Transportation Activity Management Plan

2024-27 NLTP period

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1. Executive Summary

1.1 Introduction

Tararua District Council (Council) is dedicated to providing a sustainable transport system that keeps people safe, is well connected and can be accessed by everyone. An effective road network is essential for ensuring the economic and social wellbeing of the community by providing access and mobility for people, goods and services. The commitments outlined in this Transport Activity Management Plan (AMP) set out how we will achieve this.

Council has statutory obligations under the Land Transport Management Act 2003 to maintain a safe and efficient road network within the Tararua District. Council also has obligations under several local, regional and central government policy statements and plans.

The district has the 11th largest roading network in New Zealand, with one of the smallest populations of ratepayers per kilometre of road. The transportation activity represents the highest cost for Council and due to the low ratepayer base, the Council relies heavily on subsidies from NZ Transport Agency Waka Kotahi (NZTA). The transportation activity is managed and delivered by the Tararua Alliance, a joint venture between Council and Downer NZ.

The purpose of the Transportation AMP is to describe the financial, engineering, and technical strategies and practices that Council uses to meet its statutory obligations and to provide the level of service required by users of the road network in a way that is most cost-effective for ratepayers. The AMP uses a business case approach to determine the strategic issues and priorities for the transportation network, to justify investment. These justifications are measured against achievable benefits in line with government transport objectives.

The AMP is a living document that reflects Council's practice as well as central and local government requirements, policy, and guidance. It is used to inform Council's Long-Term Plan and justifies Council's activities as part of the National Land Transport Programme.

1.1.1 AMP Development Timeline

This AMP has been developed over several years and has included the following key steps:

February 2023	Strategic direction workshop – problem and benefit statements defined along with community outcomes
June 2023	Levels of service workshop
July 2023	Financials / funding workshop
August 2023	Draft AMP developed and NZTA's Transport Investment Online (TIO) updated with proposed budgets and Draft AMP
October 2023	Feedback and discussion with NZTA Senior Investment Advisors to adjust and update submission
December 2023	Draft AMP and budget submission to NZTA
February 2024	NZTA releases indicative allocations
July 2024	2024 GPS for Transport is adopted
September 2024	NZTA budgets confirmed
September 2024	AMP updated to reflect GPS and 2024-27 NLTP funding outcomes

1.1.2 2024 GPS for Transport - AMP Review Statement

Development of this AMP started in 2022 under the 2021 GPS for Transport. A change in central government in 2023 saw an updated GPS developed and released, taking effect on 1 July 2024.

The strategic priorities for the updated GPS are:

- Economic growth and productivity
- Increased maintenance and resilience
- Safety
- Value for money

The GPS 2024 introduces a focus on increasing economic growth and productivity as the overarching strategic priority for land transport expenditure - moving people and freight as efficiently, quickly and safely as possible. This represents a change in focus for the Government, realigning transport expenditure to better support economic growth, and to ensure all New Zealanders are provided with a well maintained and reliable transport network.

The GPS 2024 also recognises the importance of local and rural roads in connecting communities and businesses to key routes, and the importance of ensuring the whole network is maintained to a reliable standard. This has led to an increase in road maintenance funding and establishment of State Highway and Local Road Pothole Prevention activity classes, to ensure funding is focused on fixing this growing problem.

The realignment of GPS policies improved alignment with the Tararua District's road network priorities, including most of the problem and benefits identified. As a result, there is no requirement to significantly review and realign this AMP to meet central government funding allocations issued for the 2024-27 NLTP. Throughout this document, we have included explanation notes detailing significant changes to what was planned under the 2021 GPS.

1.1.3 Tararua Districts Transport Priorities

The Tararua District, along with many other rural districts, is heavily reliant on NZTA subsidies to manage and maintain our transport network. The primary sector contributes significantly to the economy but is generally supported by a low ratepayer base. The GPS establishes the national priorities for transport and can shape how we approach the Business Case for our bid for NLTP funding. While we are heavily impacted by available external funding, which in turns impacts how we form our three-year AMP, the Tararua District's transport network is relatively static, focussing on maintaining what we have, rather than investing in the priorities of the GPS of the day.

The overarching theme of this AMP - our operational and funding blueprint for the period covering the 2024-2027 NLTP period - is building a strong programme to maintain and build a resilient network.

Our priorities for the 2024-2027 NLTP period are to seek and gain NZTA subsidy support for the following;

- Increasing reseals to better meet short and long-term network needs
- Improving data collection and programming for unsealed pavements and an increased focus on drainage
- Continuing investment in structures with an increased focus on retaining wall renewals and maintenance
- Increased investment in drainage maintenance and renewals to enable the network to better handle significant weather events
- Increased funding for line-marking and signs to improve the level of safety while travelling the network
- Council taking on responsibility for vehicle crossings over footpaths
- Increased maintenance budget for new walkways
- Increased investment for environmental works such as clearing minor debris due to the higher frequency of weather events
- Completing the remaining speed limit changes around schools, several intersections and corridor safety improvements

The financial forecasts include proposed expenditure for the transport activity over the period, and how these activities will be funded.

1.2 District overview

The Tararua District is located within the Manawatū -Whanganui region, situated on the southeast coast of the North Island, bound to the west by the Ruahine and Tararua Ranges. Covering an area of 4,364.65km^2 near the south-east corner of New Zealand's North Island, Tararua has a resident population of approximately 19,050. It has several urban settlements including Dannevirke, Eketāhuna, Pahiatua and Woodville.

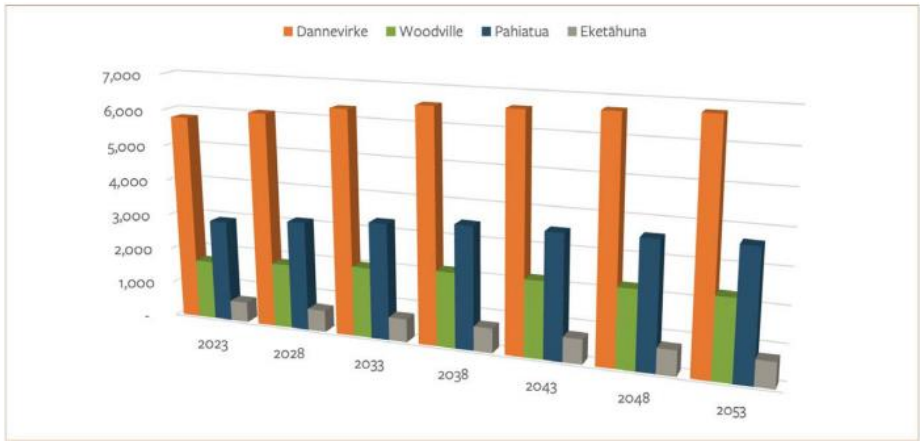
The Tararua District Council is the local territorial authority and road controlling authority for the district. One of the Council's roles is to manage the district roading network and associated transport activities.

1.3 Our people

The latest census data provides information on Tararua's current population data, as well as estimates around projected growth for the district:

STATS NZ PROJECTED POPULATION GROWTH

	2023	2053	Increase
Dannevirke	5,788	6,776	988
Woodville	1,664	2,257	593
Pahiatua	2,882	3,623	741
Eketāhuna	575	723	148
Total Towns	**10,910**	**13,379**	**2,469**
Total Rural	8,140	8,977	837
Total Population	**19,050**	**22,356**	**3,306**



The District population peaked at over 22,000 in the 1960's but due to farm amalgamations and increasing mechanisation of agriculture, the population decreased to 17,500 by 2013. Agriculture as an industry has shaped our District as well as the development of our roading network. Since 2013, the trend in population decline reversed, with growth expected to continue to increase to grow from the current 19000 in 2023, to 20900 in 2033 (+10% over 10 years) and 22,356 by 2053 (+17% over 30 years).

1.4 Future demands and drivers

The population growth predicted for the district is largely supported by the completion of the Te Ahu a Turanga: Manawatū Tararua Highway. The forecast growth will pose future challenges and opportunity for the District and Council infrastructure, with changes to the demographic and road use and traffic volumes anticipated in and around Woodville. While the transport network has capacity to absorb light traffic easily, a corresponding increase in heavy traffic will accelerate deterioration rates and needs to be considered when planning for maintenance and renewals.

The following demand factors heavily influence potential problems and responses:

- Continued traffic growth and an increase in the number of residents commuting for work is anticipated, especially once the new highway is complete.
- A rural roading network developed to serve farming operations, rather than high volumes of freight and increased vehicle weights.
- An increase in heavy commercial vehicles is expected and if possible, transport operators will take advantage of increased vehicle mass limits. This places further stresses on our road pavements and bridge infrastructure.
- Forestry blocks throughout the district with varying size and maturity dates. Logging is expected to be on an irregular basis and not a sustained yield basis. Forestry will continue to impact the road network, with year-on-year heavy vehicle growth for the next 10 to 15 years, although the number of trucks may vary over the years based on the log market. The increase in vehicle weight limits has and will continue to impact the Eastern side of the district, due to the comparatively undeveloped infrastructure in this area.
- The primary secondary-collector roads within the district most affected by forestry include Route 52, River Road, Weber Road, Alfredton Road, and Coast Road. The maintenance and renewal of these roads will continue to feature heavily in our forward works programmes.
- Dairy farm development is not expected to increase greatly in the district. Further development may occur north of Norsewood, creating more traffic on State Highway 2.

1.4.1 Urban Growth Strategy

The 2024 Tararua District Urban Growth Strategy[1] recognises the increased growth forecast for Tararua and sets out the strategy to plan more holistically for the future. This includes recommendations around reviewing the District Plan to focus on spatial growth within the four town centres – Dannevirke, Woodville, Pahiatua and Eketāhuna, and promoting intensification within our urban areas as a method to accommodate growth. By planning for growth, particularly through increasing industry and employment opportunities, this is intended to benefit our district by giving us greater resources to invest in infrastructure and community facilities.

In the short to medium term particularly, accommodating for growth must be carefully balanced against the level of investment we are able to put into our infrastructure and the need to build resilience into the roading network. This reiterates the importance of taking a more strategic approach to investment over this next AMP period, including the adoption of the ONF and redefining our Levels of Service.

The initial focus of the strategy is to identify where growth can occur based on the available capacity of the 3-waters infrastructure. This assessment has allowed for consultation about Land-zoning. Once this is completed, the strategy will expand to into the Transport needs to support development. The Growth Strategy commits to creating a unified Urban Connectivity Strategy that combines our walking, cycling and road-transport opportunities into a single document. This will be factored into the next AMP period, including identifying the key road upgrades that need to be considered over the next 30-50 years.

[1] Tararua District Urban Growth Strategy - May 2024

1.4.2 Te Ahu a Turanga: Manawatū -Tararua Highway

The Te Ahu a Turanga: Manawatū Tararua Highway will greatly improve connectivity with the Manawatū region. The improved connectivity creates both risks and opportunity. Currently the Woodville area is experiencing an increase in house sales and property development, which is likely to continue, if not accelerate as the new route becomes a reality. While this is positive for the economy of Tararua, it will place pressure on existing roading infrastructure within the region and may increase expectations of Level of Service within the community as traffic and pedestrian numbers grow.

Five roads are currently being managed by NZTA Waka Kotahi – the Saddle Road, "Pahiatua Track" (Pahiatua-Mangahao Rd, Makomako Rd and Pahiatua Track Rd), Gorge Road, Woodlands Road, and Balance Valley Road are proposed to be returned to the Council network within the 2024-2027 NLTP period.

The previously mentioned Urban Growth Strategy holds information relevant to growth associated with the Te Ahu a Turanga: Manawatū -Tararua Highway project.

1.4.3 High-Intensity Rainfall Events

Tararua has faced significant challenges in recent years from high-intensity rainfall events, in particular Cyclone Gabrielle. It is anticipated that the frequency and severity of these events will continue to increase, placing pressure on Council to plan for a transport system that is resilient to the impacts of these weather events and other natural disasters.

The development of long-term resilience programmes will be a feature of the coming years, with cost savings possible if funding is available to treat the root causes of dropouts and drainage failures experienced during high-intensity rainfall events.

The Low-Cost, Low-Risk programme includes a project the commence the basic improvements (culvert outlet improvements and Asphalt bunding on vulnerable downslopes) alongside existing Maintenance and Renewal programmes.

As Engineering resource becomes available, the programme scope will be expanded to include the more complex, or network wide opportunities to reduce the impact and cost of storm damage.

1.5 Asset Overview

The Council owns and manages:

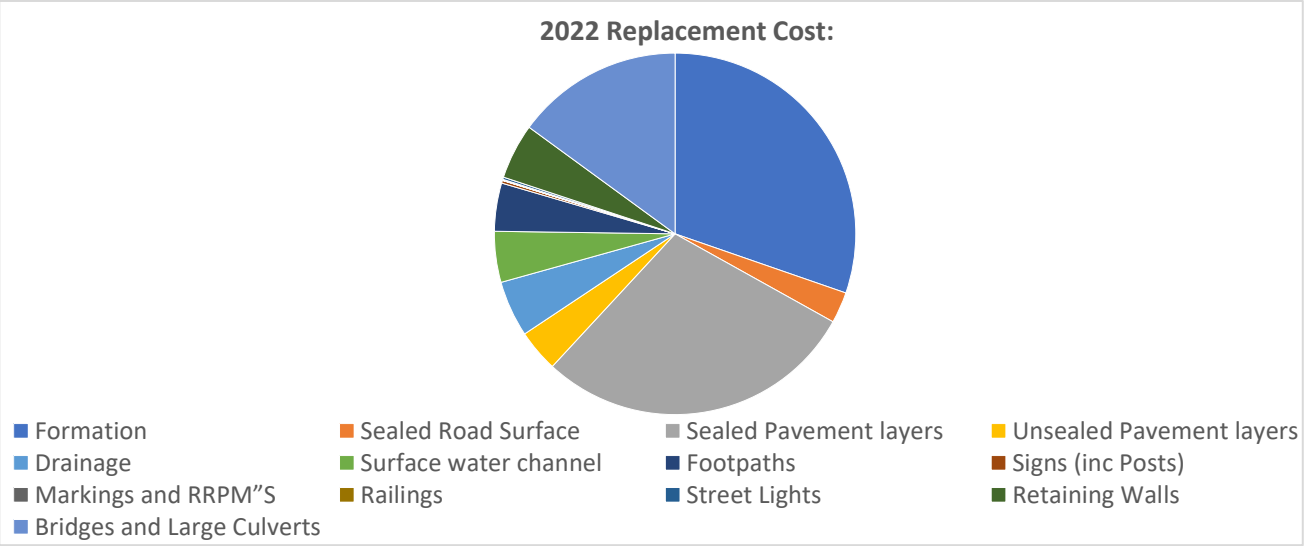
- A vehicular network comprised of 1,191km of sealed roads, 767km of unsealed roads.
- 405 bridges and 149 high-capacity culverts.
- A pedestrian network comprised of 124.7 km (329,994) m^2 of footpaths.
- Enabling infrastructure, including:
    - 1,842km of stormwater channels and drains (mainly shallow, unlined surface water channels and kerb and channel).
    - 9,265 culverts (108 km) and 1,647 other drainage assets including sumps and manholes.
    - 1,414 retaining walls.
    - Safety infrastructure comprised of 1,667 streetlights, 9,560 road signs, and 12,176m of rails and barriers.

Expanded asset information is provided further in this document.

