduction (Actual)	Reduced budget carries a degree of risk, however it is to cover events under $100k. Will need to work closely with Waka Kotahi during these smaller events.	Given that the budget is reactive, the risk is if we get more events of this scale than our funding can cover. Either we take funding from other maintenance areas or look at a reduced level of service. i.e. sites remain under TTM until such time as they can be cleared. Potentially this will impact the levels of service, customer dissatisfaction and increase RFS complaints	Less than the funding received in the prior LTP <$915,880
Status Quo	This option provides a degree of comfort that adequate funding is provisioned to enable the clean up of events up to $100K. There is some risk that should we get a greater number of these types of events that once the available funding is expended that other maintenance budgets will be “dipped” into to maintain an appropriate level of service on the network.	This option allows us to establish levels of service once clean-up has occurred. The budget is purely reactive, in that we use it if we need it. It provides a degree of comfort to know that we can manage small events when they happen, as long as they don’t happen too frequently.	Maintain the funding level as per the previous LTP $915,880
Increase budget/work level	As above	As above	Proposes an increase to the approved funding in the 2018/21 LTP

Programme Business Case

PREFERRED PROGRAMME

Is there a case for investment?	This budget is only used as required/applied for from Waka Kotahi with evidence and supports small clean ups from isolated small events.

Work Category	2021/24 Approved Funding (TIO)	Funding Request (Preferred Programme)		
		2024/25	2025/26	2026/27
140 Minor Works	$915,880	$552,786	$562,919	$573,051
TOTAL				**$1,750,000**

4.9 Emergency Works (W/C 141)

Emergency works normally arise from adverse weather events like storms that result in wind damage, surfacing flooding and slips. Work associated with these events is generally completed, even if this means that there is expenditure over the budget or other routine work is deferred to keep overall expenditure within budget. This is particularly relevant for safety related works and works that are needed to restore and reopen roads.

If the extent of an event becomes too severe, or the effects too significant, the Council can apply to Waka Kotahi for additional funding under Work Category 141 – Emergency Reinstatement under the categories of Immediate Response and Permanent Reinstatement.

Initial Response

Immediate Response covers the work necessary to open a road, where practicable, to at least a single lane facility for safe use by traffic or to minimise risk of further damage. This works may include:

- Slip clearance
- Construction of temporary detours
- Temporary reinstatement
- Restoration of roadside drainage

The Alliance are required to respond to emergency situations while these are in progress, patrolling, and erecting signage to warning motorists of potential hazards on the roads and where possible preventing damage to transportation assets, facilities and private property.

Permanent Reinstatement

Permanent Reinstatement involves work that is required to restore the road to its former or similar condition. As the work is of a long-term nature, it generally involves an engineering appraisal of

options and may require design input. Permanent reinstatement works have included the design and construction of retaining structures, earthwork road retreats and culvert replacements. These features are added to the inventory upon completion and capitalised where appropriate.

Work Category 341 Low Cost Low Risk

Work category 341 provides for the construction/implementation of low cost, low risk improvements to the transport system to a maximum total cost for approval per project of $2,000,000.

Examples of qualifying activities include, but may not be limited to:

- small, isolated geometric road and intersection improvements
- traffic calming measures
- traffic management systems
- surface treatment (safety), including sealing for bridge approaches
- lighting improvements for safety
- installation of new traffic signs and markings (including rumble strips), or upgrading these to the current standard
- provision of guard-railing
- sight benching to improve visibility
- walking facilities that comply with the definition for W/C 451: Walking facilities
- cycling facilities that comply with the definition for W/C 452: Cycling facilities
- structures, culverts or stock access (including stock underpasses)
- resilience improvements within the definition for W/C 357: Resilience improvements
- stock effluent facilities
- minor engineering works associated with community programmes, such as raised platforms at roundabouts, traffic signals and other pedestrian facilities, and
- property and professional services costs associated with the improvement

The outcome of this LCLR investment is that a number of key projects can be completed providing positive benefits to our customers and contributing to a number of levels of service and performance measures.

The development of the LC/LR programme is continual and projects come from multiple sources of information, including safety statistics, community identified projects, resilience projects and capital projects under $2.0M.

Strategic Linkage

GPS Outcomes	***Increased Maintenance and Resilience*** ***Safety*** ***Value for Money***
RLTP Outcomes	***Safety objective:*** *A safe, accessible transport system in the Waikato region where no-one is killed or seriously injured.* ***Resilience objective:*** *An efficient and resilient land transport system that ensures communities have route security and access to essential services.* ***Accessibility objective:*** *An integrated transport system that provides transport options for differing community access and mobility needs.*

	Climate change objective: *An environmentally sustainable, energy efficient and low carbon transport system that delivers emissions reductions and enhances communities' long-term resilience to the effects of climate change.*
Waikato DC Council Outcomes	

Levels of Service

The main level of service related to the Low Cost/Low Risk work category is Road Safety and this has been covered off in earlier sections of this AMP.

COMPILE & TEST EVIDENCE

Councils Low Cost/Low Risk programme has for the past couple of AMP iterations become a catch all to support the roading network across multiple asset requirements and capital projects that support the ongoing growth needs of the district. Our programme outlines requirements for projects and programmes of works for the following:

- Walking and Cycling Improvements
- Public Transport Infrastructure
- Local Road Improvements

Table 9 LCLR Funding Request Summary

Funding source (phase)	Requested budget this NLTP period by year			Current total costs requested (across 3 years)
	Total cost $'s 2024/25	Total cost $'s 2025/26	Total cost $'s 2026/27	
Walking and cycling improvements	$1,150,000	$1,550,000	$1,250,000	$3,950,000
Public transport infrastructure	$700,000	$1,700,000	$350,000	$2,750,000
Local road improvements	$24,366,117	$22,473,993	$26,327,000	$73,167,110
Totals	**$26,216,117**	**$25,723,993**	**$27,927,000**	**$79,867,110**

Local Road Improvements

This sub-category makes up >90% of the total programme and included:

- Safety improvements from the NZTA pipeline tool (Road to Zero programme),
- implementation of Speed Management Plan initiatives,
- funding requested for SCRIM treatments (safety driven),
- specific traffic calming projects identified through investigations and community consultation,

- Projects that supported growth such as Pokeno Road upgrade, Munro Road upgrade, Pokeno/Munro Roundabout, Munro Road bridge upgrade, Harrisville Road bridge upgrade
- Urbanisation projects for key townships such as Ngaruawahia, Taupiri, Tuakau
- Culvert replacements
- Retaining wall improvements
- Three year resilience improvement programme

The change in Government in late 2023 heralded a shift in funding priorities in the transport space to national projects. In this NLTP, given the available funding and existing commitments, coupled with the specific priorities of the GPS, LCLR programmes were only affordable in the state highway improvements and local road improvements activity classes for high GPS aligned activities.

This pulled the bulk of funding available to local authorities in the LCLR space.

The work category provides significant benefit to Council and its communities based on the broad scope of funded works that can be completed. In 2024-27 the NZTA has not co-funded new LCLR to any significant amount which constrains expenditure in this work category for next 2 years.

Waikato received $4,762,280 in approved funding from NZTA for its LCLR programme which largely went to committed projects and one new project as outlined in the table below:

Table 10 Approved LCLR Funding 2024 - 2027

Project	Description	Funding 2024/25
Lake Road and Dawson Road IS SNP	Intersection Speed Zone (RIAWS)	$150,000
Munro Rd Resilience	Upgrading the culvert beneath Munro Road and raising the road (Pokeno CMP)	$771,554
River/Lake Road RAB	Intersection upgrade, construction of roundabout	$940,726
Festival Way Deviation	Construction contract let to Schick, delays due to stormwater work (separate contract) taking longer and issues with services	$1,900,000
Horotiu Road rail crossing closure and realignment	Construction contract let to Phoenix Civil in late 2023, delays due to stormwater, waste water line. Complete in August/Sept 2024	$1,000,000

4.10 Road Safety Promotion

WC 432 provides for the development and implementation of activities that address the safe use of the land transport network.

Safety promotion, education and advertising activities promote the safe use of the land transport network through education, advertising, awareness raising and by public information to users of the transport network.

Table 11 Road Safety Promotion Request Summary

Work Category	2021/24 Approved Funding (TIO)	Funding Request (Preferred Programme)		
		2024/25	2025/26	2026/27
432 Road Safety Promotion	$	$388,000	$399,640	$411,629
TOTAL				**$1,199,269**

Again the change in Government meant a shift in the Road Safety Promotion work category. Allocations for road safety promotion have been provided to council to help address priority road safety risks. NLTF funding can no longer be used for regional road safety advertising, however NZTA will continue delivering national advertising campaigns which can be used to support regional education activity.

Table 12 Road Safety Promotion Approved Funding

Work Category	2024/27 Request	Funding (Approved Programme)		
		2024/25	2025/26	2026/27
432 Road Safety Promotion	$1,199,269	$150,666	$150,667	$150,667
TOTAL				**$452,000**

4.11 Unsubsidised Roading Activities

The following activities are not eligible for funding assistance from Waka Kotahi.

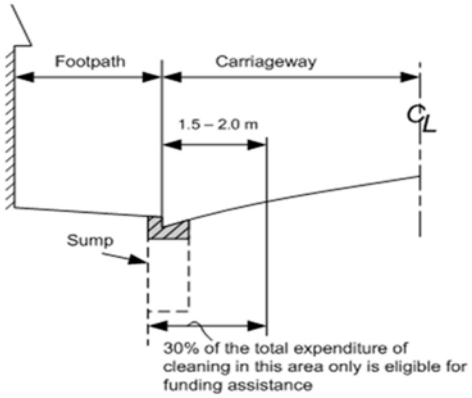
Non-subsidised activities include;

- Aesthetic treatments (such as flower gardens) on berms, shoulders, medians and traffic islands.
- Maintenance of the area between the kerb and the road reserve in urban areas.
- Control of noxious plants declared in terms of the Biosecurity Act 1993 within the road reserve
- The construction, maintenance or renewal of off-street parking areas is not eligible for funding assistance.

Unsubsidised Street Cleaning

The Waka Kotahi guidance is that funding assistance will be provided for 30% of the total cost of cleaning channels, sumps and cesspits in urban areas. The remaining 70% will remain as Waikato's amenity cost with no funding assistance. Activities include kerb sweeping and sump clearing.

Figure 43 Street Cleaning



Unsubsidised Traffic Services

Non-subsidised activities include costs related to amenity lighting, which includes the lighting of:

- Buildings,
- property and reserves,
- under-veranda lighting,
- festive lighting and
- any other lighting not directly related to the operation of a road.

Summary Unsubsidised Maintenance and Operations

In addition to the above items, Council has significant costs attributable to vegetation control including pest plant spraying and clearing of trees beneath power lines as required by power companies (Counties Energy, WEL).

Table 13 Approved Unsubsidised Funding

	Funding (Approved Programme)

Unsubsidised Maintenance and Operations	2024/25	2025/26	2026/27
	$1,730,000	$1,780,000	$1,780,000
TOTAL			**$5,290,000**

Passenger Transport (PT)

Essentially PT services are contracted to WRC (or AT). For Waikato DC services are funded by Council for the local share.

- For services that connect to HCC we pay 50% of the local share
- For services that wholly operate within the District we pay 100% of the local share

The funding parties are:

- Fare paying passengers
- NZ Transport Agency
- WRC
- Local Authorities

For PT infrastructure (i.e. bus shelters, signs, road marking) Council is responsible for the local share (via an invoice to WRC) at years end.

Services that operate within our district include:

The 21 Northern Connector – travels between Huntly and Hamilton seven days a week.

The 23 Raglan Service – travels between Raglan and Hamilton seven days a week.

The 44 Pookeno to Pukekohe service travels between Pookeno, Tuakau and Pukekohe, seven days a week.

The 27 Tauwhare Pa service launched in February 2024 is a trial service (in partnership with WRC) using a smaller sprinter bus with 12 seats connecting to the University of Waikato.

The 28 Tamahere/Matangi service launched in February 2024 is a trial service (in partnership with WRC) using a smaller sprinter bus with 12 seats connecting to the University of Waikato.

Te Huia is the inter-regional rail passenger service that runs between Hamilton and Auckland, launched in 2021. Waikato contributes to this service (3.3% via general rate) which currently stops at the recently upgraded Huntly Rail Station.