1.6 Network Value and Overall Expenditure

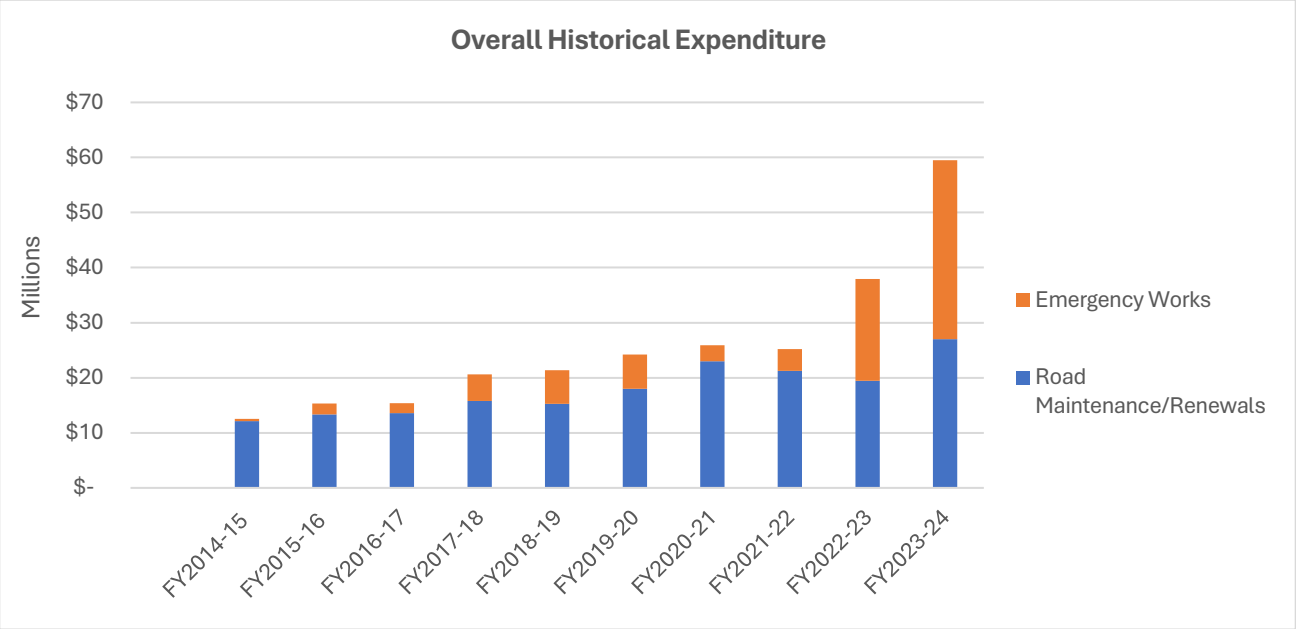
As at the most recent valuation date (2022), the depreciated replacement value of Council's roads and associated assets is approximately $790 million:

Roading and Footpath	2020 Replacement Cost	2022 Replacement Cost	2020 Depreciated Replacement Cost	2022 Depreciated Replacement Cost	Depreciated Replacement Cost Change
Formation	$319,391,369	$336,082,710	$319,391,369	$336,082,710	$0
Sealed Road Surface	$35,125,042	$30,835,341	$12,622,748	$7,902,539	-$282,862
Sealed Pavement Layers	$294,448,870	$319,353,659	$235,841,028	$248,097,616	$215,629
Unsealed Pavement Layers	$39,941,481	$41,820,954	$32,272,693	$33,437,795	-$162,675
Drainage	$54,182,019	$55,593,822	$29,594,662	$29,335,338	$8,276
Surface Water Channel	$46,967,143	$50,514,579	$22,080,207	$22,644,060	$40,065
Footpaths	$45,380,282	$47,745,432	$19,473,514	$17,712,370	$91,948
Signs (incl. posts)	$2,470,871	$2,692,941	$404,585	$391,825	$1,803
Markings and RRPMs	$199,341	$199,341	$199,341	$199,341	$0
Railings	$885,153	$952,280	$774,189	$784,052	$1,954
Streetlights	$2,102,831	$2,217,070	$1,135,678	$1,091,568	$2,761
Retaining Walls	$48,694,972	$54,968,762	$23,832,625	$26,738,027	$69,708
Bridges and Large Culverts	$157,832,487	$165,927,527	$66,842,557	$67,472,044	$68,787
Total	**$1,047,621,861**	**$1,108,904,419**	**$764,465,195**	**$791,889,285**	**$55,394**



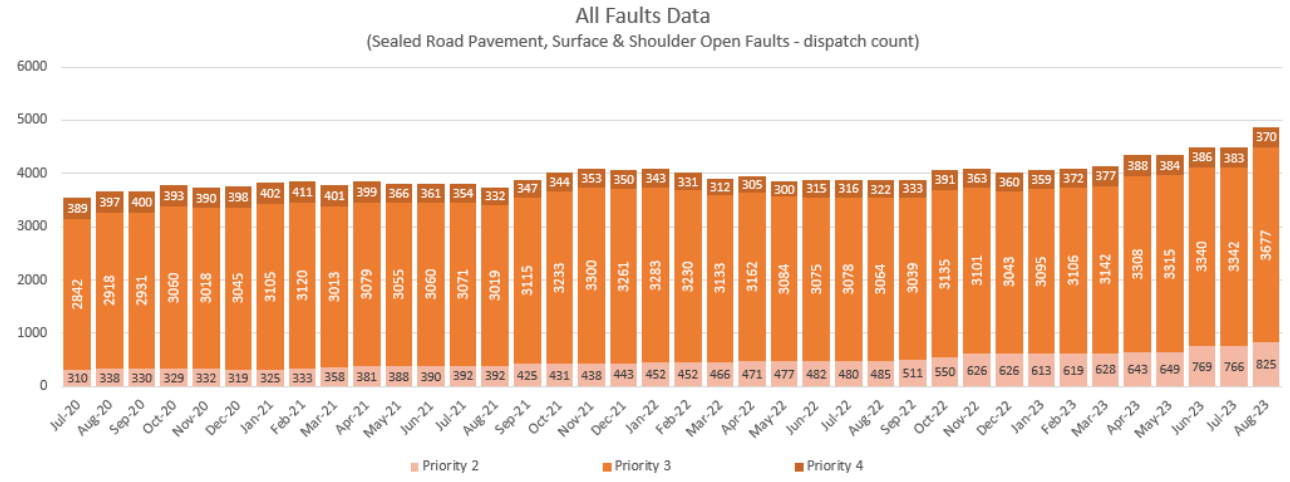
Network expenditure has been steadily increasing over the past ten years, largely due to inflationary pressures. Storm events over 2022/23 and 2023/24 financial years have also resulted in a significant increase in emergency works expenditure, following nine storm events in 2022 and three in 2023 including three cyclones. The combined total damage sustained from these events have been valued at over $100M, with $90M associated with Cyclone Gabrielle. Funding for Cyclone Gabrielle repairs are being progressively approved by NZTA, with the majority of funds secured as of October 2024.

The following graph details historical expenditure for the Transport Asset:



1.7 Network Performance

As demonstrated by the below graph, despite the increase in expenditure, overall the network performance continues to decline, with an increase in pavement faults identified over the 2021/24 NLTP period. Over the first two years, the number of faults remained relatively steady, but from September 2022, a steady increase in pavement faults have been recorded. The deterioration can be attributed to a wetter than usual winter of 2022 resulting in saturation of pavement sub-grades, combined with the impacts of increased heavy traffic movements across the network.



1.8 Customer Feedback

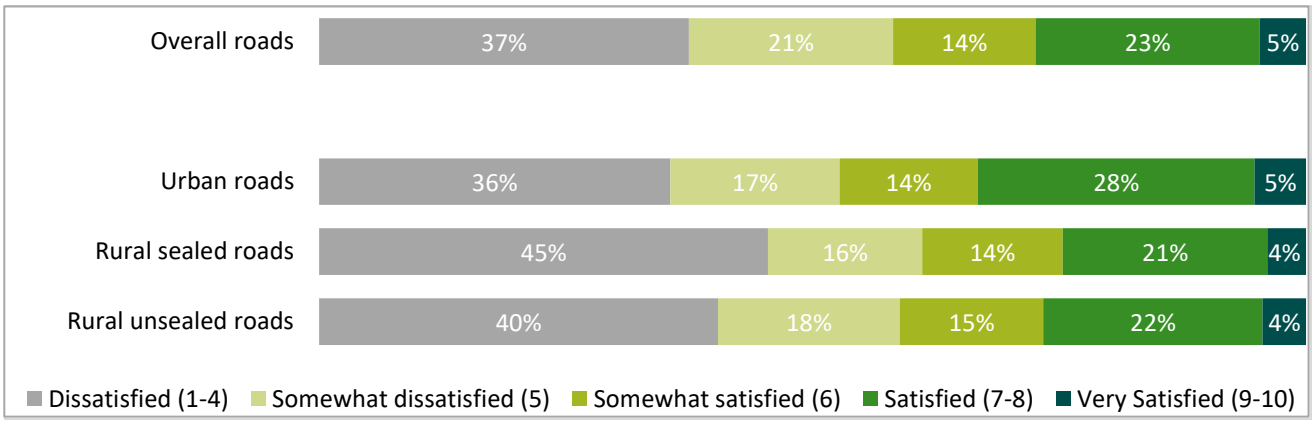
Our road network exists to serve the community and as such, the feedback and interaction we have with the public who use the network is a crucial input. To ensure we are reflecting their wants and needs we look at the following inputs. Public benefit is kept in mind throughout the document in the problems identified and the options to remedy.

1.8.1 Community satisfaction surveys

Council carries out annual community satisfaction surveys across all activities. These surveys are returned quarterly.

The surveys highlight the opinions on *all* roads within the Tararua District including those managed by NZTA (such as State Highways, Saddle Road and Pahiatua Track) which may negatively or positively skew the feedback results.

The below shows satisfaction levels for the transportation activity:

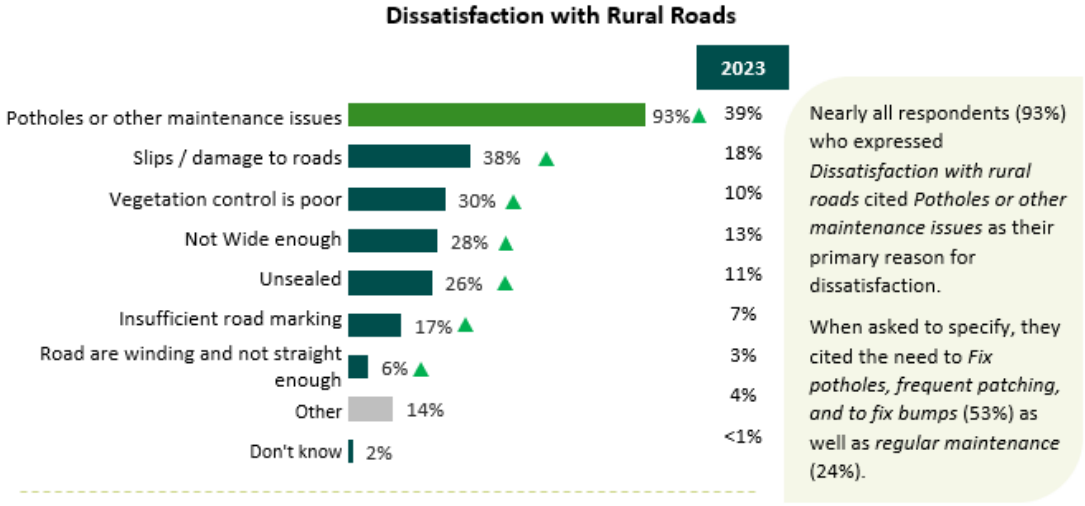


% 6-10	2024	2023	2022	2021	2020	Māori	All Other
Overall roads	42%	42% ▼	51% ▼	58%	62%	44%	41%
Urban roads	47%	44% ▼	51% ▼	65%	75%	44%	48%
Rural sealed roads	39%	40% ▼	46%	51%	51%	45%	37%
Rural unsealed roads	41%	47%	49%	49%	48%	50%	39% ▼

Overall satisfaction with roads remains consistently low at 42%, with this attributed to funding constraints associated with a large road network, small ratepayer base and rising costs. The drop from 2022 to 2023 can be attributed to the 13 storm events across those years, which resulted in a significant amount of damage across the network, and a temporary lowering of Level of Service.

Satisfaction with urban roads remains slightly higher than rural roads, which continues to decline year on year.

The following chart provides details of the specific concerns covering rural roads (*Note: these figures include State Highways):*

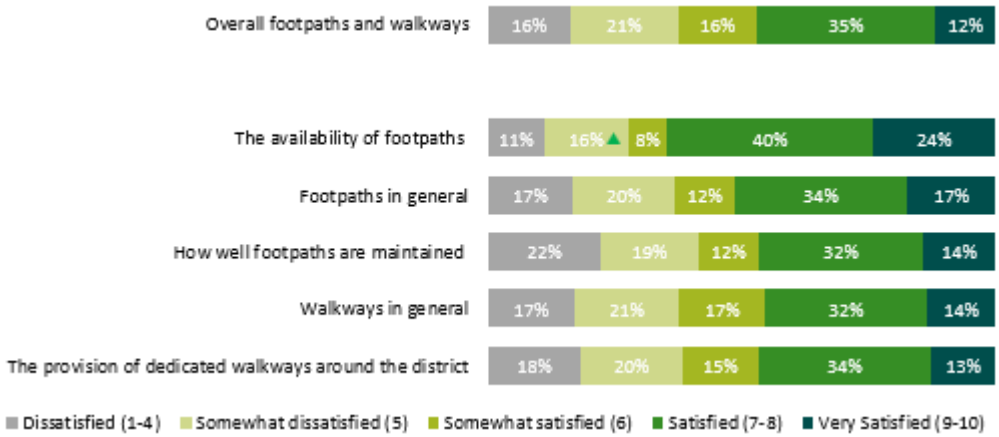


The predominant concerns among residents listed *'Narrow roads, potholes, and the need for maintenance'* (76%) as their primary sources of dissatisfaction during their journeys within the district.

In terms of specific routes, the Pahiatua Track had the highest mention, with over one in ten residents (13%) expressing dissatisfaction, and a further 7% for the Saddle Road – both of which have been under NZTA management since the closure of the State-Highway 3, through the Manawatū Gorge.

Nearly three in ten residents (29%) identified *Fixing roads, footpaths, and cycleways,* and *Improving water quality, quantity, and waterways* as key issues that the Council should prioritise with more time and effort.

Results for satisfaction with footpaths and walkways were also provided as follows:



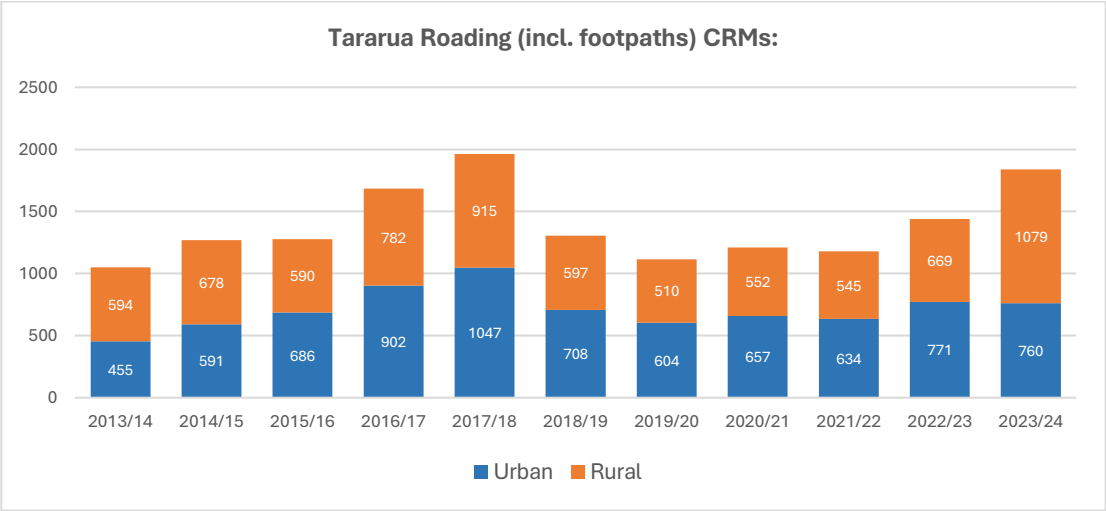
% 6-10	2024	2023	2022	2021	2020	Māori	All Other
Overall footpaths and walkways	63%	63%	61%▼	74%	78%	70%	60%
The availability of footpaths	72%	77%	76%▼	83%	83%	81%	70%▼
Footpaths in general	63%	67%	65%▼	74%	79%	71%	61%
Walkways in general	59%	61%	62%▼	79%	79%	74%	59%
The provision of dedicated walkways around the district	62%	61%	61%▼	79%	77%	75%	58%
How well footpaths are maintained	62%	62%	63%▼	70%	71%	69%	56%

Survey and reporting methodologies have recently changed and comparison with past satisfaction levels cannot be carried out.