Table 14 Passenger Transport Funding

Passenger Transport (Waikato Share)	Funding (Approved Programme)		
	2024/25	2025/26	2026/27
21 Northern Connector	$480,591	$499,815	$519,807
23 Raglan to Hamilton	$135,705	$141,133	$146,778
44 Pookeno to Pukekohe	$347,099	$358,679	
Te Huia (estimated)	$280,000	$291,200	$302,848
TOTAL			**$3,503,655**

Programme Business Case

Programme Business Case

4.12 Programme Business Case Summary

The Programme Business Case provides a statement of the desired investment to be made by Waikato. It provides the strategic response to the planned future state and identifies the programme of works or activities that will deliver on the problem statements as identified in the strategic case. In order to address the problems our programme seeks to enhance network resilience, road safety, improve asset deterioration and put in place measures to support growth across our district.

Although we were meant to start a new Long-Term Plan process as expected in 2024, due to the changing political landscape and legislation around the Water Service Act Bill, central government has given local councils the option to defer their 2024-2034 Long-Term Plans by 12 months and instead prepare an 'enhanced' Annual Plan for the 2024/25 financial year.

On 28 February 2024, Council decided to take this option and deliver a short-term plan, called the 2024/25 Annual Plan which was adopted by Council on 26 June 2024. This decision has additionally been influenced by the need to leverage confirmed rating valuations, secure NZTA subsidies for the district's roading programme, and have a better understanding of water infrastructure requirements, central government policy and affordability implications.

The standard NZTA process and timelines for submitting funding applications remained in place and Waikato like all local authorities around the country submitted its final application to NZTA for Maintenance, Operations and Renewals (MOR) and Improvements in December 2023. The three year numbers presented throughout this AMP reflect the funding request initially put forward by this Council. The actual funding received and confirmed in September 2024 will also be shown in the following pages as they lend themselves to the formation of what will become the 2025 LTP.

Waikato proposed an enhanced programme that has been identified to incrementally address the identified problems, meet and maintain levels of service and deliver a network with favourable customer outcomes. The reality however is that the funding requested from NZTA for 2024-27 period has not been supported by NZTA to the level requested. Furthermore, NZTA's support for subsidising Low Cost Low Risk projects is severely constrained. The Council over 2025/26 to 2026/27 therefore has undertaken to match NZTA funding with its share plus undertake works using 100% Council share for a portion of the 2024/2025 LCLR projects.

As noted in section 4.1 above, the three year funding (2024 - 2027) for pavement and surfacing renewals has been recommended at $17.0M to $17.5M per annum via dTIMS reporting. This level would maintain the good condition of both the chipseal and AC surfaces, as well as a pavement renewal programme to meet predicted deterioration over the analysis period. Our funding request for the three year period was at the lower end of the dTIMS scenarios, approx. $10.8M - $16.3M over the 3 year funding period, acknowledging that we are underfunded in these W/Cs and have been over consecutive years. Our discussions with our Council have steered towards a gradual increase in funding over the next 10 years to get to the required funding levels to bring about a stable network. Affordability for our ratepayers is the key consideration in amongst all the other activities that the Council delivers.

Approved funding has resulted in further reductions, with $12M to $13M per year for the next 3 years. As a result we will continue to see an increase in seal and pavement age with associated defects.

Programme Business Case

Results Alignment to GPS and IDMF Priorities

Evidence-based, risk-based analysis supporting why the programme was selected included the following:

- Best value solutions to address the specific key problems and demands identified
- Comparison of network condition trends with past expenditure levels
- Life cycle analyses including consideration of annual depreciation of asset life
- Effectiveness of historical programmes and expenditures
- Alignment to the priorities of the ONF/ONRC road categories, Community Outcomes, IDMF and GPS
- Considerations of the costs, benefits and risks of alternatives and options

This Land Transport AMP demonstrates the case for change or intervention – that is, the clear rationale and evidence for proposed smart, best-value investments and work programmes to address the transport infrastructure problems facing the District. The case for change includes the benefits of addressing the problems and the consequences of not.

There is a strong relationship between the AMP and the NLTP and RLTP strategies and with other Council planning documents.

Programme Business Case

Programme Alignment to Problems

The table below shows how the problems identified will be addressed through the maintenance, operations and renewals funding work categories, aimed at producing appropriate customer outcomes in line with both Councils and ONRC requirements.

Table 15 Programme Alignment to Problems

Problem Statement	Programme Response	Key W/C's that support and address our Problems		
		Maintenance & Operations	Renewals	Improvements
A growing network, newly vested infrastructure, increased traffic loading, and increased customer expectations have increased maintenance demand whilst budgets have not increased resulting in a backlog of work.	The impacts of growth are one of the reasons for increasing our investment across MOR as our asset base increases and existing road assets are used more intensively. Graduated investment over time assists in balancing affordability, this means a backlog will still exist, however the rate is actively being managed.	All work categories have the ability to impact growth, however specifically sealed road maintenance, drainage, resurfacing and rehabilitation		WC341 – Low Cost/Low Risk
The impacts of storm events have created vulnerability and resilience issues across our network that results in economic and social disruption	The majority of our work programmes support network resilience, key MOR work categories are pavement related, both sealed and unsealed, drainage and structures. Our network was damaged in the January and February 2023 storms with multiple roads closed and assets damaged. The recovery for the network has been largely completed over the past 18 months however the need to stay on top of our key assets to minimise damage from future events is a key support alongside targeted resilience improvements through Council funded activities and external Crown funding.	All work categories have the ability to impact resilience		WC341 – Low Cost/Low Risk
Asset condition is deteriorating, assets are ageing and there is a backlog of renewal programmes, due to a reduction in real renewal investment over time while traffic demand and loading has been increasing.	Waikato must balance the deterioration of its sealed road network with an appropriate investment in road pavement maintenance and renewals. Failure to do this could result in unsustainable future liabilities, poor levels of service and an unsafe network for users. Over time, asset deterioration devalues the significant investment made by past generations to create this districts local road network. Graduated investment over time assists in balancing affordability, this means our assets are still subject to deterioration, however the rate is actively being managed.	All work categories have the ability to impact asset deterioration		WC341 – Low Cost/Low Risk
A combination of challenging road and roadside environment, driver behaviours and errors which results in	Well maintained roads can help reduce crashes, especially where driver loss of control is a factor, and mitigate the	All work categories have the ability to impact road safety		WC341 – Low Cost/Low Risk

Programme Business Case

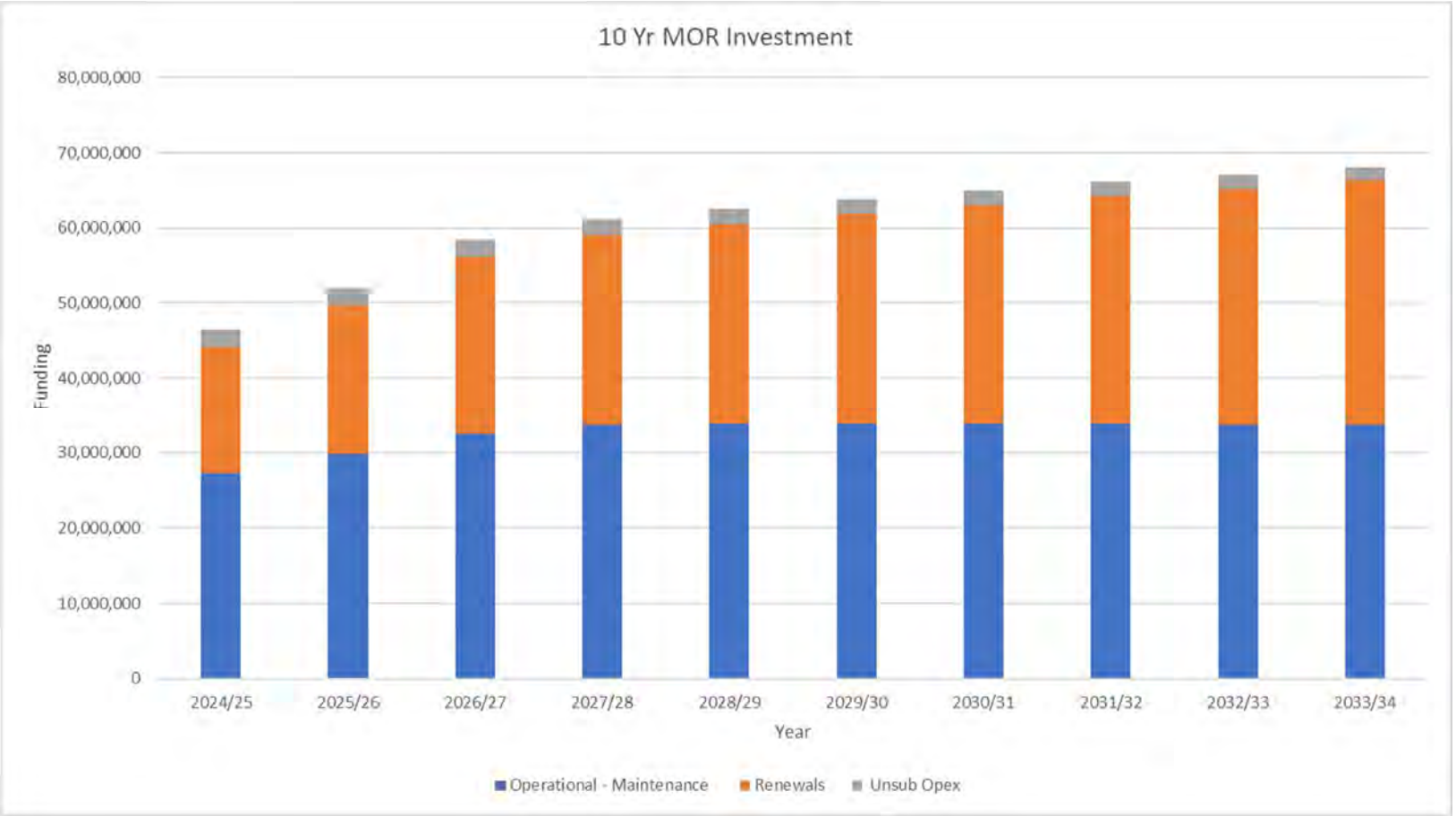
Problem Statement	Programme Response	Key W/C's that support and address our Problems		
		Maintenance & Operations	Renewals	Improvements
a high number of fatal and serious injury crashes	impacts of any crashes that do occur. Other road assets, including footpaths, also help keep all road users safe.			

Recommended Maintenance, Operations and Renewals Investment Needs

This section sets out Waikato's overall recommended investment for the assets it manages. It covers maintenance, operations and renewals. This AMP proposes a single investment plan for asset MOR. Effective operations, timely maintenance and renewals are especially important when funding is constrained, as neglecting these issues can exacerbate safety risks and accelerate asset deterioration. The total investment of asset MOR over 10 years is forecast to be $610M, as shown in the Figure below.

Figure 44 10 yr MOR Investment

Programme Business Case



Recommended Programme of Works (Waka Kotahi subsidised Work Categories)

Waikato identified the following programme as the preferred option for funding over the next three year LTP period. The programme is split into maintenance, renewals and capital improvements. The approved Waka Kotahi programme as at September 2024, compared with the requested funding, is as follows:

Programme Business Case

Table 16 Approved Waka Kotahi Funding

Work Category	Description	Three-year Requested Allocation ($)	2024/25 Approved Allocation	2025/26 Approved Allocation	2026/27 Approved Allocation	Three-year Approved Allocation ($)	Three-year Approved Allocation Previous NLTP ($)
114	Structures maintenance	4,405,824	1,263,511	1,286,671	1,309,831	3,860,013	2,685,802
121	Environmental maintenance	9,774,711	2,842,899	2,895,009	2,947,120	8,685,028	8,458,590
122	Network service maintenance	11,052,401	3,158,777	3,216,677	3,274,577	9,650,031	6,481,996
123	Network operations	180,000	56,858	57,900	58,942	173,700	74,700
131	Rail level crossing warning devices maintenance	165,000	52,120	53,075	54,031	159,226	73,850
140	Minor events	1,750,000	552,786	562,919	573,051	1,688,756	915,880
151	Network and asset management	15,620,000	4,832,929	4,921,516	5,010,103	14,764,548	8,765,664
215	Structures component replacements	3,152,500	995,647	1,013,897	1,032,147	3,041,691	4,478,932
221	Environmental renewals	788,125	0	0	0	0	0
222	Traffic services renewals	2,405,575	758,106	772,003	785,899	2,316,008	1,732,850
Total Local road operations		**49,294,136**	**14,513,633**	**14,779,667**	**15,045,701**	**44,339,001**	**33,668,264**
111	Sealed pavement maintenance	16,598,269	5,433,672	5,533,271	5,632,870	16,599,813	13,949,416
112	Unsealed pavement maintenance	11,399,347	3,731,558	3,799,957	3,868,357	11,399,872	7,923,777
113	Routine drainage maintenance	9,708,591	3,175,098	3,233,297	3,291,496	9,699,891	6,951,126
211	Unsealed road metalling	3,726,255	1,219,630	1,241,986	1,264,342	3,725,958	4,064,261
212	Sealed road resurfacing	19,642,516	6,219,264	6,333,262	6,447,261	18,999,787	16,493,439
213	Drainage renewals	8,654,728	2,833,038	2,884,968	2,936,897	8,654,903	3,847,061
214	Sealed road pavement rehabilitation	20,875,198	6,546,593	6,666,592	6,786,590	19,999,775	13,820,632
Total Local road pothole prevention		**90,604,904**	**29,158,853**	**29,693,333**	**30,227,813**	**89,079,999**	**67,049,712**
124	Cycle path maintenance	830,000	94,277	96,005	97,733	288,015	111,076
125	Footpath maintenance	1,386,962	163,335	166,328	169,322	498,985	743,605
224	Cycle path renewal	0	0	0	0	0	0

225	Footpath renewal	1,114,474	0	0	0	0	299,330
Total Walking and cycling improvements		**3,331,436**	**257,612**	**262,333**	**267,055**	**787,000**	**1,154,011**
216	Bridge and structures renewals	0	0	0	0	0	250,775
Total Local road improvements		**0**	**0**	**0**	**0**	**0**	**250,775**
Grand Total		**143,230,476**	**43,930,098**	**44,735,333**	**45,540,569**	**134,206,000**	**102,122,762**

Meeting the Investment Assessment Criteria

The investment proposal meets the assessment criteria on the following areas:

ASSESSMENT CRITERIA	HOW THIS IS BEING ACHIEVED
Giving effect to the GPS	Contributes to strategic priorities of Safety and Better Travel Options
BCA applied	The Business Case Approach has been fully applied throughout the development of this AMP. The Strategic Case fully outlines Waikato's problems and benefits of investing. All appropriate steps of the Programme Business Case for this continuous programme have been applied.
Evidence Supplied	Evidence has been gathered to support the Strategic Case through the development of the Programme Business Cases for individual work categories. In some areas, there are evidence gaps and these have been identified as improvement items.
Implementing ONF	ONF has been considered through the AMP and funding development process. In general a higher risk appetite has been accepted for maintenance on lower classification roads.
Asset Management Principles Applied	This AMP and funding request has been developed using intermediate/advanced Level Asset Management meeting minimum legislative requirements. Improvement items will help us move towards Intermediate level AM for key asset groups within the transportation activity.

4.13 Commercial Case

Funding of the Three Year Programme

Activities carried out on the land transport network are funded by Waka Kotahi and through local rates share. Council's general ledger has these set up under the following main categories:

- Roading Subsidised
- Roading Non-subsidised

The Waka Kotahi Funding Assistance Rate (FAR) is currently at 51% for the maintenance, operations and renewals programme. The district's community funds the balance of the budget costs through its local rates share.

From time to time Waka Kotahi will announce funding at varying FAR, such as Transport Choices. An additional exception to the base FAR is emergency works that exceed a cumulative annual total of 10% of the maintenance, operations and renewals programme. Costs up to this figure will be funded at base FAR. Any costs incurred over this threshold will have an additional 20% FAR applied. Historically Council has spent $2 million per year on flood damage restoration works. The events from January and February 2023 significantly exceed this with over $18M in funding requested.

Works required beyond the immediate road corridor to achieve effective drainage etc., provide public parking and/or facilitate alternative non-motorised user access, do not typically qualify for central government funding. Such activities are provided for under budgets allocated in roading non-subsidised.

Council may also enter in negotiated agreements with other parties such as developers for infrastructure upgrades.

Updated Procurement Strategy

Waikato's Land Transport Procurement Strategy 2024 was endorsed by Waka Kotahi in June 2026. All road maintenance and renewal activities, including management and planning of those activities, are currently delivered through the Waikato District Alliance (Alliance) which council entered into with Downer in 2015. The Alliance was chosen to provide a seamless solution to deliver flexibility to adapt to changing priorities and to achieve "Best for Network" decision making. A collaborative approach to asset management, risk management and identifying opportunities for innovation was considered to provide the best value for money and efficiency in procurement and delivery. The contract was extended for a 5 year rollover in 2020 and is now due to expire on 30 June 2025.

As a substantial contract for council, the options for delivery of these services from 1 July 2025 required careful review and planning to ensure council can achieve the best value for money outcome. A Local Government Act 2002 section 17A review of cost efficiency and effectiveness was completed in 2023, followed by a Detailed Contract Review process. Council has progressed procurement for new maintenance and renewals contracts and as at the end of 2024 had identified preferred candidates and are working towards a 1 July 2025 start.

The Capital Programme is delivered through several delivery mechanisms. Activities that are most suited to be delivered by the Alliance can use the variation process agreed within the Alliance contract extension. Where improvement activities are determined to be outside of

the scope of the Alliance, or council deems it appropriate to source outside of the Alliance for better value for money outcomes, other traditional procurement models are considered following the standard contracts recommended in NZTA's Procurement Manual.

Professional services for the design, project management and quality management of capital works is

delivered through a mix of internal and external resource. Internal resource includes the council's Community Projects team, EPMO and the Alliance Roading Team (including consulting expertise as needed), external resource includes the RATA led and managed works and consultants as required.

Funding of Capital Works

The development of Capital works programme is influenced by a number of factors:

- A key factor in this district is the growth that is being experienced within the district in proximity of Auckland and Hamilton, and also in Raglan. The growth is in urban areas although a small percentage of rural growth also occur. This growth is projected to demand roading infrastructure including intersection upgrade, route upgrades, stormwater provisions within road reserve, strengthening and widening of bridges and provisions for active mode travel. Modelling traffic growth in Waikato Region Traffic Model (WRTM) for years 2035 and 2055 resulting from future zonal development informs infrastructure demand.

- The change in zoning from residential to intensified medium density housing places demand on streets whereby existing narrow streets require to be widened with stormwater upgrades from earth drains to lined kerb and channel and piped drainage and provision of footpaths resulting in road reserve boundary to boundary urbanisation. This rezoning has become effective from 2024 for our key towns Pookeno, Tuakau, Huntly and Ngaruawahia. ONF provides guidelines that can be used to facilitate the design of such upgrades.

- Improving safety is a driver for projects both in rural and urban areas.

- Improving efficiency is a driver for projects both in rural and urban areas.

- Improving resilience is a driver for projects in both rural and urban areas.

- Renewals of roads, bridges, signs, lighting and drainage is a driver for projects in both rural and urban areas.

- Passenger transport facilities is a driver for projects including bus stop facilities, Council is also investigating rail passenger transport for northern Waikato and supports Te Huia rail service.

A programme of preferred Capital works identified is provided below in addition to renewals identified previously in this AMP.

Figure 41 Programme Alignment to Problems

Capital Programme for Waikato District Council (Roading) – proposed for 2025-34

Project Description	Qualifying WC	Locality	AMP Category	Growth	LOS	Y1 2025/26	Y2 2026/27	Y3 2027/28	Y4 2028/29	Y5 2029/30	Y6 2030/31	Y7 2031/32	Y8 2032/33	Y9 2033/34
Albert Street Walking and Cycling Overpass	452	Pokeno	Active Travel	50%	50%									
Bollard Road urbanisation	324	Tuakau	Safety	50%	50%								$2,700,000	$2,700,000
Bollard Road Widening	324	Tuakau	Safety	50%	50%				$250,000	$1,700,000				
Bollard Road/Whangarata Road intersection improvements	324	Tuakau	Safety	50%	50%								$500,000	$6,000,000
BR TUA Harrisville Road bridge replacement	322	Tuakau	Resilience	0%	100%			$2,000,000	$3,000,000					
Buckland Friedlander - Geraghtys SNP	341	Tuakau	Safety	0%	100%			$750,000						
Buckland Rd 6201 Bridge - Upgrade Bridge for HPMV Capacity	322	Tuakau	Resilience	0%	100%				$300,000	$1,450,000				
Buckland Road Walking and Cycling facilities	452	Tuakau	Active Travel	75%	25%				$500,000	$1,000,000				
Buckville Rd Harrisville - Jamieson SNP	341	Tuakau	Safety	0%	100%			$40,000						
Coles Road improvements	341	Tuakau	Safety	75%	25%				$1,500,000					
Dean Road minor improvements	324	Pokeno	Safety	24%	76%				$500,000	$2,450,206				
Dean Road/Great South Road intersection Improvements	324	Pokeno	Safety	60%	40%				$500,000	$1,189,654				
District wide walking and cycling improvements	452	DIW	Active Travel	0%	100%			$200,000	$100,000	$100,000	$100,000	$300,000	$200,000	$400,000
District Wide Walking and Cycling Strategy	452	DIW	Active Travel	0%	100%			$250,000						
DIW unsealed road improvement	451	DIW	Resilience	0%	100%		$2,500,000	$2,500,000	$2,500,000	$2,500,000	$2,500,000	$2,500,000	$2,500,000	$2,500,000
DIW Unsubsidised Footpath repairs budget (Capital Renewal Budget)	451	DIW	Active Travel	20%	80%		$450,000	$450,000						
Dominion Road urbanisation	324	Tuakau	Safety	50%	50%								$2,880,000	$2,880,000
East Pokeno Pedestrian and Cycle Connection	452	Pokeno	Active Travel	50%	50%									
EW (Emergency works - future events)	140	DIW	Resilience	0	100%	$562,919	$573,051	$573,051	$573,051	$573,051	$573,051	$573,051	$573,051	$573,051
FP (District wide footpath cycleway improvement programme)	451	DIW	Active Travel	20%	80%					$0	$1,500,000	$1,500,000	$1,500,000	$1,500,000
George Street improvements	324	Tuakau	Safety	50%	50%								$2,340,000	$2,340,000
Gordonton Road/ development roundabout	324	Taupiri	Safety	100%	0%							$500,000	$6,000,000	
Hakarimata Parker - Wadham SNP	324	Western Districts	Safety	0%	100%				$50,000	$1,870,000				