1.8.2 Customer Requests for Maintenance (CRM)

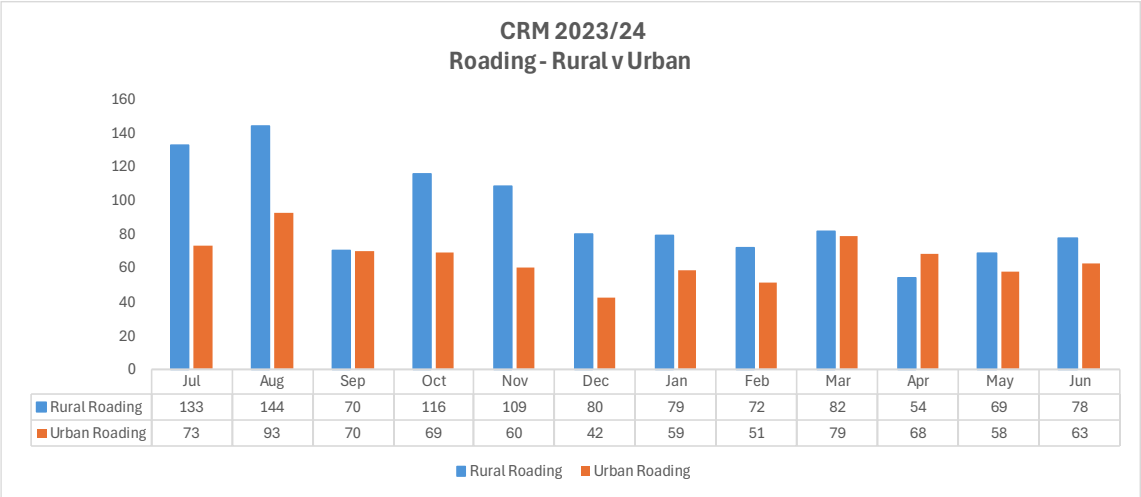
Tararua District Council encourages members of the public to lodge requests for service via the Council's Customer Services Team and through the Antenno app (adopted in 2023). By doing this Council can record and track Customer Requests for Maintenance.

Reviewing CRMs collectively enables us to understand performance and highlight trends around road maintenance activities. The following graph highlights CRM trends over the past ten years:



The increase over the past few years is attributed to a number of factors, including the new Antenno app as a more user-friendly reporting method, and also weather events, particularly storms during 2022 and 2023 including Cyclone Gabrielle, which caused major disruptions particularly to the rural roading network.

A snapshot of CRM activity over the past year is provided as follows:



	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Rural Roading	133	144	70	116	109	80	79	72	82	54	69	78
Urban Roading	73	93	70	69	60	42	59	51	79	68	58	63

This shows a higher number of CRMS relate to rural roading throughout the winter and spring period, which aligns with increased rainfall periods in 2023.

The most common CRM categories related to:

- Requests to fix potholes
- Emergency slips
- Requests to clear fallen trees / vegetation impacting roading access / visibility
- Re-grading / metalling of unsealed roads.

1.9 Development of the 2024-27 AMP

To secure funding support from the Land Transport Fund, NZTA require local authorities to submit business cases to justify funding for activities we propose to undertake over the NLTP period.

The business case approach to the development of the Transport AMP sees us identify the current challenges restricting our ability to achieve the desired Level of Service (Problem Statements) and provide details of what benefits are created if the challenges were addressed. This information is presented to NZTA for moderation against the Government Policy Statement of Transport, and moderation against other local authorities.

1.9.1 Development of Submission and NZTA NLTP bid Moderation process

The process for developing local authorities NLTP funding requests is on-going with asset modelling and network analysis a continual function of asset management.

While engagement with NZTA for the NLTP funding request is ongoing, the details are provided to and essentially negotiated with the district's NZTA Investment Advisor over a period of one year. Workshops for this 2024/27 NLTP funding request started in 2023, with the final funding approved in September 2024.

Further information about the process for the development of local authorities NLTP bid and NZTA's moderation process can be found on the NZTA website.

https://nzta.govt.nz/planning-and-investment/national-land-transport-programme/2024-27-nltp/202427-nltp-development/

The development and submission of Tararua District Council's submission and NZTA moderation occurred over an 18-month period. Workshops held with Council staff and Council's elected members were completed in June 2023. As the Council's process was nearing completion, engagement with NZTA's Investment Advisor (IA) for the district increased, with the details of the submission entered onto NZTA's Transport Investment Online (TIO) portal to allow the IA to assess the proposal in line with the GPS priorities and validate the information provided by TDC to support its application.

Throughout the moderation, NZTA IA and Council staff engaged to refine the NLTP submission amount. The IA then presents information forward within NZTA for moderation against other local authority submissions and available Land Transport Programme funding, and network data available through Transport Insights.

The Tararua District's application was largely supported by the district's IA, with a $60M total value presented forward for moderation. This compares to the $77M presented to address the network needs. The change in value was based around the local share affordability of the request.

Moderation of the bid across the broader NLTP fund saw a moderation amount of $56M presented and the $58.6M amount approved.

AMP Approval process

The Tararua District Council AMP is effectively a summary of processes that establish expenditure of the Transport Activity. The Tararua District Council's Group Manager for Infrastructure has delegation over the development of the document, with other processes, such as the AMP development workshops and Long-Term Plan process, providing the endorsement and public consultation for the inputs.

As a living document, changes are managed through the roading team, with the Group Managers overview to ensure alignment with Statutory Delegations.

1.9.2 Business Case Problem Statements – What challenges are we facing

Five key problems were identified as well as the potential benefits gained by addressing these challenges (not necessarily one to one relationship). These are detailed in the following table:

Problem Statements	Benefit Statements	
Climate & Resilience Our road network is extremely vulnerable to changing climate and land use activities resulting in poor access, safety and resilience for users.		**Resilience** Reducing road closures and restrictions will improve transport reliability, increasing user confidence and the economic productivity of our district.
Declining Level of Service Funding constraints associated with a very large road network, small ratepayer base and rising costs is resulting in reduced levels of service compared to our peers, low customer satisfaction and possible asset consumption.		**Asset stewardship** Whole of life cost to deliver fit-for-purpose levels of service will be reduced, enabling investment in other priorities.
Safety An inconsistent transport system, and inadequate safety controls is resulting in accidents with a high risk of death or serious injury to people in the district.		**Safety** A safer Tararua transport system in which the risk of fatal and serious injury crashes is reduced.
Limited Transport Options Limited options for walking and cycling and low service levels, combined with a lack of public transport, is resulting in high vehicle use within Tararua's urban towns and villages, increasing the risk of accidents for vulnerable users and environmental impacts.		**Environment** Negative impacts to our environment as a result of the transport activity will be reduced.
Asset Return Reassuming responsibility of relatively high profile and high-cost roads (Saddle Road and Pahiatua Track) will significantly increase investment requirements.		**Customer satisfaction** Transport-related customer satisfaction in Tararua will be improved.

2024 GPS for Transport update

The Problem and Benefit Statements developed for this AMPs Business Case were developed under the previous 2020 GPS for Transport.

The revised GPS saw a shift in priorities, from Road Safety and Multi-modal transport (Walking & Cycling) towards basic activities required to maintain a quality roading network.

Three of our five problem statements closely align with the updated GPS, with Safety and Limited Transport Options, seen as lower priorities. Fortunately for the Tararua District, the majority of our expenditure aligns with the problems for which the new GPS is seeking to address.

Our primary problem statements of the Declining Level of Service, and Climate & Resilience align closely with the priorities of the 2024 GPS.

1.9.3 Business Case Benefit Statement links

The links between problem statements and the benefit statements, which form the key priorities of the proposed investment for the next three years, are shown below. As can be seen in almost every case, each of the problems is addressed by all five of the benefit statements.

Benefit Statements	Link to Problem Statement
	As the name suggests, this benefit very directly addresses the **Climate & Resilience** problem. A focus on Resilience, reducing the impact of land use change and weather events and in turn, improving the overall condition of the network (Declining Level of Service) A network that is less prone to impact from severe weather events is a safer network (Safety) Although Resilience focuses predominantly on roads, this does include ensuring all modes of travel (incl. pedestrian traffic/vulnerable users) have a reliable network available (Limited Transport Options) It will be critical that the condition and future needs of any returning TDC assets be considered through a resilience lens (Asset Return).
	Responding to ever-increasing Climate issues and focusing on building greater Resilience into the network will reduce whole of life costs, enabling investment in other priorities. Continued and enhanced Asset Stewardship will directly combat the Declining Level of Service across the network by responding at the right time, right place, and with the right treatment. Through improved prioritisation of maintenance and renewals the level of Safety on the network will increase. Targeting maintenance and renewals on TDCs footpaths (specifically around vehicle crossings) will encourage greater use by pedestrians and other vulnerable users (Limited Transport Options). A robust process will be implemented to ensure any assets returned or vested to TDC are in good condition and not requiring early investment, enabling prioritisation where needed most on the network (Asset Return).
	A network that is less prone to impact from severe weather events is a safer network (Climate & Resilience). Through improved prioritisation of maintenance and renewals the level of Safety on the network will increase (Asset Stewardship). As the name suggests, this benefit very directly addresses the Safety problem. Addressing safety concerns on TDCs footpaths (specifically around vehicle crossings) will encourage greater use by pedestrians and other vulnerable users (Limited Transport Options). A robust process will be implemented to ensure any assets returned or vested to TDC are in good condition and not pose a safety risk to users (Asset Return).
	By improving resilience and the network's vulnerability to the changing climate, travel delays and road closures will drop, which in turn lower road user emissions. The reduced impact of weather events will also result in a reduced response and recovery and the associated emissions. Further to this, improved resilience will provide significant benefits to the district's flora, fauna and waterways (Climate & Resilience). In addressing the Declining Level of Service and its associated growing bow wave of future works, we will reduce the need for more costly and carbon heavy future renewals and/or heavy maintenance. Safety improvements through virtual and AI technology (reducing human-traffic interaction) have the additional benefit of reduced vehicle emissions (Environment).

	A targeted focus on maintenance and renewals on TDCs footpaths (specifically around vehicle crossings) will encourage people to walk or cycle more reducing vehicle emissions (Limited Transport Options).
	By seeking what's best for the district, and the people of Tararua, each of the problem statements will inevitably be addressed. • Climate & Resilience • Declining Level of Service • Safety • Limited Transport Options • Asset Return

1.10 2024-27 NLTP Financial Summary - Our proposal for funding and moderation outcomes

The following tables detail the summary of the NLTP bid and comparisons to the previous NLTP. Further details as to the build-up of the request and consequences of changes can be found in 'Section 3.3 – Strategic Responses' of this document.

Financial Information							
Activity Class	**Work Category**		**2021-24 NLTP Allocation**	**2024-27 NLTP (Requested)**	**2024-27 NLTP (Approved)**	**Variance between Request**	
Operations	114	Structures maintenance	$1,424,874	$2,069,511	$1,736,939	-$332,572	-16.1%
	121	Environmental maintenance	$3,671,898	$4,039,807	$3,898,277	-$141,530	-3.5%
	122	Network Service Maintenance (Traffic service maintenance)	$1,664528	$1,418,504	$1,368,808	-$49,696	-3.5%
	123	Network operations	$0	$0.00	$0.00	$-	
	131	Rail level crossing warning devices maintenance	$130,865	$107,726	$103,952	-$3,774	-3.5%
	140	Minor events	$991,366	$1,896,989	$1,157,959	-$739,030	-39.0%
	151	Network and asset management	$2,079,107	$3,838,281	$2,605,408	-$1,232,873	-32.1%
	215	Structures component replacements	$1,459,108	$2,903,555	$1,929,932	-$973,623	-33.5%
	221	Environmental renewals	$0	$0.00	$0.00	$-	
	222	Traffic services renewals	$715,764	$1,050,096	$723,725	-$326,371	-31.1%
		Total Local Road operations	**$12,137,510**	**$17,324,469**	**$13,525,000**	**-$3,799,469**	**78.1%**
Pothole Prevention (Ring-fenced Activity Class)	111	Sealed pavement maintenance	$5,810,674	$9,208,563	$8,999,918	-$208,645	-2.3%
	112	Unsealed pavement maintenance	$1,875,794	$2,306,920	$2,306,899	-$21	0.0%
	113	Routine drainage maintenance	$2,994,282	$6,763,175	$3,999,964	-$2,763,211	-40.9%
	211	Unsealed road metalling	$2,585,141	$3,718,599	$3,199,971	-$518,628	-13.9%
	212	Sealed road resurfacing (Ring-fenced WC - cannot be reallocated)	$7,865,977	$15,148,596	$15,148,459	-$137	0.0%
	213	Drainage renewals	$1,910,474	$4,485,705	$1,999,983	-$2,485,722	-55.4%
	214	Sealed road pavement rehabilitation (Ring-fenced WC - cannot be reallocated)	$5,216,889	$8,806,885	$8,806,806	-$79	0.0%

	Total Local Road pothole prevention	**$28,258,231**	**$50,438,443**	**$44,462,000**	**-$5,976,443**	**88.2%**

Financial Information (continued)

Activity Class		Work Category	2021-24 NLTP Allocation	2024-27 NLTP (Requested)	2024-27 NLTP (Approved)	Variance between Request	
Walking & Cycling	125	Footpath maintenance	$1,619,810	$1,156,119	$648,000	-$508,119	-44.0%
	225	Footpath renewal	$0	$2,860,155	$0	-$2,860,155	-100%
		Total Walking & Cycling	$1,619,810	$4,016,274	$648,000	$3,368,274	-84%
Low Cost / Low Risk Programme	341	Road to Zero	$650,000	$0	$0		
	341	Walking & Cycling Improvements	$0	$100,000	$0	-$100,000	-100%
	341	Local Road Improvements	$917,473	$5,465,000.00	$0	-$5,465,000	-100%
		Total Low Cost, Low Risk	$1,567,473	$5,565,000.00	$0*	-$5,565,000	-100%
			2021-24 Allocation	**2024-27 Request**	**2024-27 Approved**	**Variance to Request**	
		Grand Totals	**$43,584,024****	**$77,344,186**	**$58,635,000**	**-$18,709,186**	**76%**
				**2021-24 Cost escalated amount $53,172,509 (+22%)			

*Note: *NZTA have advised that further Low Cost, Low Risk funding may be allocated over the course of the 2024-27 NLTP period*

Level of Service Update			
Activity Class	**The Situation**	**What we proposed to do** (subject to NZTA funding support)	**What we can do** (based on approved NZTA funding)
Sealed Pavements 	An ageing network, more heavy vehicles (primarily logging), increasingly saturated pavements, and high-cost increases has led to the inability to meet network needs for sealed pavements and a declining condition and level of service.	Increase reseals (50%) to better meet both short and long-term network needs, implement increased preventative maintenance, and change surfacing treatment type to become more environmentally friendly.	The shift in GPS priorities has been favourable towards the district's needs with regards to Sealed Pavements. Our request for funding was largely approved, with only a slight reduction in Pavement Maintenance.
Unsealed Pavements 	Due to the nature of unsealed pavements, condition monitoring and trends, is largely determined through customer requests and satisfaction surveys. These indicate a slight improvement in recent years.	Continue with current investment for maintenance and renewals with improved data collection & programming, and increased focus on drainage (from other WCs).	The shift in GPS priorities has been favourable towards the district's needs with regards to Unsealed Pavements. Our request for funding was largely approved, with only a slight reduction in our Unsealed Metalling Budget. However, reductions in Drainage budgets will impact our ability to deliver improved maintenance of surface water channels.
Structures 	Tararua District's structures account for over a quarter of the total value of councils roading assets – many of these critical assets are now at or beyond their expected useful lives and require intervention.	Allowance for continued investment in bridges & large culverts (2-3 structures^) as well as increased focus on retaining wall renewals and maintenance (2-4 structures^). ^renewed or restored to good condition annually	The maintenance and renewals of structures is not seen as a high priority within the 2024 GPS and as a result funding does not allow us to increase the LOS for structures. Our structures will continue to be maintained in line with the 2021-24 NLTP.
Drainage 	Our drainage assets present us with the biggest risks to the resilience of our network. Despite increased investment in recent years, the significant backlog of blocked and structurally compromised assets further exacerbates the impact of severe weather events.	An increase in funding across maintenance and renewals over the next three years will allow us to clear current backlogs and bring the state of the drainage assets to a level which can better handle significant weather events.	We have not received funding to improve the condition of our drainage inventory. Funding for Maintenance allows us to maintain 2021-24 NLTP strategy of completing maintenance alongside our pavement reseal and rehabs. Taking into account cost escalation, we saw an overall reduction in Drainage Renewals budget. This will see a reduction in culvert replacements over this NLTP and the continuing decline in culvert condition.
Traffic Services 	An increased asset base of line-marking and signs (which now also includes electronic signage), along with increased damage due to vandalism and strong wind events has left current budgets stretched.	By increasing funding in traffic services council will be able to better meet present network delineation needs as well as begin to invest in railings which have historically been underinvested in.	Funding for Traffic Services has reduced below the 2021-24 NLTP amount. This is in line with the GPS's reduced emphasis on traffic safety. There will be a marked reduction in condition of Traffic Service assets, with funding falling below the amount required to cover cost escalation.