Harrisville Road urbanisation	324	Tuakau	Safety	50%	50%									$1,800,000
Highway 22 Mangapiko - Tuakau Bridge Port Waikato Rd SNP	324	Western Districts	Safety	0%	100%			$50,000	$2,250,000					
Hopuhopu to Taupiri micro-mobility connection	452	Ngaruwahia	Active Travel	50%	50%								$1,250,000	$1,250,000
Huntly town wide walking and cycling connections	452	Huntly - Ohinewai	Active Travel	0%	100%			$300,000				$150,000		
Jellicoe Avenue Improvements	324	Tuakau	Safety	75%	25%							$1,800,000	$1,800,000	
Jesmond St/ Great South Road intersection upgrade	324	Ngaruawahia	Safety	75%	25%									$1,000,000
Jesmond St/ Newcastle St/ Galileo St roundabout improvements	341	Ngaruawahia	Safety	25%	75%			$250,000	$1,000,000					
Kainui Road and Kerie Road upgrades (including intersections)??	341	Ngaruawahia	Safety	100%	0%									
Kernott Road including Kernott/Great South Road Intersection	324	Ngaruawahia	Safety	100%	0%									$2,000,000
Lorenzen Bay Road/Main Road roundabout	324	Raglan	Safety	100%	0%						$500,000	$6,000,000		
Market Street Overpass	452	Pokeno	Active Travel	50%	50%						$200,000	$2,000,000		
Market Street West	324	Pokeno	Safety	75%	25%			$400,000	$2,000,000					
MI (Puketaha road minor improvements)	324	Waerenga-Whitikahu	Safety	75%	25%			$750,000						
MI (Washer road minor improvements)	341	Ngaruwahia	Safety	80%	20%			$50,000						
MI DIW Associated improvements to support rehab programmme	341	DIW	Safety	20%	80%			$500,000	$500,000	$500,000	$500,000	$500,000	$500,000	$500,000
MI DIW Crown Resilience Fund	341	DIW	Resilience			$1,750,000	$1,280,000							
MI DIW district wide resilience	357	DIW	Resilience	0%	100%			$2,340,000	$2,220,000	$2,307,000	$2,000,000	$2,000,000	$2,000,000	$2,000,000
MI DIW District wide retaining wall	357	DIW		0%	100%			$1,010,000	$1,150,000	$675,000	$1,025,000	$250,000		
MI DIW Scrim - safety improvements	????	DIW	Safety	0%	100%	$1,500,000	$1,500,000	$1,500,000						
MI DIW signage upgrades - requests from communities	341	DIW	Safety	0%	100%			$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000
MI DIW Speed management plan - implementation mostly signage	341	DIW	Safety	0%	100%			$150,000	$150,000	$150,000	$150,000	$150,000	$150,000	$150,000
MI DIW strategic property for bridge projects	322	DIW	Resilience	80%	20%			$50,000						
MI DIW streetlight improvements	341	DIW						$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000
MI DIW Threshold treatments associated with speed limit chan	321	DIW	Safety	0%	100%			$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000
MI DIW Ward specific traffic calming measures	324	DIW		0%	100%			$825,000	$825,000	$825,000	$825,000	$825,000	$825,000	$825,000
MI GDN Lake Road & Dawson Road IS SNP	341	Waerenga-Whitikahu	Safety	0%	100%						$7,070,000	$7,070,000	$7,070,000	$7,070,000
MI GLM Waingaro Clark - Elgood SNP	341	Western Districts	Safety	0%	100%			$260,000						
MI GLM Waingaro Rd - Elgood Rd - Owen Dr - SSM	341	Western Districts	Safety	0%	100%			$150,000						

MI HOR River Road & Lake IS SNP. Intersection Transformation	324	Ngaruawahia												
MI NGA Great South Road Urbanisation	324	Ngaruawahia	Safety	75%	25%				$100,000	$500,000	$1,000,000	$2,500,000	$2,500,000	
MI NGA Saulbrey Road RAB	324	Ngaruawahia	Safety	49%	51%			$750,000	$1,500,000	$3,500,000	$3,000,000			
MI POK Dean/Fraser RAB	324	Pokeno	Safety	60%	40%			$500,000	$2,500,000					
MI POK Helenslee Road upgrade. Munro to SH1 Interchange	324	Pokeno	Safety					$2,000,000						
MI POK Munro Road 355 Bridge - upgrade to two lane bridge	322	Pokeno	Resilience	11%	89%									
MI POK Munro Road 355 Bridge - upgrade to two lane bridge	322	Pokeno	Resilience	11%	89%	$500,000		$3,000,000	$4,340,000					
MI POK Pokeno Road/Munro Road RAB	324	Pokeno	Safety	70%	30%		$500,000	$1,750,000	$6,000,000					
MI POK Pokeno Road-Bridge to Munro	324	Pokeno	Safety	24%	76%				$150,000	$1,750,000				
MI POKPokeno Main St-Marlborough Street to Roundabout	324	Pokeno	Safety	75%	25%			$2,061,117						
MI Pookeno SH Access Study	324	Pokeno	Safety	75%	25%		$560,000							
MI PWA resilience - Port Waikato	357	Western Districts	Resilience	0%	100%			$300,000	$300,000	$300,000				
MI TAM Tauwhare Rd & Woodcock Rd IS SNP	324							$500,000						
MI TUA Buckland Road Int of Buckland Rd and George St.	324	Tuakau	Safety	75%	25%						$500,000	$6,000,000		
MI TUA Harrisville Road 8230 Bbridge - upgrade road for brid	322	Tuakau	Resilience	20%	80%									
MI TUA Harrisville Road 8230 bridge - upgradebridge for HPMV	324	Tuakau												
MI TUA Harrisville Road 8230 bridge - upgradebridge for HPMV	322	Tuakau	Resilience	20%	80%			$450,000	$1,100,000					
MI TUA Harrisville Road/George Street/Dominion Road intersec	324	Tuakau	Safety	50%	50%			$500,000	$2,000,000					
NA (Level crossing road Pokeno structure plan)	341	Pokeno	Safety	75%	25%									
NA (Bunds Pokeno structure plan)	341	Pokeno	Safety	75%	25%			$350,000						
NA (Pokeno market square development)	324	Pokeno	Safety	75%	25%		$186,000							
NA (Te Kauwhata structure plan (Ngaruawahia) Waikato river)	324	Horotiu	Safety	0%	100%	$400,000	$400,000	$400,000	$400,000	$400,000	$400,000	$400,000	$400,000	$400,000
New Bridge Investigation	341	Raglan	Safety	100%	0%		$300,000							
Ngaruawahia and Taupiri Walking and Cycling Improvements	452	Ngaruwahia	Active Travel	0%	100%			$300,000		$300,000		$300,000		$300,000
Ngaruawahia to Hopuhopu micro-mobility connection	451	Ngaruwahia	Active Travel	50%	50%						$1,250,000	$1,250,000		
NR NGA Festival Way new road development		Ngaruawahia	Safety	0%	100%									
Old Taupiri Road (north)/ Great South Road intersection safety improvements	324	Ngaruawahia	Safety	100%	0%							$500,000	$2,500,000	
Old Taupiri Road (south)/ Great South Road intersection upgrade	324	Ngaruawahia	Safety	100%	0%									

Overpass connection to Future Rail Station	563	Pokeno	Active Travel	75%	25%						$120,000	$2,000,000	$265,000	
Pedestrian and cycle connection under SH 1	452	Pokeno	Active Travel	75%	25%				$300,000			$540,000	$2,000,000	
PI DIW Bus Shelters - New shelters, New Signage and Lighting	514	DIW	Mode Share	0%	100%			$300,000	$300,000	$300,000	$300,000	$300,000	$300,000	$200,000
Pokeno Main Street - Shelby St to Wellington Street	324	Pokeno	Safety	75%	25%				$2,028,993					
Pokeno Road Cycle Overpass	452	Pokeno	Active Travel	75%	25%					$200,000	$2,000,000			
Pokeno Road Pedestrian Bridge	322	Pokeno	Safety	75%	25%			$300,000	$1,500,000					
Pokeno Walking and Cycling Improvements	452	Pokeno	Active Travel	0%	100%			$250,000		$50,000		$200,000	$250,000	
PR (Area wide pavement rehabilitation)	214	DIW	Resilience	100%	0%	$6,666,592	$6,786,590	$7,202,350	$7,331,992	$7,463,968	$7,598,320	$7,735,089	$7,874,321	$8,016,059
Princess St/ Great South Road/ Newcastle Street signalisation	321	Ngaruawahia	Safety	50%	50%			$500,000	$3,000,000					
Raglan Walking and Cycling	452	Raglan	Active Travel	50%	50%			$100,000		$50,000		$150,000		$100,000
RE NGA Saulbrey Road roundabout	324	Ngaruawahia	Safety	0%	100%									
RE POK Dean/Fraser Road RAB	324	Pokeno	Active Travel	0%	100%									
RE POK New roundabout on Great South Road/Pokeno Rd	324	Pokeno	Safety	75%	25%									
RE POK New roundabout on Great South Road/Pokeno Rd	324	Pokeno	Safety	75%	25%									
RE POK Pokeno main street redevelopment	324	Pokeno	Safety	75%	25%									
RE POK Pokeno main street redevelopment	324	Pokeno	Safety	75%	25%									
RI POK Huia Road resilience improvements / Munro Bridge	357	Pokeno	Safety	75%	25%									
RI POK Munro Road resilience improvements/walkway/culverts	324	Pokeno	Resilience	0%	100%			$5,000,000						
RI POK Pokeno Road Traffic Bridge	451	Pokeno	Safety	24%	76%		$500,000	$2,500,000	$2,600,000					
Rimu Street walking improvements	451	Te Kauwhata	Active Travel	50%	50%			$370,000	$370,000					
River Rd Lapwood Rd SNP	341	Tuakau	Safety	0%	100%			$170,000						
River Road/ Great South Road intersection upgrade	324	Ngaruawahia	Safety	50%	50%						$500,000	$4,000,000		
Rotowaro Inglis - Waingaro SNP	341	Western Districts	Safety	0%	100%			$210,000						
RZ HOR Upgding existing intersection to RAB River Rd/Lake Rd	324	Ngaruawahia												
SB (Bridge renewals)	216	DIW				1,013,897	1,032,147	$1,982,000	$2,017,676	$2,053,994	$2,090,966	$2,128,603	$2,166,918	$2,205,923
Signage wayfinding review	341	Raglan	Safety	0%	100%			$200,000						
SN DIW Bridge and Structure Renewals	216	DIW				$0	$0	$450,000	$2,200,000	$1,350,000	$500,000	$0	$0	$1,555,000
South Western Corridor Study	324	Raglan	Safety	100%	0%					$500,000	$500,000	$500,000	$500,000	

SR (Chip sealing)	212	DIW		0%	100%	$4,333,262	$4,447,261	$5,700,800	$5,803,414	$5,907,876	$6,014,218	$6,122,474	$6,232,678	$6,344,866
SR (Thin asphalt surfacing)	212	DIW		0%	100%	$2,000,000	$2,000,000	$2,036,000	$2,072,648	$2,109,956	$2,147,935	$2,186,598	$2,225,956	$2,266,024
Stream Loop Cycle Connection under SH 1	452	Pokeno	Safety	75%	25%									
Swan Road shared path	452	Te Kauwhata	Active Travel	100%	0%				$500,000					
Tahuna Rd - Ohinewai North Rd - Mangatea Rd - SSS	324	Huntly	Safety	0%	100%				$50,000	$2,950,000				
Tauhei Valintine - Orini SNP	341	Waerenga-Whitikahu	Safety	0%	100%			$850,000						
Tauwhare Rd SH1 - SH26 SNP	324	Tamahere-woodlands	Safety	0%	100%			$50,000	$2,050,000					
Te Hutewai Road Roundabout	324	Raglan	Safety	100%	0%			$500,000						
Te Kauwhata and Rangiriri footpath and cycleway improvements	452	Te Kauwhata	Active Travel	50%	50%						$100,000	$100,000	$100,000	$100,000
Te Kauwhata Road roundabout	324	Te Kauwhata	Safety	100%	0%									$500,000
Te Kauwhata Road shared path	452	Te Kauwhata	Active Travel	75%	25%				$425,000	$425,000				
Te Kauwhata Road urbanisation	341	Te Kauwhata	Safety	75%	25%							$800,000	$800,000	
Te Putu Street Town Centre	341	Ngaruawahia	Safety	75%	25%				$250,000	$1,000,000				
Te Wharepu Road shared path	452	Te Kauwhata	Active Travel	0%	100%			$500,000						
Traffic calming	341	Raglan	Safety	75%	25%			$100,000	$500,000	$500,000				
Tregoweth Lane improvements	341	Huntly-Ohinewai	Safety	0%	100%			$100,000		$500,000	$500,000			
Tuakau Bridge-Port Waikato Frost - Cobourne SNP	324	Tuakau	Safety	0%	100%				$50,000	$2,250,000				
Tuakau Cycle Trail Connection	452	Pokeno	Active Travel	75%	25%								$150,000	$1,400,000
Tuakau Walking and cycling improvements	452	Tuakau	Active Travel	50%	50%			$250,000			$250,000		$250,000	
TX (Traffic services capital)	222	DIW				772,003	785,899	785,899	785,899	785,899	785,899	785,899	785,899	785,899
UF (New footpaths (community specified))	451	DIW				$1,500,000	$1,500,000	$1,500,000	$1,500,000	$1,500,000	$1,500,000	$1,500,000	$1,500,000	$1,500,000
UF (New footpaths (community specified))	451	DIW												
UW (Minor maintenance upgrade works)		DIW												
UW (Minor maintenance upgrade works)		DIW				$1,000,000	$1,000,000	$1,000,000	$1,000,000	$1,000,000	$1,000,000	$1,000,000	$1,000,000	$1,000,000
VR DIW Environmental renewals	221	DIW				$0	$500,000	$509,000	$518,162	$527,489	$536,984	$546,649	$556,489	$566,506
Waerenga Road/ Swan Road Intersection	341	Te Kauwhata	Safety	100%	0%					$120,000				
Waerenga Swan - SH2 SNP	324	Waerenga-Whitikahu	Safety	0%	100%			$50,000	$1,950,000					
Waingaro Road Bridge Walking and Cycling	452	Ngaruwahia	Active Travel	50%	50%			$150,000	$1,000,000					

Wainui Bridge Signals	341	Raglan	Safety	75%	25%								$300,000	
Wainui Bridge traffic signals trial	341	Raglan	Safety	75%	25%									
Wainui Rd 957 Bridge - Upgrade to two lane bridge	322	Raglan	Resilience	24%	76%				$500,000	$5,000,000	$12,000,000			
Wainui Road Roundabout	324	Raglan	Safety	100%	0%				$500,000	$5,000,000	$10,000,000			
Walking and cycling connections	452	Horotiu	Active Travel	0%	100%			$150,000					$500,000	$2,000,000
Washer Road urbanisation	341	Ngaruawahia	Safety	75%	25%			$500,000	$1,000,000					
Whangarata Rd Brown Rd - Ridge Rd SNP	341	Tuakau	Safety	0%	100%			$50,000	$750,000					
Whangarata Road Urbanisation	324	Tuakau	Safety	75%	25%								$1,800,000	$1,800,000
Year 1 and 2 Project 1. Huntly | Raahui Pookeka Railway Station – expansion of park and ride facility. - $1.5M + $150K in yr 3 2. Case Study for North Waikato Railway Station 3. Transport Hub	563	Pokeno	Mode Share	50%	50%			$350,000	$350,000	$600,000	$350,000	$350,000	$350,000	$350,000
ZR (Periodic remetalling)	214	DIW				1,241,986	1,264,342	$2,545,000	$2,590,810	$2,637,445	$2,684,919	$2,733,247	$2,782,446	$2,832,530
MI POK Urban upgrade of Ford Street, including footpaths, kerb and channel, any required widening and lighting.	324	Pokeno	Safety	75%	25%				$2,800,000					
MI POK Urban upgrade of Theobald Street, including footpaths, kerb and channel, any required widening and lighting.	324	Pokeno	Safety	75%	25%				$1,400,000					
MI POK Urban upgrade of Wellington Street, including footpaths, kerb and channel, any required widening and lighting.	324	Pokeno	Safety	75%	25%				$840,000					
MI POK Urban upgrade of Walter Rodgers Road, including footpaths, kerb and channel, any required widening and lighting.	324	Pokeno	Safety	75%	25%					$2,240,000				
MI POK Urban upgrade of Selby Street, including footpaths, kerb and channel, any required widening and lighting.	324	Pokeno	Safety	75%	25%					$3,360,000				
MI POK Urban upgrade of Market Street, including footpaths, kerb and channel, any required widening and lighting.	324	Pokeno	Safety	75%	25%						$2,240,000			
MI POK Urban upgrade of Regina Street, including footpaths, kerb and channel, any required widening and lighting.	324	Pokeno	Safety	75%	25%						$3,920,000			
MI POK Urban upgrade of Church Street, including footpaths, kerb and channel, any required widening and lighting.	324	Pokeno	Safety	75%	25%						$1,120,000			
MI POK Urban upgrade of High Street, including footpaths, kerb and channel, any required widening and lighting.	324	Pokeno	Safety	75%	25%						$5,600,000			
MI POK Urban upgrade of Church Street, including footpaths, kerb	324	Pokeno	Safety	75%	25%							$5,600,000		

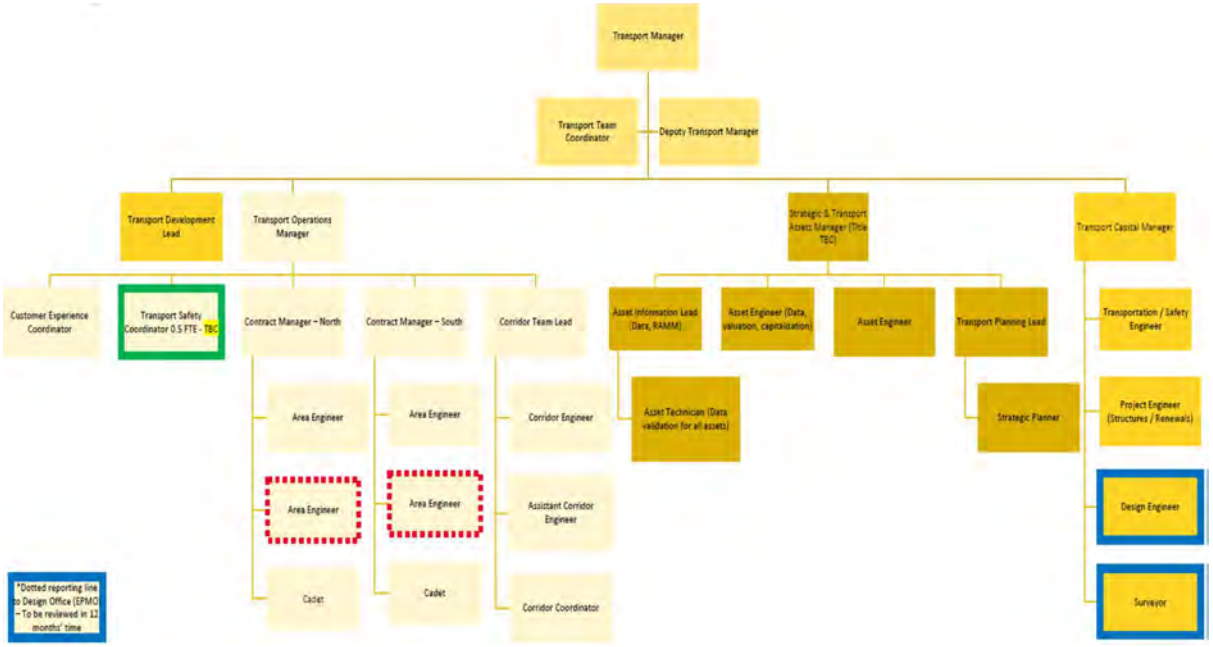
and channel, any required widening and lighting.														

5. Management Case

How do we deliver

The Waikato roading team manages the land transport programme for local roads in the district. The proposed structure to be implemented from July 2025 current is depicted in the figure 42.

Figure 45 Waikato Organisational Structure



Roading services are managed by a full time Transport Manager who is responsible for overseeing all land transport management functions.

Performance Management

Waikato has a number of monitoring systems for performance measurement and reporting. All data is stored in RAMM which is accessible by the roading contractors to upload information. Currently, the WDA manage the data and reporting, and use this data for planning, programming and all asset management requirements. From 1 July council's inhouse Strategic and Transport Asset Manager will have oversight of the management of this data for asset management purposes, with the new contractors utilising the database for programming and to entering data.

The new maintenance and renewal contracts include a KPI performance framework to manage the deliverables and levels of service of the assets. The measurement of these KPIs will enable monitoring of trends and identifications of areas for improvement early to focus the teams on the needs of the network.

Change of delivery contracts

With new road maintenance and renewal contracts starting in July 2025, the opportunity is being taken by establishing new contracts well. This includes allowing the suppliers to spend

the first 5 months prior to network handover to complete full network all-faults inspection and model the needs of the network. These new contracts will be managed by WDC contract managers with a focus on maintaining the asset through routine maintenance for asset preservation. Work programmes are to be developed by the contractor for approval by council, and the impact of tendering in a competitive environment is that quantities for maintenance have been increased in some areas such as for unsealed roads and drainage. These new contracts include full detail of quantities to maintain all aspects of the asset so that council's contract managers can fully understand the needs of the network and use this information to plan future investment priorities.

Also RATA's new FWD survey contract includes provision to map the condition of the pavement across 10% of the full road network - the new provider can offer new technology to expand this also. This improved use of technology will further enhance councils ability to model the network need.

Management of Risk

As an organisation we are confident that we can deliver the recommended programme. We have established a competent and experienced team as set out above, to ensure all aspects of delivering the programme are covered from design to procurement to delivery.

The biggest risk affecting the delivery of programme is large weather events. Waikato has experienced some significant weather events over the years and this can stretch all resources, both management and physical works. To manage this risk in terms of managing delivery of the programme we will leverage off our Professional Services wider team and relationships they have with other providers to ensure our network as much as possible is back operating as quickly as possible.

A full risk register has been developed for this AMP, as attached.

6. Improvement Plan

The following improvements are planned to be effected to this Business Case Asset Management Plan.

Improvement	Description	Target Date
Level of Service Development	LOS is referred to in this document but is not complete as a separate section. Latest maintenance contracts have specifications and performance measures that will assist in developing some of the LOS. Other contracts such as bridge inspections, lighting etc also need to be interrogated to develop a complete list.	1 July 2025.
Risk Management	Risk management is referred to throughout this document but needs to be developed into a standalone document which constructs a structured risk management approach in accordance with industry practice	1 July 2025

	NZTA Minimum standard Z/44 – Risk management practice guide..	
Significant Negative Effects	A section on Significant Negative Effects will assist compiling the Councils Transport Activity Management Plan proforma section 14. Such section in this AMP will also assist with ensuring compliance with legislation refer to section 10 of the Local Government Act 2002 and IIMM for elaboration on this subject.	1 July 2025

Further improvement items were identified in a previous version of Waikato District Council Roading AMP, table provided below.. The table is to be updated.