Level of Service Update (continued)			
Activity Class	**The Situation**	**What we proposed to do** (subject to NZTA funding support)	**What we can do** (based on approved NZTA funding)
Environment 	Previous investment increases have allowed Council to improve the level of service in the environment work category.	Continue with current investment with slight increase to allow for increased works (e.g. minor debris clearing) due to higher frequency of weather events.	Taking into account Cost Escalation between this and the previous NLTP, we have seen reduced funding available for Environmental Maintenance works (Mowing, High-reach vegetation, spraying). This will result in a minor lower of LoS for the associated activities.
Walking & Cycling 	Up until now, within the district all vehicle crossings, including where it intersects with the footpath, are the landowner's responsibility. Despite councils' best efforts, many of these crossings are now in poor condition resulting in negative perception on councils' footpaths as well as an increased safety risk to users.	Council to take on ownership/ responsibility of vehicle crossings (over footpaths) and renew current condition C4 & C5 assets within 6 years (2 NLTP periods). Increased maintenance budget to account for new walkways.	Walking & Cycling is not a priority in the 2024 GPS. As a result, funding to improve the condition of our footpaths was not forthcoming. Overall, we have only received 40% of Maintenance funding compared to the 2021-24 NLTP. We received no funding for Footpath Renewals. There is expected to be a noticeable decline in footpath condition over the 2024-27 NLTP.
Unsubsidised Activities – TDC Funded			
Carparks 	With carparks being unsubsidised by NZTA, Council's approach has been to maintain a baseline level of service for the 24 off road carparks (approx. 40,000m2 across the district), allocating around $100,000 per year for maintenance.	Council is looking to continue with the current approach and investment level for carparks, with a small increase to allow for cost escalation increases and the change to emulsion sealing – a 30% increase.	The Carpark budget available over the 2024-27 NLTP period remains relatively static, with $314,280 allocated for the maintenance of the district's carparks associated with the Transport activity. Following TDC's Long-term plan development the proposed transition from Hot-Cutback Bitumen to Emulsion has been removed from the plans.

2. Strategic Environment

2.1 Purpose of the plan

The purpose of this AMP is to provide Council with a tool to assist with managing its roading assets ("the assets"). This tool combines management, financial, engineering, and technical practices and is intended to:

- ensure that an agreed level of service is provided to defined standards at optimum cost
- be sustainable in the long term
- comply with regulatory requirements
- help Council to balance community expectations against budget.

An AMP provides a strategy for managing the assets to deliver a service to an agreed level to the customer, at an optimum cost.

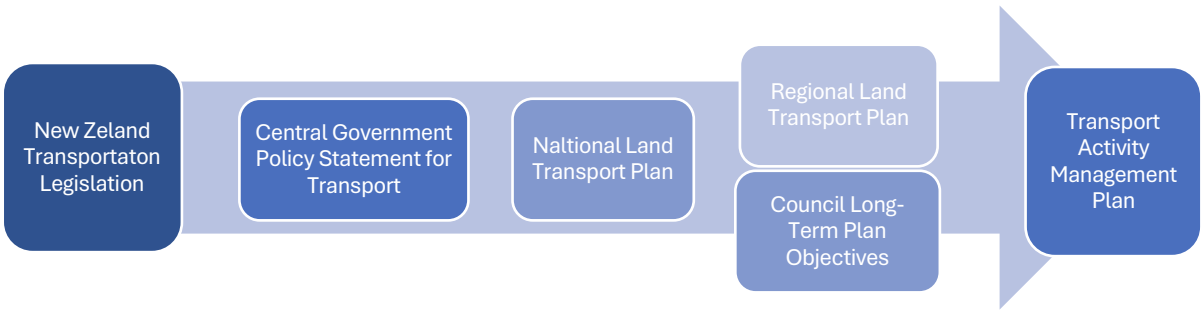
This AMP has been developed using guidelines from the International Infrastructure Management Manual (IIMM) and is based on the sixteen asset management practices defined in that manual.

2.2 Transport Strategic and Legislative Framework

Central Government is responsible for overseeing all transportation activities across New Zealand. The Land Transport Management Act 2003 (LTMA), Transport Outcomes Framework and the Government Policy Statement (GPS) on Land Transport Funding provide strategic direction. The LTMA states that Local Authorities across New Zealand have statutory obligations to maintain a roading network within their respective districts and in support of the GPS.

2.2.1 Government Policy Statement on Land Transport 2024

The Government Policy Statement on Land Transport 2024 (GPS 2024)[2] sets out the Government's land transport investment agenda, and guides expenditure of over $7 billion from the National Land Transport Fund (NLTF), and around $1.5 billion from local government, each year.

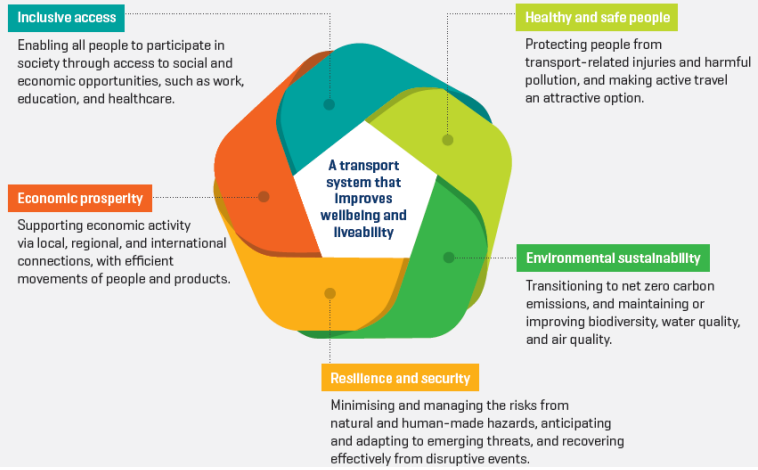


NZTA uses the GPS to provide guidance on how the National Land Transport Fund (NLTF) is invested and how the Regional Land Transport Plans (RLTPs) and the National Land Transport Plan (NLTP) are assessed, and activities prioritised.

[2] Government Policy Statement on Land Transport 2024

2.2.2 Ministry of transport – Transport Outcomes Framework

The Transport Outcomes Framework establishes the groundwork for a strategic approach to transportation for New Zealand by identifying what the Government is aiming to achieve through the transport system. It defines mode neutrality as a guiding principle for transport planning, investing and regulating. The framework itself is designed to highlight the intention behind the transport system rather than specify how. In the roading context, NZTA use this framework along with the GPS on Land Transport, which they use to guide Road Controlling Authorities towards a consistent strategic approach.



2.2.3 Horizons Regional Council Land Transport Programme

The Tararua District makes up part of the Manawatū/Whanganui Region and the Regional Land Transport Programme is managed by the Horizons Regional Council. [3][OBJ]. This RLTP is prepared by the Regional Transport Committee (RTC), which is comprised of representatives from Horizons Regional Council, Mayors from each of the local councils in the region, and the NZ Transport Agency.

The Regional Land Transport Programme (RLTP) is comprised of two key parts; Part One of the RLTP identifies the strategic direction and key transport issues that face our regional land transport system over the next 30 years. It also sets out how the region proposes to invest to achieve its objectives, strategic priorities and address or solve issues it identified.

Part Two of the RLTP consists of the regional programme, which sets out the specific plans for proposed land transport activities and projects in the Manawatū -Whanganui (Horizons) Region over a 10-year period.

Whilst the vision and strategic policy direction is set at a regional level, the project of works to physically deliver improving the regional land transport network is actioned by much of the programmed works contained within the local AMPs.

[3] Horizons Regional Land Transport Plan 2021-2031 (2024 Review)

2.2.4 Tararua District Council Long Term Plan and Infrastructure Strategy

In accordance with the Local Government Act 2002, Councils are required develop and maintain a Long-Term Plan (LTP) that describe the council's activities and the community outcomes it aims to achieve. With varying factors across different Councils influencing decision-making and how funding is applied, the Local Government Act and Land Transport Act allow Councils a certain amount of discretion over how it funds activities. These activities include Transportation.

The Long-Term Plan Outcomes are the link between Council's Vision and the activities, providing the focus for the groups of activities and measures in the Long-Term Plan. They are the Council's 10-year goals as part of working towards the longer-term Vision.

In 2024 the Council adopted the following strategic framework:

The strategies adopted focus on:

- **Thriving District:** We grow Tararua in a smart and sustainable way that values our identify. We use our resource sustainably and with care, to ensure they are looked after for future generations.
- **Improving our Environment:** We celebrate our environmental work together to enhance our local natural resources and minimise our negative impacts on them. Our district is home to a unique and beautiful landscape.
- **Connected Communities:** We provide facilities and services that meet the needs of our communities, enabling whanau living in Tararua to thrive. Our district is enriched by our community that we are actively engaged in, and contribute to, our thriving Tararua.
- **Interactive Council:** We engage with our community and respond to their needs, continuously improving over time. Our Council provides fit for purpose services in an engaging way, improving confidence and encouraging our community to engage with us.

The following demonstrates the alignment of the Tararua District Council's transportation activities with the LTP strategic priorities:

	Thriving District	Improving our Environment	Connected Communities	Interactive Council
Roading				

LTP and Infrastructure Strategy Priorities

The Long-Term Plan and Infrastructure Strategy establish the following priorities and areas of focus for infrastructure over the coming years:

- Improving asset information and infrastructure asset management maturity
- Delivering ongoing maintenance and renewals programmes to meet current renewal levels and with a view to preserving asset life and levels of service
- Meeting levels of service concurrently with reactive maintenance, while developing and implementing capital and renewal programs to meet current and future demand
- Addressing key level of service deficiencies
- Addressing key network performance issues
- Improving service delivery and asset resilience to natural hazards and the effects of climate change
- Network extensions to enable sustainable urban growth and infill in our townships
- Ensure compliance with resource consents and statutory requirements
- Ensure infrastructure and services are developed with environmental protection as a key consideration including through the reduction of emissions.

Performance measures and targets for the transportation activity set through the LTP are:

Level of service	Performance measure	2022/23 Targets/Results	2024-27 LTP Targets			
			Year 1	Year 2	Year 3	Years 4+
Our roading network is safe	The change (expressed as a number) from the previous financial year in the number of fatalities and serious injury crashes on the local road network*	Target <0 Result -5	<0	<0	<0	<0
Our customers are responded to in a timely manner	Customer service requests relating to roads are responded to within 3 working days*	Target 90% Result 94%	90%	90%	90%	90%
Our roads are maintained to an appropriate standard	Percentage of Residents rating Urban roads as "quite satisfactory" or "very satisfactory" in community survey	Target 75% Result 44%	75%	75%	75%	75%
	Percentage of Residents rating Rural roads as "quite satisfactory" or "very satisfactory" in community survey'	Target 60% Result 43%	60%	60%	60%	60%
	The average quality of the ride on the sealed network as measured by smooth travel exposure*	Target <95% Result 93-90%	<95%	<95%	<95%	<95%
Our transportation network is being maintained effectively	The percentage of road network that is resurfaced*	Target >5% Result 4%	>5%	>5%	>5%	>5%

Council ensures Tararua Alliance provides a cost-effective & innovative solution to manage roading infrastructure	Tararua Alliance passes a independent audits of its methodology, process, and transaction management	New Measure	Year 1 results will be used as a baseline for future years
Consent compliance	Consents with Horizons achieving environmental compliance	New Measure	Year 1 results will be used as a baseline for future years
Achieve the base preservation renewal quantities as laid out in the AMP	Our NZTA Annual Achievement reports against forecast renewals	New Measure	Year 1 results will be used as a baseline for future years

2.2.5 Legislation

The transport legislative framework plays an important role in shaping and developing how the New Zealand Transport Sector functions. Set by Central Government, several Acts, Rules, and Regulations dictate how Local Authorities manage their Roading Networks. These are primarily found in the following Acts;

- Resource Management Act 1991
- Land Transport Management Act 2003
- Local Government Act 2002
- Health & Safety in Employment Act 2015
- Civil Defence Emergency Management Act 2002
- Building Act 1991
- Public Works Act 1981
- Public Transport Management Act 2008

Tararua District Council operate a number of Bylaws that are used to manage activities within the Transport Corridor. These include:

- Vehicular Crossings Bylaw
- Road and Building Identification Bylaw
- Stopping, Standing and Parking
- Metered Areas, Parking Meters and Zone Parking
- Unlawful Parking
- One Way Roads
- Heavy Traffic Prohibitions
- Weights of Vehicles or Loads over Bridges or Culverts
- Offences and Penalties
- Speed Limit Bylaw
- Road Encroachment Policy

These bylaws are in place at the writing of this document – however there is a review of the current District Plan and bylaw, which may lead to minor changes within the period of the 2024-2027 NLTP.

The specific sections of the Tararua District Council Bylaw relating to transport can be found in *Appendices Appendix A – Relevant Bylaw Sections.*

2.3 Funding

Funding for the management and maintenance of Local Authority roads is by way of the National Land Transport Programme and Local Share.

2.3.1 National Land Transport Programme (NLTP)

Revenue is collected from taxes and levies and is credited to the National Land Transport Programme (NLTP). These funds are used to pay for investment in land transport activities under the NLTF. A portion funds available as part of the NLTP is allocated to Local Authorities through funding assistance rates (FARs)

The process for allocation of NLTP funding for the 2024-27 NLTP is defined on the NZTA website[4].

Funding Assistance Rates (FARs)

FARs is the subsidised percentage of funding each Local Authority receives to support its local transport network. FARs are determined by each Council's needs and ability to fund their transportation activities. The increase in the TDC FAR for the period of 2024-2027 to 73% has been factored into the affordability of the programme. The 27% balance is funded through Local Share.

Local Share

Local Authorities raise their local share from rates revenue, debt, developer contributions or other financial contributions and revenue. The allocation of Local Share is established during the LTP review process. For this NLTP period.

[4] NZTA 2024-27 NLTP Development

2.4 Iwi, Key Partners, and Stakeholders

2.4.1 Iwi

Rangitāne o Tamaki nui-ā-Rua and Ngāti Kahungunu ki Tāmaki-nui-a-Rua

Rangitāne o Tamaki nui-ā-Rua and Ngāti Kahungunu ki Tāmaki nui-a-Rua, who represent their many hapū with their own whenua and awa tributaries, have both signed deeds of settlement with the New Zealand Government and have partnership agreements with Tararua District Council. These memoranda of partnership recognise the relationship and responsibility of Council to support iwi aspirations and hopes for the future of their whānau.

To give effect to these memoranda and Council's overall responsibilities to iwi, transportation activities within Tararua will be undertaken in good faith and in a manner of mutual respect with iwi partners. This includes acknowledging and respecting iwi priorities, their traditions, particularly ancestral land, water, sites, wāhi tapu, valued flora and fauna as well as other taonga.

Rangitāne o Tamaki nui-ā-Rua and Ngāti Kahungunu ki Tāmaki nui-a-Rua have representation at various levels throughout Council planning and operational meetings.