	IIMM Reference	IIMM Section	REG Success of Pilar	Improvement Items	Priority	Responsible Team/Person	Risk Level	Cost	2024/25	2025/26	2026/27	2027/28	Comment
Understanding and Defining Requirements	IIMM 2.1	AM Policy and Strategy	SYSTEMS	Review Infrastructure strategy.	Medium	Community Assets /Roading	Medium	$ 20,000		$ 20,000			
Understanding and Defining Requirements	IIMM 2.2	Levels of Service and Performance Management	DECISION MAKING	Develop customer communications plan.	Low	WDA/Roading/ Community Assets	Low	$ 10,000			$ 10,000		Included in 2021/24 AMP
	IIMM 2.2	Levels of Service and Performance Management	DECISION MAKING	LoS measurement tracking	Medium	Community Assets	Medium	$ 1,000	$ 1,000				
Understanding and Defining Requirements	IIMM 2.3	Forecasting Demand	DECISION MAKING	Use Waikato Regional Transport Model (WRTM) a base model to assess and integrate land use and transport planning to forecast the increased population growth and structures change. Develop demand scenarios (e.g. high/medium/ low).	Medium	Community Assets/Roading	Low	$ 25,000			$ 25,000		Included in 2021/24 AMP
Understanding and Defining Requirements	IIMM 2.3	Forecasting Demand	DECISION MAKING	Use district growth simulation model to identify new roads for future funding and planning.	Medium	Roading - Peter Henderson	Low	$ 10,000				$ 10,000	
Understanding and Defining Requirements	IIMM 2.4	Asset Register Data	EVIDENCE	Review outdated assets construction date.	High	WDA - Dave	High	$ 15,000	$ 15,000				
Understanding and Defining Requirements	IIMM 2.4	Asset Register Data	EVIDENCE	Improve RAMM contractors data input eg. dispatch tracking.	High	WDA - Dave	High	$ 8,000	$ 8,000				
Understanding and Defining Requirements	IIMM 2.4	Asset Register Data	EVIDENCE	Review assets RUL.	Medium	Consultant	Medium	$ 20,000		$ 20,000			
Understanding and Defining Requirements	IIMM 2.4	Asset Register Data	EVIDENCE	Use structures condition rating from 1 to 5 to align with RAMM rating	High	Consultant	Medium	$ 5,000		$ 5,000			Included in 2021/24 AMP
Understanding and Defining Requirements	IIMM 2.5	Asset Performance and Condition	DECISION MAKING	Improve fund allocation for network wide Drainage, pavement and surfacing deterioration. Improve budget allocation for side road slips repair due to wet weather condition.	High	Roading	High	$ 8,000	$ 8,000				
Understanding and Defining Requirements	IIMM 2.5	Asset Performance and Condition	DECISION MAKING	ONF performance measures recorded with targets and gap analysis.	Medium	Consultant	Low	$ 10,000				$ 10,000	
Understanding and Defining Requirements	IIMM 2.5	Asset Performance and Condition	DECISION MAKING	Increase network Inspection resources.	Medium	WDA	Medium	$ 1,000		$ 1,000			
Lifecycle Decision Making	IIMM 3.1	Decision Making	DECISION MAKING	Forward work program assessment and forecasts for safety works, footpaths, walking and Cycling. (341 WC.)	High	Roading - Peter Henderson	High	$ 15,000	$ 15,000				Included in 2021/24 AMP
Lifecycle Decision Making	IIMM 3.1	Decision Making	DECISION MAKING	Consider Demand management in strategy and project level decision.	Medium	Roading - Peter Henderson	Low	$ 12,000			$ 12,000		Included in 2021/24 AMP
Lifecycle Decision Making	IIMM 3.1	Decision Making	DECISION MAKING	Improve traffic count programme.	High	Roading - Attinder	Medium	$ 15,000	$ 15,000				
Lifecycle Decision Making	IIMM 3.1	Decision Making	DECISION MAKING	Link WRTM to dTIMS to determine traffic growth and then forecast maintenance.	Medium	Roading - Peter Henderson	Low	$ 10,000			$ 10,000		
Lifecycle Decision Making	IIMM 3.2	Managing Risk	DECISION MAKING	Divest Private Bridges.	High	Roading - Peter Henderson	High	$ 10,000	$ 10,000				Included in 2021/24 AMP
Lifecycle Decision Making	IIMM 3.2	Managing Risk	DECISION MAKING	Review or develop CMP for towns to identify flooding risk and then develop robust resilience programme.	High	Consultant	High	$ 25,000		$ 25,000			
Lifecycle Decision Making	IIMM 3.2	Managing Risk	DECISION MAKING	Updated resilience register is required to include existing issues/slips/flooding/under capacity drainage assets etc as well as a proactive register identifying future issues to allow for building further resilience into the network	High	Roading	High	$ 10,000	$ 10,000				
Lifecycle Decision Making	IIMM 3.3	Operational Planning	DECISION MAKING	Improve structures routine maintenance and component replacement communication programme between Alliance, Beca and WDC.	Medium	Community Assets	Medium	$ 8,000		$ 8,000			Included in 2021/24 AMP
Lifecycle Decision Making	IIMM 3.3	Operational Planning	DECISION MAKING	Develop structures maintence schedule to address structures repair backlog.	High	Roading/Community Assets	High	$ 15,000	$ 15,000				
Lifecycle Decision Making	IIMM 3.3	Operational Planning	DECISION MAKING	Acquire more information on structural condition of carriageway lighting.	High	Consultant	High	$ 15,000	$ 15,000				
Lifecycle Decision Making	IIMM 3.3	Operational Planning	DECISION MAKING	Develop drainage maintenance strategy.	Medium	WDA - Brett	High	$ 10,000			$ 10,000		
Lifecycle Decision Making	IIMM 3.3	Operational Planning	DECISION MAKING	Develop seal extension programme.	Medium	WDA - Brett	High	$ 12,000		$ 12,000			
Lifecycle Decision Making	IIMM 3.3	Operational Planning	DECISION MAKING	Carry out annual full network assessment. Overlay this data against locations of existing pavement faults to determine % defects associated to inadequate drainage. Monitor this result annually to analyse trend and determine if drainage strategy is effective.	Medium	WDA - Brett	Medium	$ 15,000		$ 15,000			
Lifecycle Decision Making	IIMM 3.4	Capital Works Planning	DECISION MAKING	Implement developer lead projects DC collection management.	High	Community Assets	High	$ 1,000	$ 1,000				Included in 2021/24 AMP
Lifecycle Decision Making	IIMM 3.5	Financial Planning	DECISION MAKING	Assess financial viability to meet capital works costs .	Low	Roading	Low	$ 2,000			$ 2,000		
Lifecycle Decision Making	IIMM 3.5	Financial Planning	DECISION MAKING	Funding to address backlog of surfacing, pavement rehabs and structure mainteence.	Medium	Roading	Medium	$ 1,000		$ 1,000			Included in 2021/24 AMP
Asset Management Enablers	IIMM 4.1	Asset Management Leadership and Teams	PEOPLE / CULTURE	New KPIs to monitor progress, updating of position descriptions and improvements to the governance and leadership of WDA contract.	Low	WDA	Medium	$ 1,000			$ 1,000		
Asset Management Enablers	IIMM 4.1	Asset Management Leadership and Teams	PEOPLE / CULTURE	Organisational structure to support AM.	Low	Community assets	Low	$ 1,000		$ 1,000			
Asset Management Enablers	IIMM 4.2	Asset Management Plans	SYSTEMS	Develop improvements reporting and monitoring plan.	Medium	Community Assets	Medium	$ 1,000	$ 1,000				
Asset Management Enablers	IIMM 4.3	Management Systems	SYSTEMS	Improve WDC CRM system linking with RAMM contractor.	Medium	Community assets	Medium	$ 1,000		$ 1,000			
Asset Management Enablers	IIMM 4.3	Management Systems	SYSTEMS	Develop asset vesting process.	High	Community assets	High	$ 1,000	$ 1,000				
Asset Management Enablers	IIMM 4.3	Management Systems	SYSTEMS	Consider targets and gap analysis for ONF performance measure.	Medium	Community assets	Medium	$ 8,000			$ 8,000		
Asset Management Enablers	IIMM 4.3	Management Systems	SYSTEMS	Develop transportation strategy.	High	Roading - Peter Henderson	High	$ 18,000	$ 18,000				
Asset Management Enablers	IIMM 4.4	Asset Management Information Systems	COMMUNICATING	Business Intelligence tool to enable performance reporting at a spatial and asset component level.	Medium	Community assets	Medium	$ 1,000		$ 1,000			
Asset Management Enablers	IIMM 4.4	Asset Management Information Systems	COMMUNICATING	Unsealed roads ONF hierarchy.	High	WDA- Dave	High	$ 5,000		$ 5,000			
Asset Management Enablers	IIMM 4.5	Service Delivery Mechanisms	SERVICE DELIVERY	WDA road maintenance service delivery contract review.	High	Roading	High	$ 5,000	$ 5,000				
Asset Management Enablers	IIMM 4.5	Service Delivery Mechanisms	SERVICE DELIVERY	Explore delivery options and prepare procurement plan for road maintenance contract from July 2025 onwards. NZTA and WDC to review and approve procurement plan.	High	Roading	High	$ 5,000	$ 5,000				
Asset Management Enablers	IIMM 4.5	Service Delivery Mechanisms	SERVICE DELIVERY	Improve capital projects monitoring and reporting process through CAMM.	High	Jakir	High	$ 5,000		$ 5,000			
Asset Management Enablers	IIMM 4.5	Service Delivery Mechanisms	SERVICE DELIVERY	CAPEX projects suppliers procurement process.	High	Procurement	High	$ 1,000		$ 1,000			
Asset Management Enablers	IIMM 4.6	Audit and Improvement	SYSTEMS	Annual audit and Annual AMP review.	High	Community Assets	High	$ 1,000			$ 1,000		
Asset Management Enablers	IIMM 4.6	Audit and Improvement	SYSTEMS	AMP peer review.	High	Community Assets	High	$ 5,000			$ 5,000		
								$ 368,000	$ 143,000	$ 121,000	$ 84,000	$ 20,000	

7. Appendix A. Approved Roading budgets for 2025-2034.

Following the 2025-2034 Long Term Plan public consultation, Waikato District Council approved that Council would only fund roading projects subsidised by NZTA. The following budgets have been confirmed.

Capital projects:

Project Description	Cost Centre Description	Total Budget 2025/26	Year 2026/27 Inflated	Year 2027/28 Inflated	Year 2028/29 Inflated	Year 2029/30 Inflated	Year 2030/31 Inflated	Year 2031/32 Inflated	Year 2032/33 Inflated	Year 2033/34 Inflated
MI (Tregoweth lane minor improvements)	LCLR Local Road Improvements	0	0	0	0	0	0	0	714,783	0
MI POK Helenslee Road upgrade. Munro to SH1 Interchange	LCLR Local Road Improvements	0	0	1,579,013	0	0	0	0	0	0
MI POK Pokeno Road-Bridge to Munro	LCLR Local Road Improvements	0	0	263,169	0	1,098,426	0	0	0	0
RA (Total station survey equipment)	Roading Administration	0	111,351	0	0	119,095	0	0	131,044	0
SB (Ohautira road bridge)	Structure Component replacements(NZTA)	0	0	0	583,226	0	0	0	0	0
SB (Aka aka road bridge)	Structure Component replacements(NZTA)	0	0	0	233,290	0	0	0	0	0
EW (Emergency works - future events)	Emergency Works(NZTA)	1,021,000	1,048,567	1,074,781	1,098,427	1,121,493	1,145,044	1,167,945	1,191,305	1,213,939
MI (Te Kauwhata road minor improvements)	LCLR Local Road Improvements	0	0	0	0	0	0	800,746	0	0
MI (Puketaha road minor improvements)	LCLR Local Road Improvements	0	0	0	0	0	841,120	0	0	0
MI (Washer road minor improvements)	LCLR Local Road Improvements	0	0	0	0	0	56,075	0	0	0
MI (Dean road/great south road minor improvements)	LCLR Local Road Improvements	0	0	0	0	0	0	171,588	583,401	0
MI (Dean road minor improvements)	LCLR Local Road Improvements	0	0	0	0	274,607	0	0	0	0
UW (Minor maintenance upgrade works)	Upgrade Works	357,350	366,998	376,173	384,449	392,523	400,766	408,781	416,957	424,879

Project Description	Cost Centre Description	Total Budget 2025/26	Year 2026/27 Inflated	Year 2027/28 Inflated	Year 2028/29 Inflated	Year 2029/30 Inflated	Year 2030/31 Inflated	Year 2031/32 Inflated	Year 2032/33 Inflated	Year 2033/34 Inflated
SB (Bridge renewals)	Structure Component replacements(NZTA)	997,887	1,015,295	1,043,845	1,066,810	1,089,212	1,112,086	1,134,328	1,157,015	1,178,998
DR (Drainage renewals district wide)	Drainage Renewals(NZTA)	2,851,647	2,901,818	2,983,343	3,048,977	3,113,004	3,178,377	3,241,945	3,306,786	3,369,614
FP (District wide footpath cycleway improvement programme)	Footpath Renewal	0	0	456,429	499,124	545,277	595,700	607,614	619,767	631,542
PR (Area wide pavement rehabilitation)	Pavement Rehabilitation(AWPT)(NZTA)	6,484,345	6,594,705	6,775,565	6,924,628	7,070,042	7,218,513	7,362,884	7,510,146	7,652,837
SR (Thin asphalt surfacing)	Sealed Road Re-surfacing(Reseals & thin AC)(NZTA)	856,809	1,010,580	1,035,844	1,058,632	1,080,863	1,103,561	1,125,633	1,148,146	1,169,961
SR (Chip sealing)	Sealed Road Re-surfacing(Reseals & thin AC)(NZTA)	5,310,217	5,261,649	5,413,384	5,532,480	5,648,659	5,767,281	5,882,627	6,000,283	6,114,287
TX (Traffic services capital)	Traffic Services Renewal(NZTA)	763,385	776,823	798,652	816,222	833,363	850,863	867,881	885,239	902,058
ZR (Periodic remetalling)	Pavement Layer Renewal(NZTA)	1,217,259	1,238,312	1,272,448	1,300,442	1,327,751	1,355,634	1,382,747	1,410,402	1,437,200
MI TUA Buckland Road 6201 Bridge - upgrade bridge for HPMV c	LCLR Local Road Improvements	0	0	322,434	1,592,718	0	0	0	0	0
MI TUA Harrisville Road 3199 bridge - upgrade bridge for HPM	LCLR Local Road Improvements	0	0	0	0	3,295,278	0	0	0	0
MI TUA Harrisville Road 8230 bridge - upgradebridge for HPMV	LCLR Local Road Improvements	0	0	2,105,350	0	0	0	0	0	0
MI TUA Harrisville Road 8230 Bbridge - upgrade road for brid	LCLR Local Road Improvements	0	0	0	4,841,253	0	0	0	0	0
MI POK Munro Road 355 Bridge - upgrade to two lane bridge	LCLR Local Road Improvements	0	0	3,158,025	0	0	0	0	0	0
MI POK Munro Road 355 Bridge - upgrade road for bridge	LCLR Local Road Improvements	0	0	1,052,675	0	0	0	0	0	0
MI POK Pokeno Road/Munro Road RAB	LCLR Local Road Improvements	0	0	0	1,075,834	549,213	0	0	0	0

Project Description	Cost Centre Description	Total Budget 2025/26	Year 2026/27 Inflated	Year 2027/28 Inflated	Year 2028/29 Inflated	Year 2029/30 Inflated	Year 2030/31 Inflated	Year 2031/32 Inflated	Year 2032/33 Inflated	Year 2033/34 Inflated
MI NGA Saulbrey Road RAB	LCLR Local Road Improvements	0	0	421,070	4,841,253	0	0	0	0	0
MI NGA Great South Road Urbanisation	LCLR Local Road Improvements	0	0	0	0	0	572,522	2,516,631	0	3,034,848
MI NGA Princess St/ Great South Road/ Newcastle Street signa	LCLR Local Road Improvements	0	0	0	0	0	0	0	595,652	3,641,818
MI NGA River Road/ Great South Road intersection upgrade	LCLR Local Road Improvements	0	0	0	0	0	0	0	595,652	4,855,758
MI NGA Old Taupiri Road (north)/ Great South Road intersecti	LCLR Local Road Improvements	0	0	0	0	0	0	583,973	2,978,262	0
MI NGA Jesmond St/ Newcastle St/ Galileo St roundabout impro	LCLR Local Road Improvements	0	0	0	0	0	286,261	2,516,631	0	0
MI NGA Jesmond St/ Great South Road intersection upgrade	LCLR Local Road Improvements	0	0	0	0	0	1,145,044	3,503,836	0	0
MI NGA Gordonton Road/ development roundabout	LCLR Local Road Improvements	0	0	0	0	0	0	583,973	7,147,829	0
MI TAU TePutu Street Town Centre	LCLR Local Road Improvements	0	0	0	0	0	0	0	297,826	1,213,939
MI TKA Te Kauwhata Road roundabout	LCLR Local Road Improvements	0	0	0	0	274,607	1,345,792	0	0	0
MI TKA Waerenga Road/ Swan Road Intersection	LCLR Local Road Improvements	0	0	0	0	0	0	0	142,642	0
MI HOR Washer Road urbanisation	LCLR Local Road Improvements	0	0	0	0	0	0	0	595,652	1,213,939
MI HOR Kernott Road including Kernott/Great South Road Inter	LCLR Local Road Improvements	0	0	0	0	0	0	0	0	2,427,879
MI TUA Buckland Road roundabout	LCLR Local Road Improvements	0	0	0	0	560,746	6,870,266	0	0	0
MI TUA Coles Road improvements	LCLR Local Road Improvements	0	0	0	0	0	84,112	1,751,346	0	0
MI TUA Bollard Road/Whangarata Road intersection improvement	LCLR Local Road Improvements	0	0	0	0	0	0	0	595,652	7,283,636

Project Description	Cost Centre Description	Total Budget 2025/26	Year 2026/27 Inflated	Year 2027/28 Inflated	Year 2028/29 Inflated	Year 2029/30 Inflated	Year 2030/31 Inflated	Year 2031/32 Inflated	Year 2032/33 Inflated	Year 2033/34 Inflated
MI TUA Whangarata Road Urbanisation	LCLR Local Road Improvements	0	0	0	0	0	112,149	4,202,773	0	0
MI TUA George Street improvements	LCLR Local Road Improvements	0	0	0	0	0	0	0	2,787,653	2,840,618
MI TUA Harrisville Road/George Street/Dominion Road intersec	LCLR Local Road Improvements	0	0	0	1,922,246	0	0	0	0	0
MI TUA Dominion Road urbanisation	LCLR Local Road Improvements	0	0	0	0	3,229,900	3,297,728	0	0	0
MI TUA Jellicoe Avenue improvements	LCLR Local Road Improvements	0	0	0	0	0	0	2,102,302	2,144,349	0
MI TUA Bollard Road urbanisation	LCLR Local Road Improvements	0	0	2,901,909	2,965,752	0	0	0	0	0
MI TUA Harrisville Road urbanisation	LCLR Local Road Improvements	0	0	0	0	0	0	0	0	2,185,091
MI POK Market Street West	LCLR Local Road Improvements	0	0	429,912	2,196,853	0	0	0	0	0
MI RAG Lorenzen Bay Road/Main Road RAB	LCLR Local Road Improvements	0	0	0	0	560,746	3,364,479	0	0	0
MI RAG Traffic calming	LCLR Local Road Improvements	0	0	0	0	112,149	572,522	0	0	0
MI RAG Wainui Road roundabout	LCLR Local Road Improvements	0	0	0	0	0	572,522	0	7,147,829	0
MI RAG Te Hutewai Road roundabout	LCLR Local Road Improvements	0	0	0	0	560,746	2,933,265	0	0	0
MI DIW District wide retaining wall	LCLR Local Road Improvements	0	0	526,338	322,750	329,528	226,289	0	0	0
MI DIW district wide resilience	LCLR Local Road Improvements	0	0	1,052,675	1,075,834	1,098,426	1,121,493	1,143,923	1,166,802	1,188,971
MI DIW culvert upgrades	LCLR Local Road Improvements	0	0	1,421,111	1,398,584	549,213	616,821	800,746	816,761	832,280
MI DIW Ward specific traffic calming measures	LCLR Local Road Improvements	0	0	210,535	215,167	274,607	0	285,981	291,701	297,243

Project Description	Cost Centre Description	Total Budget 2025/26	Year 2026/27 Inflated	Year 2027/28 Inflated	Year 2028/29 Inflated	Year 2029/30 Inflated	Year 2030/31 Inflated	Year 2031/32 Inflated	Year 2032/33 Inflated	Year 2033/34 Inflated
MI DIW signage upgrades - requests from communities	LCLR Local Road Improvements	0	0	53,739	54,921	56,075	57,252	58,397	59,565	60,697
MI DIW Associated improvements to support rehab programmme	LCLR Local Road Improvements	0	0	537,391	549,213	560,746	572,522	583,973	595,652	606,970
FN DIW District wide footpaths - walking and cycling improve	LCLR Walking & Cycling	0	0	1,074,781	1,098,427	1,121,493	1,145,044	1,167,945	1,191,305	1,213,939
MI GLM Waingaro Clark - Elgood SNP	LCLR Local Road Improvements	0	0	0	0	0	291,588	0	0	0
MI GLM Waingaro Rd - Elgood Rd - Owen Dr - SSM	LCLR Local Road Improvements	0	0	0	0	0	168,224	0	0	0
MI DIW Speed management plan - implementation mostly signage	LCLR Local Road Improvements	0	0	52,634	53,792	54,921	56,075	57,196	58,340	59,449
MI DIW Threshold treatments associated with speed limit chan	LCLR Local Road Improvements	0	0	74,740	21,517	21,969	22,430	22,878	23,336	23,779
MI POKPokeno Main St- Marlborough Street to Roundabout	LCLR Local Road Improvements	0	0	0	0	0	0	1,143,923	0	0
MI POK Pokeno Road Corridor - Bridge to Munro Road intersect	LCLR Local Road Improvements	0	0	0	0	1,098,426	0	0	0	0
PI DIW Bus Shelters - New shelters, New Signage and Lighting	LCLR Public Transport Infrastructure	0	0	68,424	69,929	71,398	72,897	74,355	75,842	77,283
FN NGA Ngaruawahia to Hopuhopu micro-mobility connection	LCLR Walking & Cycling	0	0	0	0	0	1,431,305	1,459,932	0	0
FN NGA Waingaro Road Bridge walking and cycling	LCLR Walking & Cycling	0	0	1,074,781	0	0	0	0	0	0
FN NGA Hopuhopu to Taupiri micro-mobility connection	LCLR Walking & Cycling	0	0	0	0	0	0	0	1,489,131	1,517,424
FN NGA Ngaruawahia and Taupiri walking and cycling Improveme	LCLR Walking & Cycling	0	0	268,695	0	280,373	0	291,986	0	303,485
FN TKO Te Wharepu Road shared path	LCLR Walking & Cycling	0	0	537,391	0	0	0	0	0	0
FN TKO Swan Road shared path	LCLR Walking & Cycling	0	0	0	549,213	0	0	0	0	0

Project Description	Cost Centre Description	Total Budget 2025/26	Year 2026/27 Inflated	Year 2027/28 Inflated	Year 2028/29 Inflated	Year 2029/30 Inflated	Year 2030/31 Inflated	Year 2031/32 Inflated	Year 2032/33 Inflated	Year 2033/34 Inflated
FN TKO Te Kauwhata Road shared path	LCLR Walking & Cycling	0	0	0	466,831	476,635	0	0	0	0
FN TKO Te Kauwhata and Rangiriri footpath and cycleway impro	LCLR Walking & Cycling	0	0	0	0	0	114,504	116,795	119,130	121,394
FN TKO Rimu Street walking improvements	LCLR Walking & Cycling	0	0	397,669	406,418	0	0	0	0	0
FN HOR walking and cycling connections	LCLR Walking & Cycling	0	0	0	0	0	0	0	595,652	2,427,879
FN TUA Buckland Road walking and cycling facilities	LCLR Walking & Cycling	0	0	0	549,213	1,121,493	0	0	0	0
FN TUA Tuakau walking and cycling improvements	LCLR Walking & Cycling	0	0	0	274,607	0	286,261	0	297,826	0
FN HUN Huntly town wide walking and cycling connections	LCLR Walking & Cycling	0	0	0	164,764	0	171,757	0	0	0
FN POK pedestrian and cycle connection under SH 1	LCLR Walking & Cycling	0	0	0	0	0	0	0	0	364,182
FN POK Tuakau cycle trail connection	LCLR Walking & Cycling	0	0	0	0	0	0	0	178,696	1,699,515
FN POK Pokeno walking and cycling improvements	LCLR Walking & Cycling	0	0	268,695	0	280,373	0	0	297,826	0
FN RAG Raglan Walking and Cycling	LCLR Walking & Cycling	0	0	107,478	0	112,149	0	116,795	0	121,394
FN DIW District wide walking and cycling improvements	LCLR Walking & Cycling	0	0	214,956	219,685	224,299	229,009	233,589	238,261	242,788
PI HUN Huntly Raahui Pookeka railway station park and ride	LCLR Public Transport Infrastructure	0	0	1,021,042	0	0	0	0	0	0
VR DIW Environmental renewals	Environmental Renewal	0	0	311,048	333,787	357,835	383,617	410,854	440,025	470,805
SN DIW Bridge and Structure Renewals	Bridge and Structures Renewal	0	0	1,472,343	1,549,877	1,629,896	1,714,047	1,800,780	1,891,899	1,985,679
MI DIW streetlight improvements	LCLR Local Road Improvements	0	0	107,478	109,843	112,149	114,504	116,795	119,130	121,394