2.4.2 NZTA Waka Kotahi

NZTA Waka Kotahi is a key funding partner for complying programmes. Council must provide clear investment decision making to NZTA Waka Kotahi to generate co-investment. This is usually in the form of a business case, including this Transport AMP.

Council and NZTA Waka Kotahi have a close relationship to manage the transport network within the district. Two state highways run through the district – State Highway 2 and State Highway 3 – with both highways passing through the districts four main urban centres. A consistent transport network needs to be provided to transport users irrespective of who controls the part of the network they are travelling on. NZTA operate the all State-Highway networks throughout New Zealand, at time of writing Higgins Contractors hold the maintenance contract for State-Highways in the Tararua District.

2.4.3 Stakeholders

The groups listed below are stakeholders with an interest in, or who receive a benefit from the transport activity. These groups are consulted with as and when required on issues and asset changes that will affect their current activities. This can range from minor information and advice to major consultation input by way of submission or direct discussion.

Ministry of Transport

Central Government department that sets national policy for transport.

Horizons Regional Council

Coordinates the Regional Land Transport Programme, regional strategies, supports the provision of road safety activities and provides public transport services.

Ratepayers

People who own property within the Tararua District boundaries that contribute financially to and use the transport network for moving about.

Community Groups
Groups with a combined special interest in an aspect of the transport network. These include groups representing those with limited mobility and school community groups.

Local Businesses and Primary Industries
Businesses and Primary Industries within the District that use the transport network to transport goods and provide services. This also includes relationships with Fonterra and the Forestry Industry.

Visitors
Those who use the transport network but don't necessarily live here – this includes tourists and commuters from other districts.

New Zealand Police
Provides education and enforcement to support the safe use of the transport network.

Road Transport Association and heavy haulage operators
Advocates for the role heavy vehicles play in the movement of goods around the country.

Automobile Association
Advocates for road users throughout the country on transport matters. Has more than 1.7M members nationally.

Schools and education providers
Students use the transport network to get to and from school. They may be walking, cycling, or taking school buses to school.

KiwiRail
Railways form part of the district's transportation network with both the Palmerston North – Gisborne and the Wairarapa Lines traversing the District. KiwiRail is responsible for the management and operation of the rail-corridor within the Tararua District.

2.5 Management of The Transport Activity

Council has statutory obligations under the Land Transport Management Act 2003 to maintain a road network within the district and the transportation activity is delivered by Council by providing a safe and efficient road network that enables the movement of people and products, both within and through the district. An effective road network is also essential to ensuring the economic and social wellbeing of the community through the provision of access and mobility for people, goods and services.

Management of the transportation activity, including the maintenance and renewal of associated assets is the highest of the Council's major activities and due to the low ratepayer base the Council is heavily reliant upon subsidies received from NZTA.

2.5.1 Management and delivery of transportation services

The Transportation Activity is managed and delivered by the Tararua Alliance, an unincorporated joint venture between the Council and Downer NZ Ltd. Responsibilities of the Tararua Alliance include management of all Transport assets, short- and long-term planning for the maintenance and renewals of assets, the delivery of physical works to maintain and renew assets and the management of compliance obligations for operators on the network.

Maintenance

Maintenance refers to the activities required on a day-to-day basis to maintain the network to the agreed levels of service. Examples of these are isolated pavement repairs (potholes, patch repairs), grading of unsealed roads, sweeping of kerb and channel, cleaning of litter and detritus and control of vegetation (mowing, high-reach control).

Renewal

The process of renewal is the replacement and rehabilitation of assets to restore them to their original level of service (i.e., capacity or condition) as required to achieve the least whole-of-life cost. Renewal strategies are designed to provide for the progressive replacement of individual assets (or components) that have reached the end of their useful life.

Capital Works

Capital works involve the creation of new assets or works which upgrade or improve an existing asset beyond its current capacity or performance in response to changes in usage or customer expectations. This may be due to growth or changes in the required levels of service.

2.5.2 Network Development

Our roading network was created following the 1989 local government reforms when the Dannevirke Borough, Eketahuna County Council, Pahiatua Borough Council, Pahiatua County Council and Woodville District Council were merged to form the Tararua District Council.

With different economic conditions, population sizes and geology where they were situated, these counties and boroughs had varying road management and construction philosophies. Evidence shows that in certain areas of the district many of the roads were constructed with little pavement depth, poor drainage and subsequently a lower ability to support heavy loads. These roads are showing signs of fatigue and draw a large portion of maintenance and renewals expenditure.

2.5.3 Road Hierarchy – One Network Framework

The 2024/27 NLTP sees the One Network Framework (ONF) implemented as the primary framework for the standardisation of the classification of roads in New Zealand. This superseded the One Network Road Classification (ONRC). The One Network Framework (ONF) evolves the One Network Road Classification (ONRC) to a two-dimensional classification framework focused on movement and place.

The ONF makes the following key shifts:

- A shift from the volume of vehicles on the network to the network's functional importance for moving people and goods, by any mode.
- It considers adjacent land use, and the role the transport network plays as part of the wider public realm.
- When fully implemented, it will consider both the current and future movement and place function of the network. This will allow gaps to be identified and guide network changes and investment decisions seeking to close the identified gaps.
- It includes walking, cycling, freight, public transport, and general traffic networks, some of which include off-road routes.

The new ONF allows for the consideration of future aspirations for corridors and networks within wider spatial and growth planning strategies. It helps establish the intended function of a corridor or road and plan for levels of investment and service. It does not dictate the final form or built design.

This AMP period will see the application of the ONF including implementation of performance measures and levels of service.

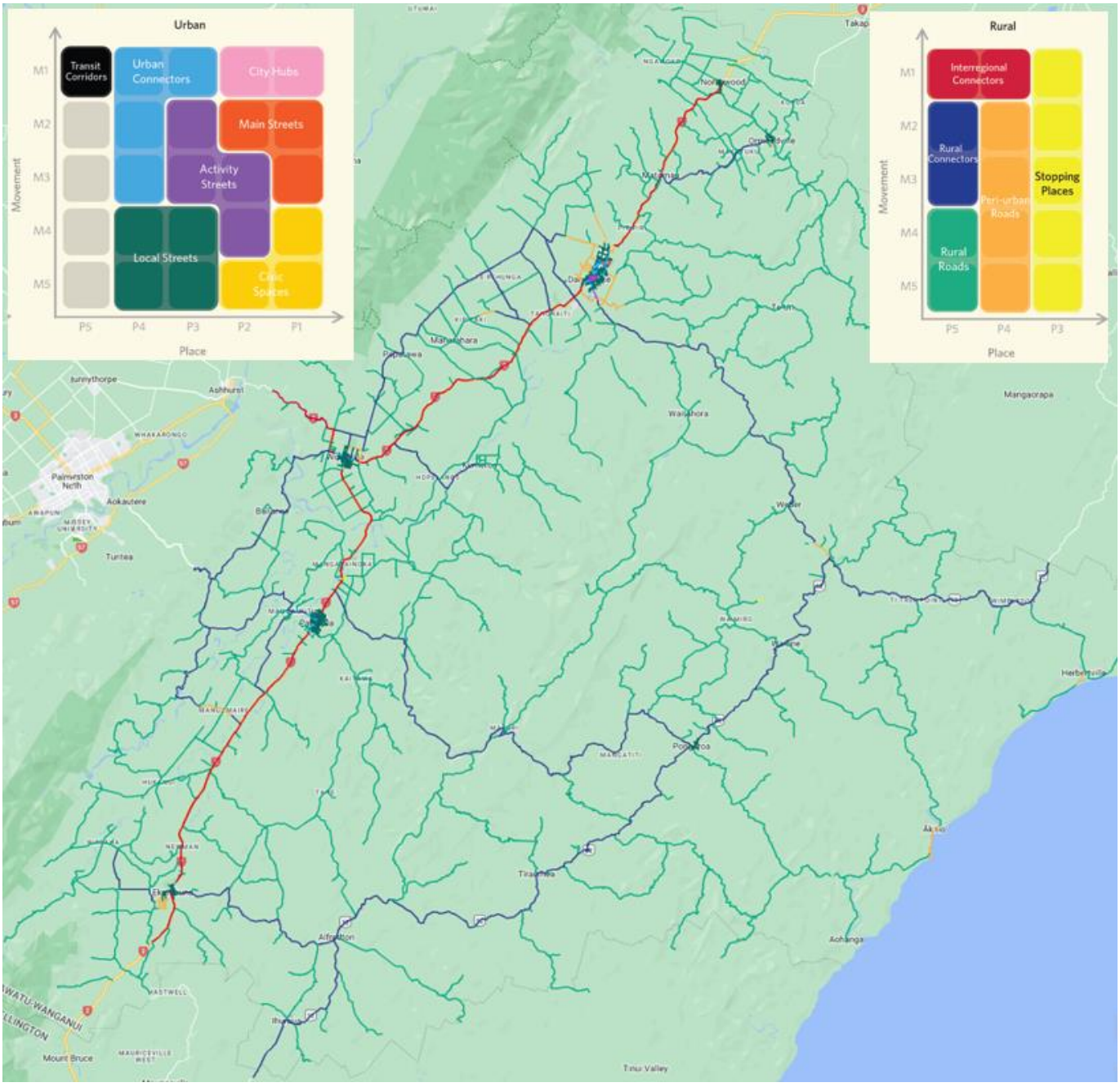
The roading classification spread across the Tararua District is detailed below. The state highway roads are managed directly by NZTA with the rest being managed by the Tararua District Council.

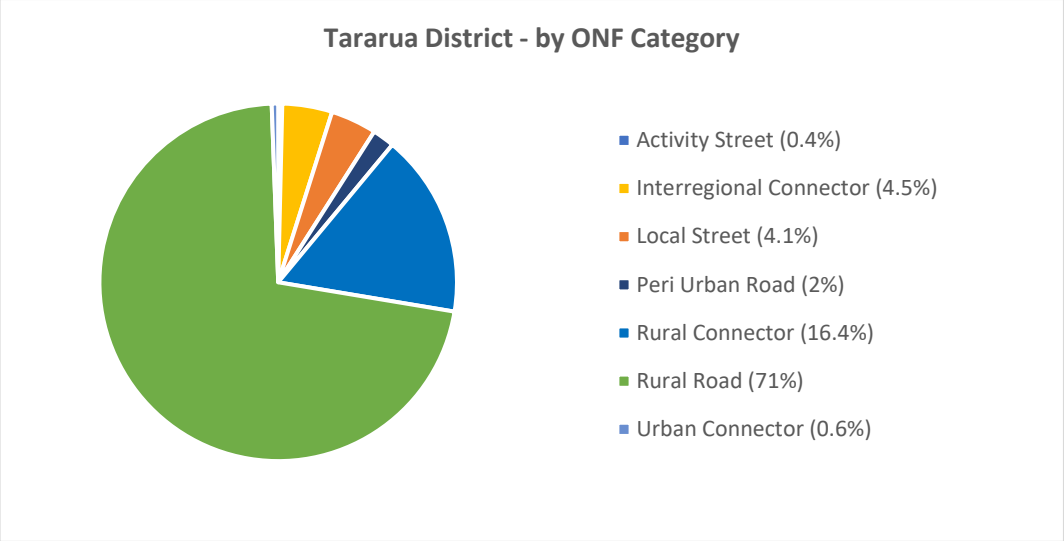
ONF within the Tararua

The majority of Tararua's roading network is classified under the ONF as 'Rural Roads' with average traffic volumes of less than 200 vehicles per day. Rural Roads are defined as 'providing access to rural land, for those that live there, and in support of the land-use activity being undertaken'. These roads, along with 'Local Streets' in the urban environment, is where the majority of journeys often start and end. The higher volume 'Rural Collector' roads in the network play a pivotal role in connecting the region to its neighbours and ensuring traffic flows effectively through the region. These include the two bypass roads for the Manawatū Gorge: Saddle Road and Pahiatua Track – currently controlled by NZTA Waka Kotahi. These roads will be returned to Council control following the completion of Te Ahu a Turanga – Manawatū Tararua Highway, scheduled for opening in 2025.

Tararua ONF Categories (kms)							
Activity Streets	**Inter-regional Connector (NZTA)**	**Local Streets**	**Main Street**	**Peri-urban Roads**	**Rural Connectors**	**Rural Roads**	**Urban Connectors**
7.50	93.04	85.57	0.35	41.12	341.90	1,478.09	12.05

Tararua District ONF Map:





Some of the key benefits associated with ONF include 'Improved investment planning and decision making' and 'consistency in measuring current and future network performance and levels of service.' In line with this, a higher priority and level of investment per km is given to 'Rural Connectors' and 'Activity Streets'. However, with such a large proportion of roads in the 'Rural Roads' category (71%), managing the network using these categories becomes difficult, so the Movement and Place ratings (see figure below) and multimodal framework will be utilised.

With a roading network supporting a large agricultural sector and most of the local population travelling by these roads, maintaining our roads is critical to enable economic activity and growth regardless of low traffic volumes. This allows for the efficient transport of goods and services to the wider New Zealand economy. Underpinning this is the need to keep the service affordable and safe for the community.

Expanding the ONF for the benefits of Tararua – Road Hierarchy Project

With the development of the ONF, the Tararua District now has three Road Hierarchies available to manage the network. These are;

- District Plan Road Hierarchy (the original road hierarchy used to manage development in the district)
- ONRC Road Hierarchy
- ONF Road Hierarchy

The Network Management Team has established a project to manage the implementation of the ONF to enable better management of the roading network, but also enable cross-department collaboration. This Road Hierarchy Project aims to ensure the effective implement of the ONF but also to further develop a prioritisation / classification system which goes down to a more detailed level to inform economic decisions on Tararua's roading network. Further information on this project is outlined within the Improvement Plan section of this document, as well as Appendix B – ONF development.

The Tararua District Council is also in the process of updating the District Plan. As part of this process, the Roading Network Management team will be seeking to implement the ONF across all Council documentation to allow for consistent decision-making.

2.5.4 Movement of people and goods

Council's aim for Transportation is to provide a safe and efficient roading network that meets the short and long-term needs of the district and is operated and enhanced in a sustainable manner at the lowest overall whole of life cost.

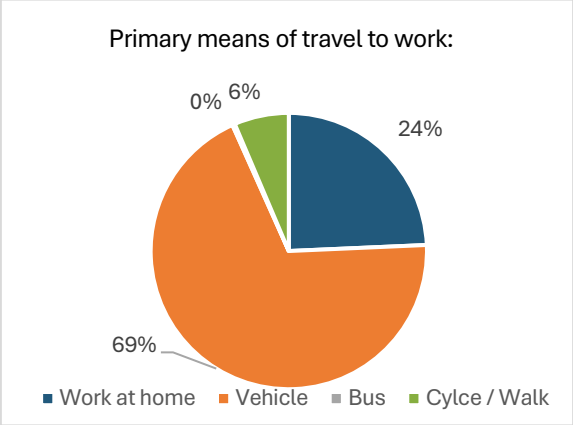
The following table details the various forms of transport available and how they feature within Tararua.

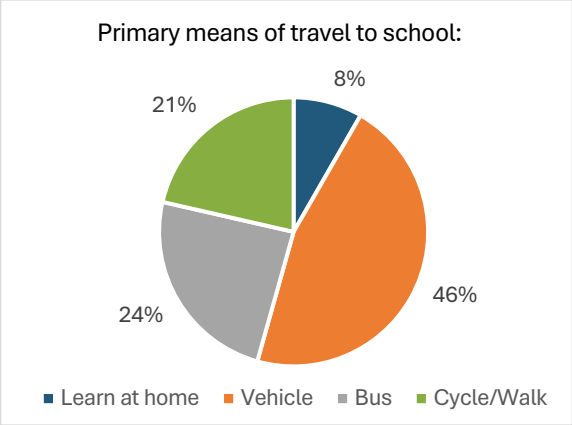
Road	Being a rural based economy covering a large geographic area, travel by road is the primary form of transport within Tararua.
Pedestrian	Pedestrian facilities are available throughout our larger townships. The flat topography where these townships are situated allows for easy walking.
Cycling	Our urban centres have wide open streets and flat topography making this mode of transport relatively safe and easy to use. However, limited use of this mode of transport is observed. Its primary use is for recreation purposes.
Rail	The rail network runs through Tararua, with lines connecting all surrounding regions; Manawatū, Wairarapa, Hawkes Bay. However, limited to no freight is handled via rail within Tararua, and generally, the rail network within the district operates as a thoroughfare to the larger rail hubs in Manawatū and Hawkes Bay.
Sea	There are no seaport facilities within Tararua.

Movement of People

With limited transport options available within the Tararua, movement of people is primarily by vehicle. Within Tararua, 67% of the population travel by road to work, 6% lower than the national average. A large portion of the remainder work from home, which reflects the large percentage of the district population working within the agricultural sector.

The main means of travel to and from educational facilities is by road, with 68.4% of the population travelling by vehicle and bus. Comparative to the New Zealand average this is similar, but when comparing the two forms there is a clear differentiation between vehicle and school bus. Within the Tararua 24.5% of people travel by bus to school compared to 17% across New Zealand. This once again reflects the rural base of the population.





Movement of Goods

Like people, the primary method of goods movement within and across Tararua is by road. With agriculture being the dominant industry within the district, much of the goods relates to farming and forestry activities. This includes transport of dairy products to and from the Fonterra factory in Pahiatua, and milled timber to and from the local sawmill Kiwi Lumber in Dannevirke.

The following table details core tonnage shifted on local roads by sector:

Sector	Detail	3-year average (t)
Dairy	Milk produced in district as well as dairy feed and grain, weights of animals shifted for winter feeding and for annual moving day	386,214
Forestry	Logs cut in district, excluding small lots	93,947
Farming (non-dairy)	Animals slaughtered from district, small lot logs cut, wool produced, non-dairy feed and grain, deer slaughtered	142,774
Industrial	Manufactured goods freight within district	429,686
Commercial	Retail freight within district plus weight of overnight guest arrivals to district	77,836
Mining	Mineral production within district plus gravel extraction consented	191,364

3. Strategic Case

3.1 Investment Strategy

The investment strategy for this NLTP period is outlined in this section. The development of this strategy is a result of analysis of the current state of the network followed by workshops held between the elected members of Tararua District Council, officers of Council and staff within the Tararua Alliance.

To achieve this, we followed the principles of the Strategic Business Case development and Investment Logic Mapping and have developed Problem Statements to address the challenges Tararua District's roading network face. These Problem Statements are shown below and highlight both the issues being faced by Tararua and the consequences associated with them:

As a result of these workshops the following problem statements were identified:

Climate & Resilience	Our road network is extremely vulnerable to changing climate and land use activities resulting in poor access, safety and resilience for users.
Declining Level of Service	Funding constraints associated with a very large road network, small ratepayer base and rising costs is resulting in reduced levels of service compared to our peers, low customer satisfaction and possible asset consumption.
Safety	An inconsistent transport system, and inadequate safety controls is resulting in accidents with a high risk of death or serious injury to people in the district.
Limited Transport Options	Limited options for walking and cycling and low service levels, combined with a lack of public transport, is resulting in high vehicle use within Tararua's urban towns and villages, increasing the risk of accidents for vulnerable users and environmental impacts.
Asset Return	Reassuming responsibility of relatively high profile and high-cost roads (Saddle Road and Pahiatua Track) will significantly increase our investment requirements.

Using these problem statements a set of options were proposed to the elected members to meet the needs of the network based on Work Categories funded by NZTA during the time of AMP drafting.

2024 GPS for Transport update

The revised GPS saw a shift in priorities, from Road Safety and Multi-modal transport (Walking & Cycling) towards activities that maintain and improve pavement conditions.

Three of our five problem statements closely align with the updated GPS, with Safety and Limited Transport Options, seen as lower priorities. Fortunately for the Tararua District, the majority of our expenditure aligns with the problems for which the new GPS is seeking to address. Our primary problem statements of the Declining Level of Service, and Climate & Resilience align closely with the priorities of the 2024 GPS.

While not available during consultation for this AMP, the Government's Policy Statement on Land Transport has since been finalised and includes the following strategic priorities which will be factored in and adhered to for activities during this AMP period:

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

While there has been a shift in focus of the GPS, the outcome and subsequent funding gained largely aligns with the Tararua District's network needs.

Given the close alignment between the network needs and the updated GPS, it is not necessary to update the Problem Statements in their entirety. Where significant deviation does occur, this has been noted.

3.2 Problem Statements

Problem Statement One: Climate and Resilience

Problem Statement	Benefit Statement
Our road network is extremely vulnerable to changing climate and land use activities resulting in poor access, safety and resilience for users	Reducing road closures and restrictions will improve transport reliability, increasing user confidence and the economic productivity of our district

Background

Cause: The Tararua District is susceptible to the effects of heavy and/or prolonged rain events. The district can expect to receive storm events, of varying significance, during any particular year and time of year. Climate change is expected to increase the likelihood (frequency) and consequence (damage and cost to repair) of these events.

Effect: Tararua's roading network is vulnerable to heavy and/or prolonged rain events, with rural areas being susceptible to slips, debris and dropouts.

What are the specific benefits from investing in Resilience?		How will we measure success?	How will we do this?
An efficient and resilient network	Increased stakeholder confidence and satisfaction	Customer Satisfaction Surveys	• Increased proactive maintenance (i.e. drainage maintenance, tree removal, scour protection, preventive maintenance) at known vulnerable locations • Reactive response to unplanned events gives consideration to both the classification of the affected road, likely number of affected customers, and criticality of the asset • Development of Emergency Procedures and Preparedness Plan • Improved recording and monitoring of all road closures, and provision of road closure information to customers
	Reduction in the number and duration of unplanned road closures when unplanned events occur	Monitoring the number of unplanned closures and duration of road closures.	
	Reduction in the impact to customers when unplanned events occur	Monitoring the number of journeys impacted by unplanned events	
An affordable network which is sustainable	Reduction in in the damage and reactive response costs associated with unplanned events	Monitoring the quantity and cost of reactive emergency works	• Inspection regimes that provide early identification of defects and required intervention • Proactive drainage maintenance and renewals • Repair treatments are fit for purpose and target the root cause of failure • Smart procurement, through the Alliance, where the financial mechanism contributes to lower overall costs • Increased funding for environmental maintenance and minor events work categories reducing the need to transfer costs from other maintenance activities
	Funding for planned, proactive work is maximized through reduced reactive costs, increasing value for money	Monitor cost and proportion of programmed works vs Reactive	
A safe and well-connected network for all modes	A safe journey for all road users through all our network to support economic activity, tourism and all other activities	Monitoring of crash statistics	• By ensuring the network reliability and resilience is not a factor in any crashes

Which ONRC Customer Levels of Services Outcomes does this affect?

 **Amenity**  **Efficiency**  **Safety**

Future considerations following release of Government Policy Statement on Land Transport (finalised June 2024)

- With **Increased Maintenance and Resilience** being one of the four strategic priorities of the GPS 2024, the government is looking to increase maintenance levels and improve resilience. Road maintenance will be required to be undertaken with a proactive rather than reactive approach, with new activity classes to ensure that maintenance funds are prioritised and ringfenced to fix potholes and maintain rural roads to a higher standard.
- The realignment of priorities aligns with our network needs and this Problem and Benefit Statement.

Problem Statement Two: Safety

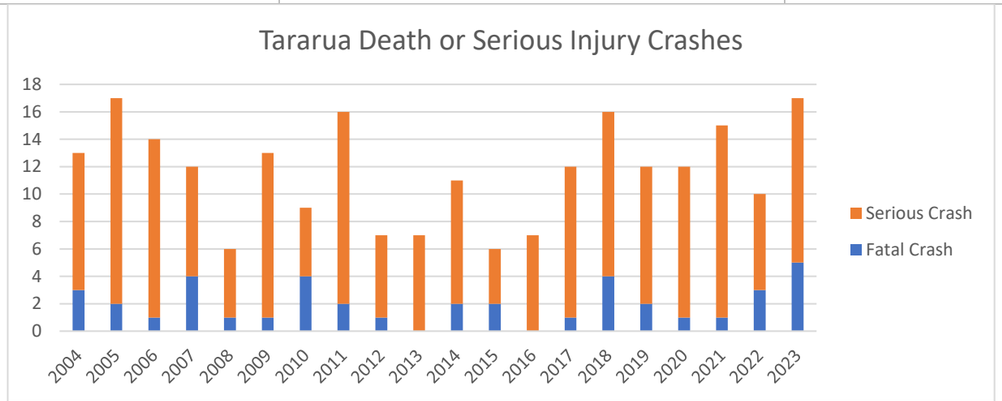
Problem Statement	Benefit Statement
An inconsistent transport system, and inadequate safety controls is resulting in accidents with a high risk of death or serious injury to people in the district.	Investing in improving the consistency of road form and environment will contribute to a safe and well-connected network for all users and minimising the risk of serious crashes.

Background

Cause: The Tararua District is a large complex network made up of multiple historic counties and boroughs that each had their own take on road management. A holistic, whole of network strategy has not been in place. As Tararua's road network has developed over time, no level of consistency has been applied to encourage consistent levels of service with regards to road form within classifications. The provision of motorist traffic control and guidance devices, such as pavement marking, signage and rails, is currently inconsistent, with the provisions on some long roads changing significantly despite the road's classification remaining the same. Investment in safety improvements has been reactive and make-shift, stemming from customer requests, leading to further inconsistencies on the road network.

Effect: The inconsistency of road safety provisions results in an unintuitive road network for motorists, which can become confusing and lead to crashes. Tararua District still lags behind nationally in road safety. Every year, we have fatal and serious injury accidents on our roads. These numbers reflect lives lost and ruined in what are mostly preventable crashes. Having an effective roading network is crucial for the economic, social and cultural well-being of our district. However, this can come at a price in terms of road safety if not carefully considered and implemented. Improvements in road safety are needed, not only to save lives, but to also enhance the economic development and productivity of the district through both effective and safe road use.

What are the specific benefits from investing in the problem?		How will we measure success?	How will we do this?
A safe and well-connected network for all modes	A safe journey for all road users through all our network to support economic activity, tourism and all other activities.	Monitoring of crash statistics	By ensuring the network reliability and resilience is not a factor in any crashes.



Note: these figures include incidents on NZTA managed State Highways within Tararua

Which ONRC Customer Levels of Services Outcomes does this affect?

Amenity Efficiency Safety

Future considerations following release of Government Policy Statement on Land Transport (finalised June 2024)

- With **Safety** being one of the four strategic priorities of the GPS 2024, the Government has signalled they will be replacing the Land Transport Rule: Setting of Speed Limits 2022 with a new rule that requires Road Controlling Authorities to reverse blanket speed limit reductions by 1 July 2025 and enable speed limit reductions on areas with high safety concerns, including outside of school gates at pick up and drop off times.
- This guidance has been provided prior to the implementation of large-scale changes, and as a result has limited impact to our network. The realignment of the GPS will see less investment additional Safety initiatives.

Problem Statement Three: Declining Level of Service

Problem Statement	Benefit Statement
Funding constraints associate with a very large road network, small ratepayer base and rising costs is resulting in reduced levels of service compared to our peers, low customer satisfaction and possible asset consumption	A specific strategy on how freight routes are managed will encourage and support economic activity within the region.

Background

Cause: The past three decades saw a significant change in land use across parts of the district, with many large sheep and beef farmers in the east of the district converting to pine plantations. These forests are now mature and are being scheduled for harvesting, which is changing road usage patterns, with significantly increased truck movements placing additional pressure on the roading network. Government legislation is allowing heavier, longer, wider and higher vehicles to increase freight efficiencies within the constraints imposed by the local roading network.

Effect: The increased volume of trucks on the district's roads is causing increased deterioration and concerns for Council related to decreased levels of service or increased cost to maintain roads to their existing level of service. A lack of specific strategies to manage the impact of this traffic leads to reactive decision making which in turns leads to a decreased level of service and increased travel operating costs for motorists

What are the specific benefits from investing in the problem?		How will we measure success?	How will we do this?
An efficient and resilient network	Decreased vehicle operating costs	Smooth Travel Exposure, Roughness	• Increased proactive maintenance (i.e. drainage maintenance, tree removal, scour protection, preventive maintenance) at known vulnerable locations to minimise the negative impact on the network. • Reactive response to unplanned events gives consideration to both the classification of the affected road, likely number of affected customers, and criticality of the asset.
	Increased stakeholder satisfaction and reduced customer complaints	Customer Complaints Satisfaction Surveys	
An affordable network which is sustainable	Reduce the amount of reactive maintenance costs	Monitor cost and proportion of programmed works vs Reactive	• Inspection regimes that provide early identification of defects and required intervention. • Proactive drainage and pavement maintenance and renewals. Repair treatments are fit for purpose and target the root cause of failure. Smart procurement, through the Alliance, where the financial mechanism contributes to lower overall costs.

Which ONRC Customer Levels of Services Outcomes does this affect?

 **Amenity**

 **Efficiency**

Future considerations following release of Government Policy Statement on Land Transport (finalised June 2024)

With **Value for Money** and **Economic Growth and Productvity** being two of the four strategic priorities of the GPS 2024, the Government is wanting to realise greater value from the financial investment made into our land transport system and focus on investment that supports economic growth and productivity.

This will require Tararua to take a more strategic and considered approach to investment also. As part of our network planning, we will be developing options of differential levels of service across the district, with the potential for certain extra-low volume roads reverting back to paper-roads, some roads becoming non-maintained roads, or lower reductions in Levels-of-Service for some.

Problem Statement Four: Limited Transport Options

Problem Statement	Benefit Statement
Limited options for walking and cycling and low service levels, combined with a lack of public transport is resulting in high vehicle use within Tararua's urban towns and villages, increasing the risk of accidents for vulnerable users and impacts on the environment.	Innovation, experimentation and adoption of new technologies and processes will help minimise the impact of climate change and make better use of our limited resources.

Background

Cause: The current practice of maintenance and renewals has been focused on ensuring an expected level of service is achieved. While this sounds like an appropriate strategy it is in essence quite reactive and essentially leaves us chasing our tails with a limited and fixed budget and a large network to manage. Due to the limited resources, it means we cannot trial pro-active activities or make any significant step changes to the condition of the network. It also leaves little capacity to invest in alternate travel modes or practices.

Effect: By continuing as we are, the result we will achieve is likely to be the same – a continued battle to keep ahead of a deteriorating network with significant investment required in some key sections that are under significant stress. There are also missed opportunities to innovate, experiment and adopt new more efficient technologies and processes that could help offset the current issues that are not going away such as climate change.

What are the specific benefits from investing in the problem?		How will we measure success?	How will we do this?
An affordable network which is sustainable	Increased stakeholder satisfaction and reduced customer complaints	Customer Complaints Satisfaction Surveys	• Inspection regimes that provide early identification of defects and required intervention to then increase proactive maintenance treatments. • Investigation and implementation of innovative technologies such as Emulsion instead of Bitumen for sealing will minimize our carbon footprint.
	Funding for planned, proactive work is maximized through reduced reactive costs, increasing value for money	Monitor cost and proportion of programmed works vs Reactive	
A safe and well-connected network for all modes	A safe journey for all road users through all our network to support economic activity, tourism and all other activities	Monitoring of crash statistics	• A holistic approach to travel within our road corridor will be adopted especially within the design process to ensure all users are considered – from freight to foot and everything in between.

Which ONRC Customer Levels of Services Outcomes does this affect?

Amenity Efficiency

Future considerations following release of Government Policy Statement on Land Transport (finalised June 2024)

This problem statement has been developed under the government's previous policy statement. The new statement adopted in June 2024 reduces the focus on Walking and Cycling activities and will require more strategic investment which places a stronger focus on achieving **Economic Growth and Productivity** and **Value for Money**.

Problem Statement Five: Asset Return

Problem Statement	Benefit Statement
Reassuming responsibility of relatively high profile and high-cost roads will significantly increase our investment requirements	Innovation, experimentation and adoption of new technologies and processes will help minimize the impact of climate change and make better use of our limited resources

Background

Cause: The current practice of maintenance and renewals has been focused on ensuring an expected level of service is achieved. While this sounds like an appropriate strategy it is in essence quite reactive and essentially leaves us chasing our tails with a limited and fixed budget and a large network to manage. Due to the limited resources, it means we cannot trial proactive activities or make any significant step changes to the condition of the network. It also leaves little capacity to invest in alternate travel modes or practices.