Project Description	Cost Centre Description	Total Budget 2025/26	Year 2026/27 Inflated	Year 2027/28 Inflated	Year 2028/29 Inflated	Year 2029/30 Inflated	Year 2030/31 Inflated	Year 2031/32 Inflated	Year 2032/33 Inflated	Year 2033/34 Inflated
UW DIW new roads	Upgrade Works	0	0	2,149,562	2,196,853	2,242,986	2,290,089	2,335,891	2,382,610	2,427,879
MI TAM Tauwhare Rd & Woodcock Rd IS SNP	LCLR Local Road Improvements	0	0	0	0	0	560,747	0	0	0
CR DIW Crown resilience programme	Crown Resilience Programme	1,750,000	1,275,000	0	0	0	0	0	0	0
TF DIW Drainage Improvements	Targeted Fund Resilience Programme	1,500,000	1,500,000	0	0	0	0	0	0	0
TF DIW Improvements associated with rehabilitation	Targeted Fund Resilience Programme	2,000,000	2,000,000	0	0	0	0	0	0	0
TF DIW Driver Rd RP 839	Targeted Fund Resilience Programme	68,000	0	0	0	0	0	0	0	0
TF DIW Glen Murray Rd RP 6856	Targeted Fund Resilience Programme	65,000	0	0	0	0	0	0	0	0
TF DIW Highway 22 - Droppot repair RP 33472	Targeted Fund Resilience Programme	250,000	0	0	0	0	0	0	0	0
TF DIW Highway 22 - Droppot repair RP 34642	Targeted Fund Resilience Programme	127,440	0	0	0	0	0	0	0	0
TF DIW Highway 22 Dropout repair 34605	Targeted Fund Resilience Programme	954,000	0	0	0	0	0	0	0	0
TF DIW Highway 22 RP 15257	Targeted Fund Resilience Programme	62,000	0	0	0	0	0	0	0	0
TF DIW Highway 22 RP 604	Targeted Fund Resilience Programme	24,000	0	0	0	0	0	0	0	0
TF DIW Highway 22 RP 666	Targeted Fund Resilience Programme	168,000	0	0	0	0	0	0	0	0
TF DIW Kawhia Road Dropout repair RP 3282	Targeted Fund Resilience Programme	395,000	500,000	0	0	0	0	0	0	0
TF DIW Ohautira Rd RP 10424	Targeted Fund Resilience Programme	72,000	0	0	0	0	0	0	0	0
TF DIW Ohautira Rd RP 10836	Targeted Fund Resilience Programme	126,000	0	0	0	0	0	0	0	0

Project Description	Cost Centre Description	Total Budget 2025/26	Year 2026/27 Inflated	Year 2027/28 Inflated	Year 2028/29 Inflated	Year 2029/30 Inflated	Year 2030/31 Inflated	Year 2031/32 Inflated	Year 2032/33 Inflated	Year 2033/34 Inflated
TF DIW Ohautira Rd RP 3668	Targeted Fund Resilience Programme	168,000	0	0	0	0	0	0	0	0
TF DIW Ohautira Rd RP 5043	Targeted Fund Resilience Programme	60,000	0	0	0	0	0	0	0	0
TF DIW Ohautira Rd RP 9387	Targeted Fund Resilience Programme	210,000	0	0	0	0	0	0	0	0
TF DIW Ohautira RD RP 9547	Targeted Fund Resilience Programme	109,000	0	0	0	0	0	0	0	0
TF DIW Ohautira Rd RP 9839	Targeted Fund Resilience Programme	186,000	0	0	0	0	0	0	0	0
TF DIW Ohautira Rd RP 9923	Targeted Fund Resilience Programme	384,000	0	0	0	0	0	0	0	0
TF DIW Port Waikato - Waikaretu Rd RP 2197	Targeted Fund Resilience Programme	24,000	0	0	0	0	0	0	0	0
TF DIW Port Waikato - Wairekutu Rd Dropout repair RP 2578	Targeted Fund Resilience Programme	176,000	0	0	0	0	0	0	0	0
TF DIW Port Waikato - Wairekutu Rd Dropout repair RP 3889	Targeted Fund Resilience Programme	294,000	0	0	0	0	0	0	0	0
TF DIW Port Waikato - Wairekutu Rd RP 1878	Targeted Fund Resilience Programme	78,000	0	0	0	0	0	0	0	0
TF DIW Tikotiko Rd - Dropout repair RP 5555	Targeted Fund Resilience Programme	440,000	660,000	0	0	0	0	0	0	0
TF DIW Tuakau Bridge - Port Waikato Rd RP 8263	Targeted Fund Resilience Programme	24,000	0	0	0	0	0	0	0	0
TF DIW Waikokowai Rd RP2047	Targeted Fund Resilience Programme	54,000	0	0	0	0	0	0	0	0
TF DIW Wairamarama - Onewhero Rd Dropout repair RP 10855	Targeted Fund Resilience Programme	117,000	273,000	0	0	0	0	0	0	0
TF DIW Wairamarama - Onewhero Rd Dropout repair RP 11139	Targeted Fund Resilience Programme	78,900	184,100	0	0	0	0	0	0	0
TF DIW Wairamarama - Onewhero Rd Dropout repair RP 12999	Targeted Fund Resilience Programme	117,000	273,000	0	0	0	0	0	0	0

Project Description	Cost Centre Description	Total Budget 2025/26	Year 2026/27 Inflated	Year 2027/28 Inflated	Year 2028/29 Inflated	Year 2029/30 Inflated	Year 2030/31 Inflated	Year 2031/32 Inflated	Year 2032/33 Inflated	Year 2033/34 Inflated
TF DIW Wairamarama - Onewhero Rd Dropout repair RP 7696	Targeted Fund Resilience Programme	113,400	264,600	0	0	0	0	0	0	0
TF DIW Wairamarama - Onewhero Rd Dropout repair RP 8956	Targeted Fund Resilience Programme	154,800	361,200	0	0	0	0	0	0	0
TF DIW Wairamarama - Onewhero Rd RP 5916	Targeted Fund Resilience Programme	36,000	0	0	0	0	0	0	0	0
TF DIW Wairamarama - Onewhero Rd RP 5951	Targeted Fund Resilience Programme	48,000	0	0	0	0	0	0	0	0
TF DIW Wairamarama - Onewhero Rd RP 5977	Targeted Fund Resilience Programme	78,000	0	0	0	0	0	0	0	0
TF DIW Wairamarama - Onewhero Rd RP 6076	Targeted Fund Resilience Programme	117,000	0	0	0	0	0	0	0	0
TF DIW Wairamarama - Onewhero Rd RP 6509	Targeted Fund Resilience Programme	78,000	0	0	0	0	0	0	0	0
TF DIW Wairamarama - Onewhero Rd RP 6577	Targeted Fund Resilience Programme	60,000	0	0	0	0	0	0	0	0
TF DIW Wairamarama - Onewhero Rd RP 6975	Targeted Fund Resilience Programme	42,000	0	0	0	0	0	0	0	0
		30,668,438	**27,616,998**	**46,467,529**	**53,663,841**	**44,932,689**	**56,428,160**	**54,138,917**	**62,433,764**	**68,957,269**

Operational budget:

Project Description	Cost Centre Description	Total Budget 2025/26	Year 2026/27 Inflated	Year 2027/28 Inflated	Year 2028/29 Inflated	Year 2029/30 Inflated	Year 2030/31 Inflated	Year 2031/32 Inflated	Year 2032/33 Inflated	Year 2033/34 Inflated
PT (Te huia rail service)	Passenger Transport	285,880	293,599	306,313	313,052	319,625	343,513	350,384	381,218	388,461

RS (Coordination road safety)	Road Safety Education(NZTA)	150,667	150,667	154,886	158,294	161,618	165,012	168,312	171,679	174,940
SM (Kiwirail pavement works)	Sealed Pavement Maintenance(NZTA)	352,245	409,715	419,548	428,359	436,926	445,227	453,687	462,307	470,628
AL (Unsub Carriageway Lighting)	Carriageway Lighting	70,474	72,377	74,187	75,819	77,411	79,037	80,617	82,230	83,792
BM (Structures maintenance)	Structures Maintenance(Bridge Repairs)(NZTA)	1,270,661	1,292,979	1,324,251	1,352,060	1,379,102	1,405,305	1,432,006	1,459,214	1,485,479
DM (Drainage maintenance)	Drainage Maintenance (NZTA)	3,155,266	3,212,547	3,287,654	3,356,695	3,423,829	3,488,882	3,555,171	3,622,719	3,687,926
EN (Environmental Maintenance)	Environmental Maintenance(NZTA)	2,845,817	2,895,341	2,965,167	3,027,436	3,087,984	3,146,656	3,206,443	3,267,365	3,326,176
FM (Footpath maintenance district wide)	Footpath maintenance	166,328	169,321	174,064	177,893	181,629	185,443	189,152	192,935	196,601
SM (Sealed Pavement Mtce)	Sealed Pavement Maintenance(NZTA)	5,095,843	5,133,475	5,258,058	5,368,477	5,475,846	5,579,888	5,685,907	5,793,938	5,898,226
ST (Street Cleaning & Amenity Mtce)	Street Cleaning & Amenity Maintenance	490,080	503,312	515,895	527,245	538,317	549,621	560,614	571,826	582,691
ST (Street Cleaning & Amenity Mtce)	Street Cleaning & Amenity Maintenance	153,150	157,285	161,217	164,764	168,224	171,757	175,192	178,696	182,091
ST (Street Cleaning & Amenity Mtce)	Street Cleaning & Amenity Maintenance	459,450	471,855	483,652	494,292	504,672	515,270	525,575	536,087	546,273
ST (Street Cleaning & Amenity Mtce)	Street Cleaning & Amenity Maintenance	306,300	314,570	322,434	329,528	336,448	343,513	350,384	357,391	364,182
ST (Street Cleaning & Amenity Mtce)	Street Cleaning & Amenity Maintenance	255,250	262,142	268,695	274,607	280,373	286,261	291,986	297,826	303,485
TM DIW Network service maintenance	Network Service Maintenance	1,500,000	1,495,184	1,531,725	1,563,891	1,595,169	1,625,477	1,656,361	1,687,832	1,718,212
TM DIW Network service maintenance	Network Service Maintenance	564,683	616,200	631,605	645,500	659,056	672,896	686,354	700,081	713,383
TM DIW Network service maintenance	Network Service Maintenance	300,000	308,100	315,803	322,750	329,528	336,448	343,177	350,041	356,691
UM DIW Unsealed roads maintenance	Unsealed Road Maintenance(NZTA)	3,750,765	3,816,590	3,908,952	3,991,040	4,070,861	4,148,207	4,227,024	4,307,337	4,384,867
MV DIW Minor events	Minor Events (NZTA)	562,919	573,051	589,098	602,058	614,701	627,610	640,162	652,966	665,372
MI DIW Stock underpass	LCLR Local Road Improvements	0	0	52,634	53,792	54,921	56,075	57,196	58,340	59,449

		21,735,778	**22,148,310**	**22,745,838**	**23,227,551**	**23,696,239**	**24,172,099**	**24,635,704**	**25,132,027**	**25,588,925**

8. Appendix B: Comparison of National Land Transport Application to approved 2025-2034 Long Term Plan budget for capital budgets.

The table below summarises a 44 million funding gap towards our infrastructure improvements to service growth and development demands within our network.

The consequence of the gap does not immediately compromise road user safety and access. However, achievement off necessary improvements are now taking longer to implement and will put more strain on the existing network.

Phases summary Low Cost / Low Risk Improvements 2024-27											
Activity Class	Status	Last Review	Three-year Requested Allocation ($)	2024/25 Approved Allocation	2025/26 Approved Allocation	2026/27 Approved Allocation	Three-year Approved Allocation ($)	Three-year Waka Kotahi Share ($)	Three-year Approved Allocation Previous NLTP ($)	NZTA Approval less Waikato District Request	NZTA Approval Status
Local road improvements	Funding Approved	New Approval Programmes approved	63,889,390	4,762,280	0	0	4,762,280	2,428,763	6,146,753	-59,127,110	Funding Approved
Walking and cycling improvements	Funding Approved	New Approval Programmes approved	3,146,659	0	0	0	0	0	245,192	-3,146,659	
Safety	Draft		0	0	0	0	0	0	0	0	
External funding - CERF - Community connect	Draft		0	0	0	0	0	0	0	0	
Local Road Improvements 2024-27 LCLR Targeted Fund	Funding Approved	New Approval Programmes approved	0	1,293,240	10,131,200	3,650,000	15,074,440	7,687,964	6,146,753	15,074,440	Funding Approved

External funding - CERF - Improving Bus Driver Terms & Conditions	Draft		0	0	0	0	0	0	0	0	
External funding - Crown Resilience Programme	Funding Approved	Cost Decrease approved	0	1,790,000	1,750,000	1,275,000	4,815,000	3,659,400	0	4,815,000	Funding Approved
Public transport services	Draft		0	0	0	0	0	0	0	0	
Public transport infrastructure	Funding Approved	New Approval Programmes approved	2,150,000	0	0	0	0	0	903,069	-2,150,000	
Total:			69,186,049	7,845,520	11,881,200	4,925,000	24,651,720	13,776,127	13,441,767	-44,534,329	