Effect: By continuing as we are, the result we will achieve is likely to be the same – a continued battle to keep ahead of a deteriorating network with significant investment required in some key sections that are under significant stress – such as Route 52. There are also missed opportunities to innovate, experiment and adopt new more efficient technologies and processes that could help offset the current issues that are not going away such as climate change.

What are the specific benefits from investing in the problem?		How will we measure success?	How will we do this?
An affordable network which is sustainable	Increased stakeholder satisfaction and reduced customer complaints	Customer Complaints Satisfaction Surveys	• Inspection regimes that provide early identification of defects and required intervention to then increase proactive maintenance treatments. • Investigation and implementation of innovative technologies such as Emulsion instead of Bitumen for sealing will minimize our carbon footprint.
	Funding for planned, proactive work is maximized through reduced reactive costs, increasing value for money	Monitor cost and proportion of programmed works vs reactive	
A safe and well-connected network for all modes	A safe journey for all road users through all our network to support economic activity, tourism and all other activities	Monitoring of crash statistics	• A holistic approach to travel within our road corridor will be adopted, especially within the design process to ensure all users are considered – from freight to foot and everything in between.

Which ONRC Customer Levels of Services Outcomes does this affect?


Amenity


Efficiency

Future considerations following release of Government Policy Statement on Land Transport (finalised June 2024)

With **Value for Money** and **Economic Growth and Productvity** being two of the four strategic priorities of the GPS 2024, the Government is wanting to realise greater value from the financial investment made into our land transport system and focus on investment that supports economic growth and productivity. This will require Tararua to take a more strategic and considered approach to investment also. This may see reduced investment in certain parts of the roading network and increases in others.

3.3 Strategic Responses

3.3.1 Lifecycle Management

The primary objective is to provide a safe and efficient road network that meets the short and long-term needs of the district which is operated and enhanced in a sustainable manner at the least whole of life cost.

A strategic and systematic process of operating, maintaining, upgrading and expanding transportation assets is required to effectively manage the transportation assets throughout their life cycle.

Specific Lifecycle Management Plans have been developed for the following activities:

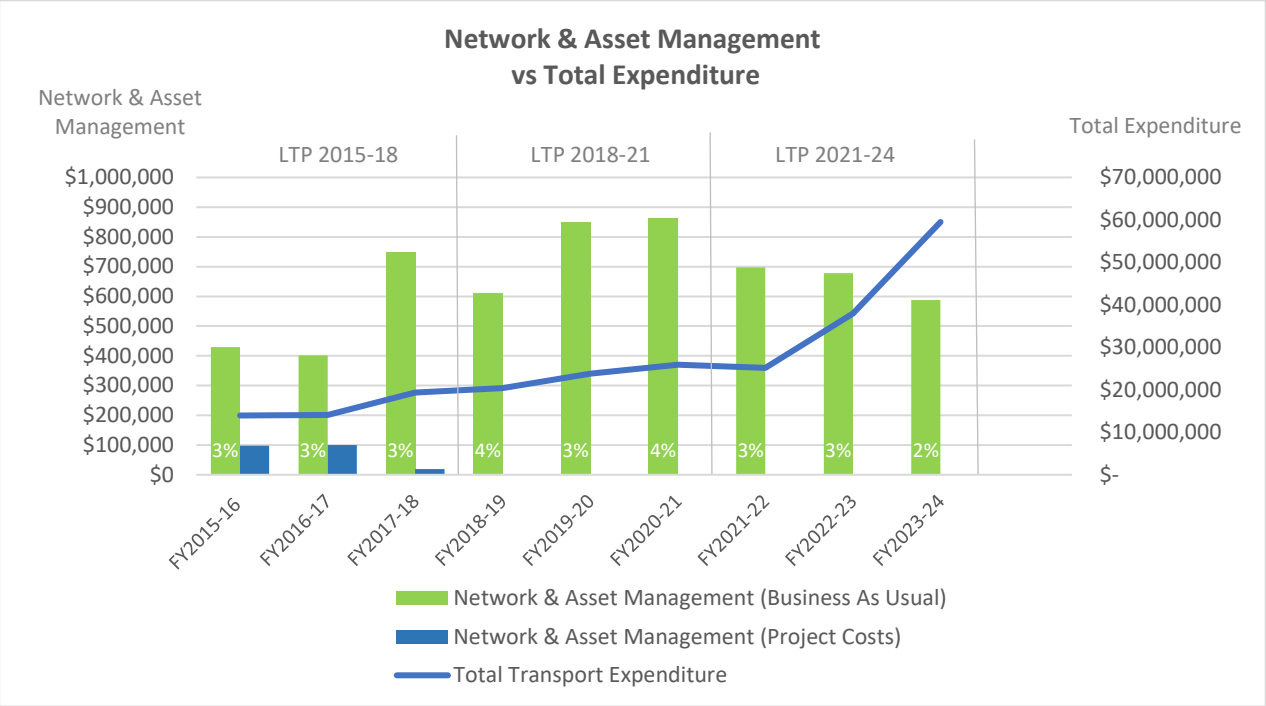
- Network and Asset Management
- Sealed Pavements
- Unsealed Pavements
- Structures
- Drainage
- Traffic Services
- Footpaths, Cycleways and Carparks
- Environmental
- Minor Improvements

3.3.2 Network and Asset Management

The main cost in this activity sits with covering the staff such as inspectors, asset managers and asset engineers that work to provide robust processes, information and justified plans for the design, engineering, and delivery teams. With a focus on data driven decision making being a key strategy for the planning team this investment is quite important to enable this to continue. There has been innovation and changes made in the way the activity occurs such as the implementation of the Downer NZ TKH (Transport Knowledge Hub) which uses a set of processes widely accepted as best practice network management, implementation of dTIMS for pavement deterioration modelling as part of the forward works programme process and JunoViewer for condition trend analysis and on-site data-based decision making.

Historical investment

Over the 2021/24 NLTP, the investment in Network and Asset Management been operating at a reduced cost compared to the previous NLTP. Through the Alliance contract model, an increase in expenditure doesn't equate to increased network management costs as operational overhead costs are fixed. As a result, an increase in workload undertaken through the Alliance (largely due to increased Emergency Works expenditure), has seen greater efficiencies gained.



What do we want to do

NZTA are implementing new tools and systems to assist Local Authorities with Asset Management and Planning. Over the next three-year funding cycle, we need to ensure we have a complete understanding of the components that make up our network and how the public interacts with them. There will be projects to focus on further data capture to better understand traffic flows including walking and cycling movements and routes to feed into the upcoming One Network Framework classification as well as a project to componentise the bridge assets. The "business as usual" costs are expected to remain relative to the Total Expenditure of the Transportation Activity, however there will be new costs related to the proposed Data Capture and Network Modelling project. An increase of 2% of this activity will allow for the additional data capture and compliance costs.

2024 GPS for Transport update
Network and Asset Management is not directly related to GPS priorities, as it focusses on the general management, which includes inspections and planning for work activities.

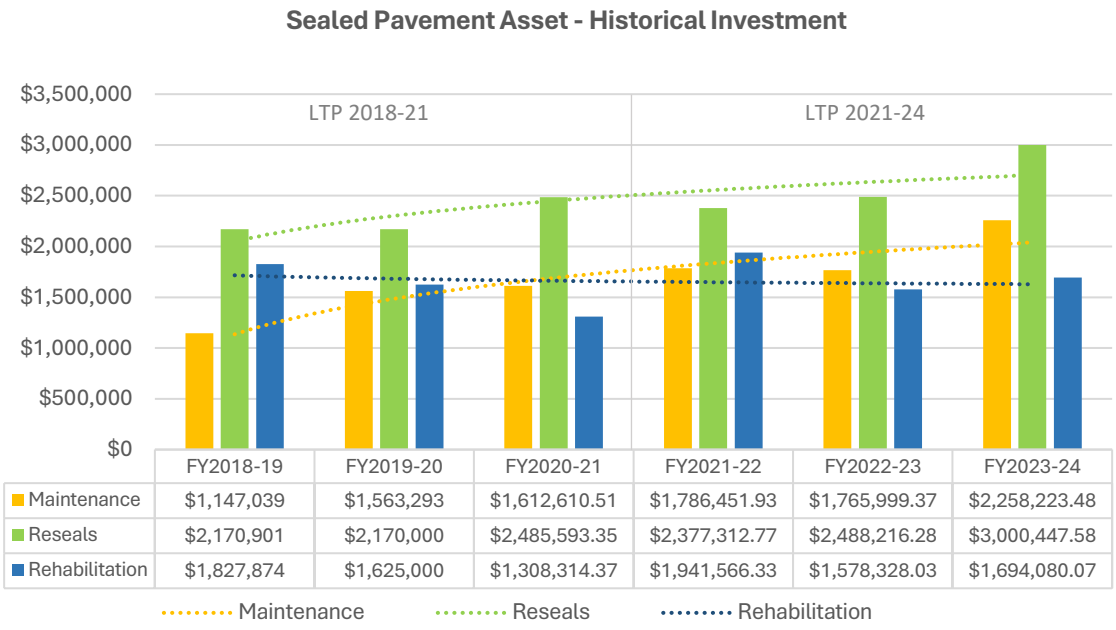
3.3.3 Sealed roads

Maintaining our extensive sealed pavement network with a limited funding base can prove challenging for the district. The decisions we make now can have consequences for the 30-year life of a pavement and can either improve the state of our network or provide challenges for future generations.

Historical investment

Over the past 6 years, Council have been altering its strategy towards maintenance and renewal in response to the increased pressure on our sealed pavement. The chart below demonstrates this, with the amount invested into general pavement maintenance and reseals increasing. The amount invested in Rehabilitations has been maintained.

Following the trend lines, there has been a steady increase in the investment in sealed pavements between NLTPs, however, when taking into account a period of high inflation, the general investment is relatively flat.



	FY2018-19	FY2019-20	FY2020-21	FY2021-22	FY2022-23	FY2023-24
Maintenance	$1,147,039	$1,563,293	$1,612,610.51	$1,786,451.93	$1,765,999.37	$2,258,223.48
Reseals	$2,170,901	$2,170,000	$2,485,593.35	$2,377,312.77	$2,488,216.28	$3,000,447.58
Rehabilitation	$1,827,874	$1,625,000	$1,308,314.37	$1,941,566.33	$1,578,328.03	$1,694,080.07

Sealed Pavements – What condition are they in

Pavement All-Faults

The ONRC allows us to compare our network to others, however it does not focus on the specific issues and faults across each network. Faults must be assessed locally due to the regional varieties of terrain and geology.

The sealed road network is currently inspected on a cyclic basis using the ONRC classification to determine the frequency of inspections. On inspection our All-Faults database is updated to allow us to make informed decisions around Pavement Maintenance and Renewals.

A summary of the Pavement All-faults currently recorded in RAMM is shown in the table below. These faults can be potholes, pavement structural failures, surface failures or rutting etc. The type of fault, quantity, severity and clustering is used to develop our forward works Maintenance and Renewal programmes aligned with a Multi criteria analysis that runs behind the dTIMS Downer model

All-Fault Data – Sealed Roads (@ Sept '24)						
		2024				
Fault Priority Level	**2021 Total**	**Primary Collector**	**Secondary Collector**	**Low Volume**	**Access**	**2024 Total**
2 - Identified Low	239	14	134	125	299	572
3 - Identified Medium	2554	121	858	492	1518	2989
4 - Intervention Required	290	15	90	41	151	297
Totals	**3083**	150	1082	658	1968	**3858**

Between the development of the 2012-24 AMP and this AMP, there has been an increase in faults recorded within RAMM. While Priority 4 fault numbers remain stable, Priority 2 and 3 faults have increased. This indicated a deterioration of the Sealed Pavement condition. Maintaining our existing Level of Service and investment, will see an ongoing decline in network condition.

Multi-criteria analysis

Multi-criteria analysis (MCA) is used to assess multiple criteria, both quantitative and qualitative, to compare different alternatives and options. The MCA user guidance provides information about the MCA process, including roles and responsibilities, assessment techniques, criteria and scoring.

Works programmes between 3-10 years are based on a combination of modelling, intended strategies of the time and age of treatment length. The work programme between 10-30 years is based on a nominal life expectancy of existing pavements.

Currently, 35% of all chipseal surfacing sites has exceeded its surface life by an average age of 4 years and 506 treatment lengths are currently waiting for its third coat.

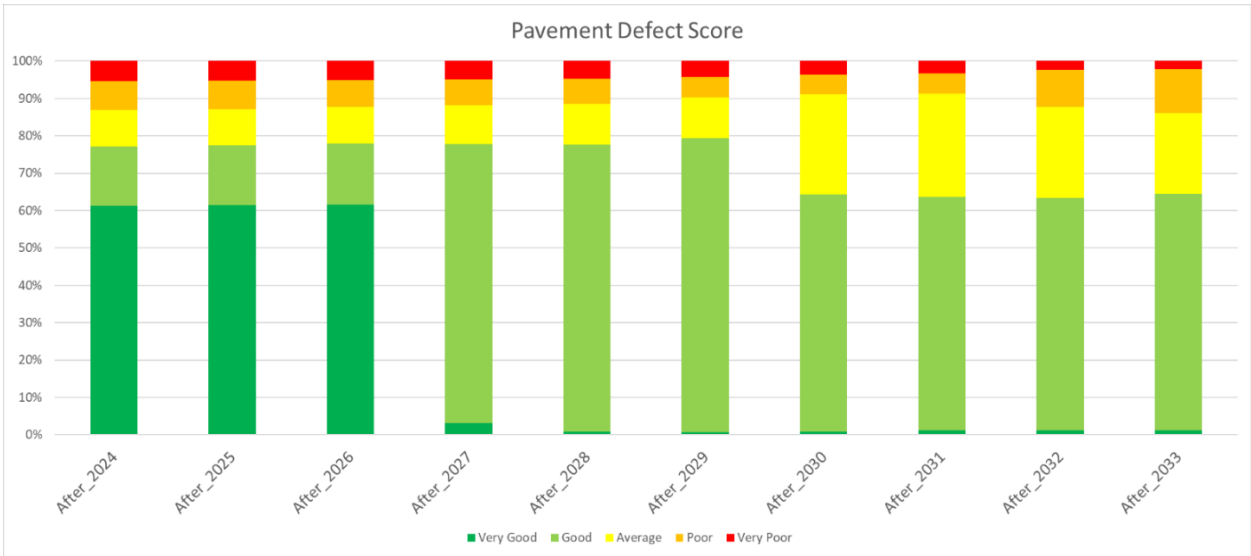
The pavement modelling process is further explained in the Lifecycle Management section of this document.

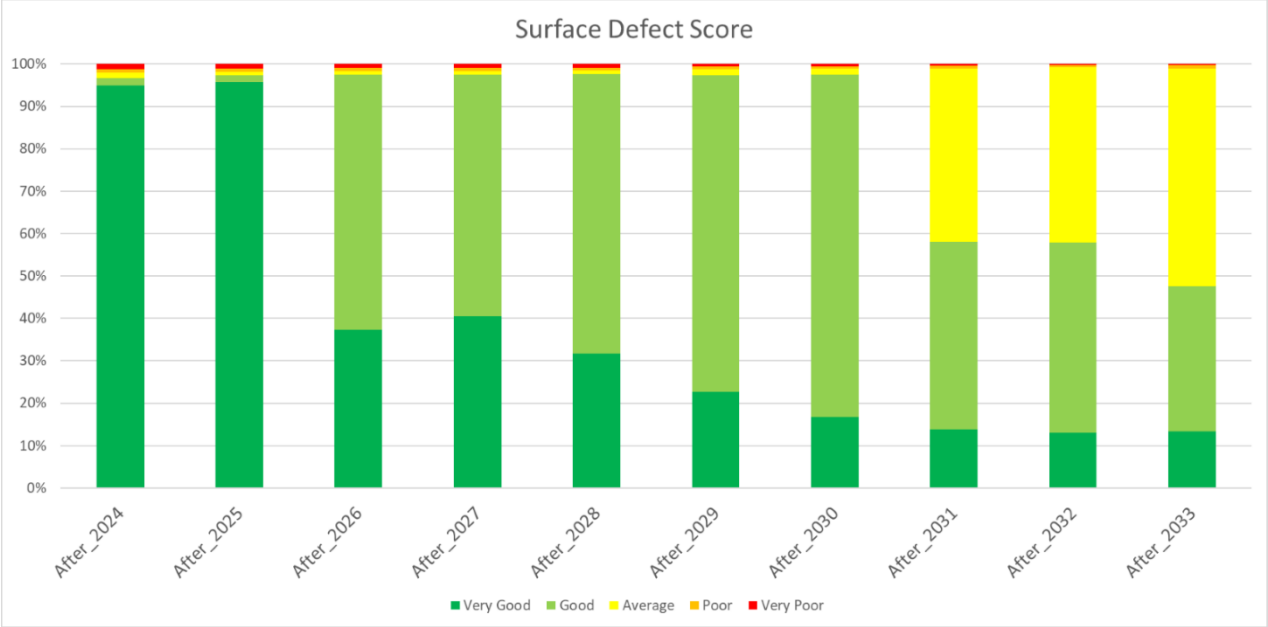
Forward works programmes are reviewed on a yearly basis and changes are made in accordance with what work has been completed, what the current demands are on the network under a budget constraint and what the expected demands are to be.

Pavement Deterioration - Rutting and texture

Hight Speed Data (HSD) from Junoviewer was used in the model to apply the actual starting rutting/texture values as well as the deterioration rate.

The condition score graphs shown below are based on the 2022 collection of pavement and surface faults identified on each treatment length. Each treatment length is then given a defect score based on the percentage defect area coverage across a treatment length. The defect score is then forecasted into the based on previous trends and traffic volumes.





The quantities derived from the 2023 budget scenario shows a 50% increase in reseal length is required to meet the network needs. Based on the 2023-24 budget, there is only enough to hold steady the pavement condition on the worst roads for the next 6 years before condition scores of 3 and 4 become more common (between 2% - 15% of a treatment length's area covered in faults). By 2030, the remaining roads in good condition start to deteriorate. The surface condition is improved only until 2026 before the modelling shows the network condition deteriorating, with roads at level 2 by 2031 42% of the network is forecast to fall into a poor condition state.

This modelling demonstrates the need for increased Pavement budget alleviate the rapid deterioration, and reduce the maintenance and renewal burden on future budgets at higher costs to the rate payer.

Current level of service summary

Our current drive for Sealed Pavement Maintenance and Renewals is to improve the resilience of the overall asset and working towards providing uniformity across the network. The number of high-severity faults and the need for rehabilitations is reducing indicating that structurally our pavements are relatively in good condition, however, when comparing ourselves to other districts nationwide using the ONRC reporting tool, the roading network within Tararua falls behind in a number of measures.

With an increase in heavy freight movements and maximum weights, along with two years of higher-than-average rainfall, we are seeing increased deterioration of our sealed roads. This is supported by the pavement analysis measures provided by NZTA.

Our Low Volume roads are rougher than the National, Rural and Manawatū / Whanganui districts and with a large percentage of our roads falling into this category, there is still much work to do to bring us up to meet the average. We are currently working towards earlier intervention with faults. This will assist in improving our ONRC measures, as well as reducing the frequency of costly higher severity fault repairs.

In regard to safety, the Tararua District is also over-represented in the crash statistics per 100km of road. Secondary Collector, Access and Low Volume roads all sit above the average when comparing against other rural, national and Manawatū / Whanganui regional districts. Sealed pavements can contribute to crashes through poor alignment, uneven surfaces, surface condition and variable road width, all of which we have issues with. Alongside Minor Improvements, we are working towards targeting these issues.

Link to problem statements – how is it affecting our problems

Many of our problems across the network stem from how our roads have been developed. With the Tararua District being a merger of various Council's and Boroughs, our sealed roads have been built to varying standards with some being wide and well formed, other are narrow winding from house to house and barely have a pavement structure below the multiple seal layers.

The development has led to the inconsistent road form and safety measures we find across the network today. Providing consistency across the network has not been a focus as funds have been directed towards other priorities.

Many of our roads to the east are situated in gully's following streams or on the side of hills. These roads have poor subgrade strength, with formation and structural failures occurring regularly. The resilience of our sealed roads is tested often, and significant disruption is experienced which impacts the economic prosperity of our rural economy. Forecasting demand on our network to keep up with pressures is key, to encourage or at least not hinder economic activity when managing the sealed pavement asset.

With aged infrastructure, safety and resilience issues and limited funding, we tend not to explore environmentally sustainable options to reduce carbon footprint of the roading network. Aligning with the 2021 GPS for Transport objectives, we plan to look at alternate preventative treatments to help mitigate climate change effects while utilising limited resources.

Road slumped into gully – Route 52

Sealed Pavements - Option analysis

Our approach for Sealed Pavements is to consider the total expenditure across the asset and balance maintenance and renewal activities to allow us to maintain or improve the Level of Service across the Asset.

As this asset is the asset that most road users interact with and the assets contribution to the problems we face, a reduction in funding has not been considered.

We have derived 3 scenarios with varying levels of expenditure across maintenance and renewals activities. These scenarios help us determine the optimum level of investment required to achieve the outcomes desired and Level of Service we intend to provide.

Low Cost, Low Risk - Local Road Improvements associated with sealed pavement

Local Road Improvements are often associated with modifications to the Sealed Pavement asset. An example of this is, alongside Pavement Rehabilitations, an allowance for additional earthworks to increase water table capacity, formation widening to allow enable seal widening, or the construction of minor retaining walls to support roadside shoulders.

For budgeting purposes, a nominal amount is allocated to Sealed Pavement each year and fluctuates depending on what other projects are planned across the network.

Options Table:

Sealed Pavements				
	Previous NLTP (2021-24)	**Option 1: Network Need – Low Risk**	**Option 2: Proposed Level of Service (preferred option)**	**Option 3: Long Term Implementation – High Risk**
		• Increase preventative maintenance repairs through crack seals and 2nd coats on maintenance patches • Increase in pavement patch repairs and allowance for more long-term repairs (i.e. dig-outs) • Increase in reseals by resurfacing target of 7% of sealed network annually (currently around 4%) • Increase in pavement renewals (50%) due to high pavement faults across the network • Allowance to change from hot cutback bitumen to emulsion sealing • Allowance for the current cost escalation trend to continue • Includes 35% allowance for escalation	• Increase preventative maintenance repairs through crack seals and second coats on maintenance patches • Increase in pavement patch repairs and allowance for more long-term repairs (i.e. dig-outs) • Increase in reseals (50%) by resurfacing target to 6% of sealed network annually (currently around 4%) • Allowance to change from hot cutback bitumen to emulsion sealing • Includes 25% allowance for escalation	• Increase preventative maintenance repairs through crack seals and 2nd coats on maintenance patches • Increase in pavement patch repairs • Incremental increase in reseals by resurfacing target of 6% of sealed network annually (currently around 4%) by end of 2027-30 NLTP • Includes 35% allowance for escalation
Maintenance	$5,810,674	$9,891,392	$9,043,558	$7,630,502
Reseals	$7,865,977	$16,001,314	$13,512,221	$10,667,543
Rehabs	$5,216,889	$10,257,720	$6,983,980	$6,820,293
Total	**$18,893,540**	**$36,150,426**	**$29,539,758**	**$25,118,337**

Variance from previous	+91%	+56%	+33%

Preferred Option:

Our preferred option is Option 2 – Proposed Level of Service which will see the following benefits:

- Overall condition improvement
- Improvement in customer satisfaction / reduction in CRMS
- Asset consumption reduced (slowed future bow wave of reseals) – good asset stewardship
- Reduction in maintenance costs over the long term
- Improved safety and reduced risk of DSIs
- Significant improvement in safety in the bitumen manufacturing and sealing process
- Reduced impact on the environment (49% less CO2 emissions from reseals)
- Increased weather window for application and seals less prone to surface failures

Alignment to Benefit Statements:

The condition and state of the Tararua sealed pavement network are trending towards a future bow wave of maintenance and renewals, and without increased investment here is likely to lead to a significant decrease in levels of service.

Land use changes increasing logging and HCV use on the network have added pressure and accelerated deterioration in many parts of the district. Add to this the significant increases in material (especially bitumen) and labour costs, and we are left in a situation where more work is required on the network in a financial climate of high inflation and increasing costs.

In particular, when considering reseals (the most significant increase below), Tararua is currently achieving roughly 4% of the network resealed annually (unable to meet the 5% target due to high inflation and material cost hikes). The average seal life of Tararua seals is 14 years, so to avoid going backward, we need to aim for 7% of the network to be sealed annually. A funding increase of this magnitude would be unrealistic, so a proposed target of 6% will be set for this three-year period. In the longer term, this increase in renewals will lead to a reduction in maintenance though initially (in this NLTP), an increase will be required to address additional pre-reseal repairs.

2024/27 NLTP Bid Outcome

	Maintenance	Reseals	Rehabs	Total
2021-24 NLTP	$5,810,674	$7,865,997	$5,216,889	$18,893,540
Requested	$9,208,563	$15,148,596	$8,806,885	$33,164,044
Approved	$8,999,918	$15,148,596	$8,806,806	$29,950,858

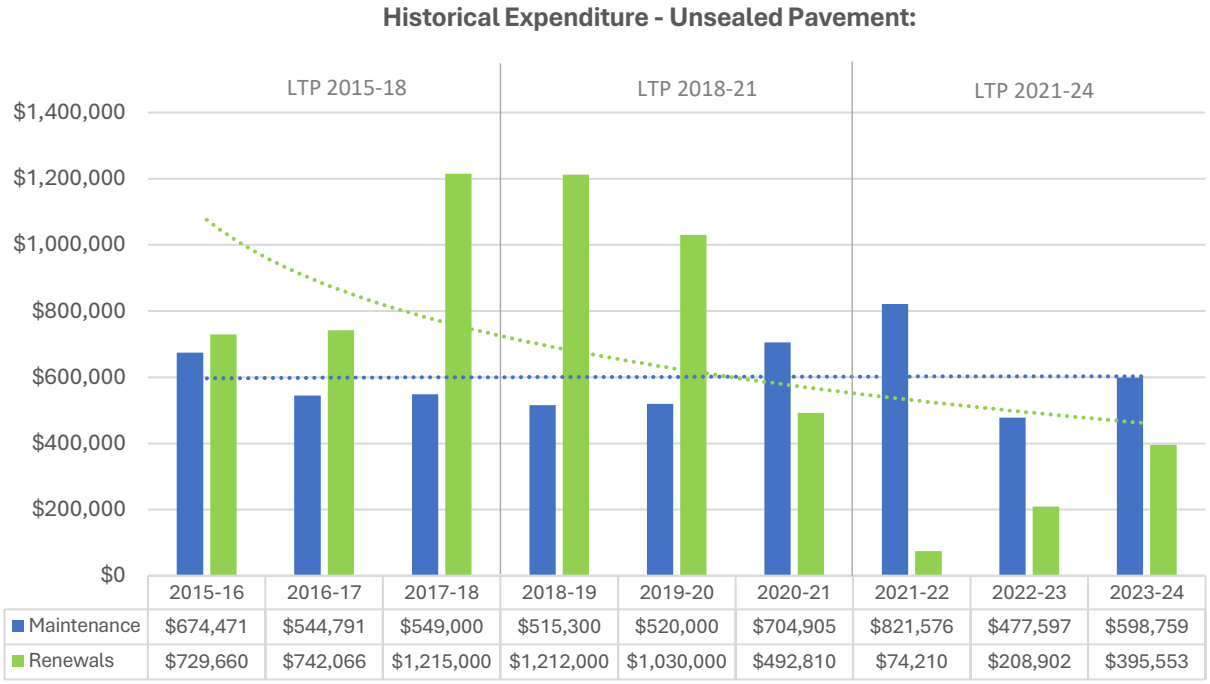
Our proposed approach of increasing emphasis on pavement maintenance, renewals and rehabilitation aligns closely with the 2024 GPS for Transport and as a result has seen our request for funding approved at the requested amount for reseals and rehabilitations. There has been a slight reduction in what was requested in the sealed maintenance budget, however, this is still an overall increase.

3.3.4 Unsealed Roads

With unsealed roads making up around 39% (772km) of our total roading network, the level of maintenance and renewals and the subsequent Level of Service we provide is important to many people in the district.

Historical investment

Increasing demands on our unsealed roads led to a push to upgrade the pavement structures between 2015 and 2020. The previous NLTP saw an increase in maintenance activities. This time allowed us to gather greater evidence as to where treatments were needed and revise our strategic approach to the unsealed road network. Vulnerable areas were identified to allow a more targeted approach rather than the reactive, customer request driven approach of previous years. Heavy metal overlays have now resumed targeting isolated structural issues.

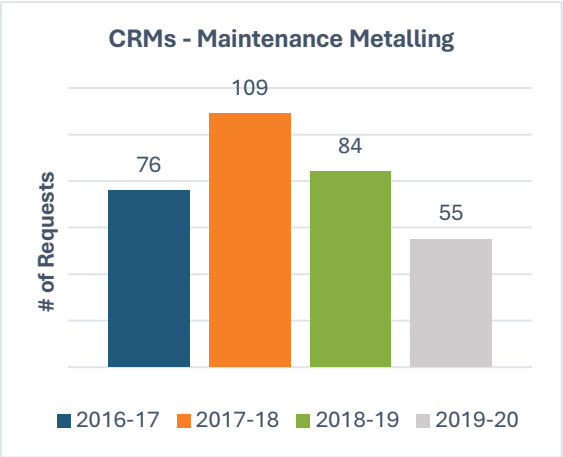


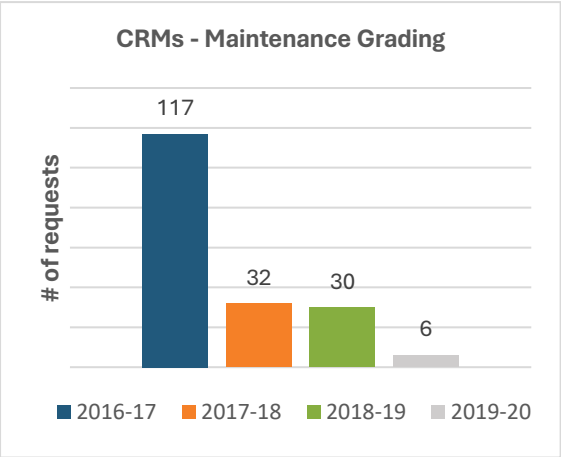
	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Maintenance	$674,471	$544,791	$549,000	$515,300	$520,000	$704,905	$821,576	$477,597	$598,759
Renewals	$729,660	$742,066	$1,215,000	$1,212,000	$1,030,000	$492,810	$74,210	$208,902	$395,553

Current level of service summary

Our unsealed roads have undergone a transformation over the past five years. Through a combination of grading and re-metalling we have managed to bring them to a standard that has allowed us to be more targeted with our maintenance and renewal works.

The current practice is to inspect the road on a cyclic basis and then only if required, grade or apply an application of metal running course. This has meant better utilisation of resources as rather than grading for the sake of grading (i.e., a cyclic schedule), we can spread investment further and focus on roads in poorer conditions. This approach here led to a noticeable reduction in Customer Requests for Maintenance relating to the unsealed roads, as well as several compliments as well.





With high confidence in our unsealed maintenance and renewals strategies, we are starting to focus on other aspects that impact safety and quality as well as working to identify future demands such as forecasting logging activities.

Link to problem statements – how is it affecting our problems.

As unsealed roads generally have low traffic volumes, targeting safety improvement funds towards this asset does not provide the same level benefits to road users as targeting funds towards higher classification roads would have. However, with a high percentage of our roads unsealed, safety must stay a focus.

Safety concerns generally arise through public feedback when there is a change in use (i.e., Forestry harvesting commences) and drivers with little local knowledge start to use them. These people generally drive at greater speeds and are not aware of the high-risk sections of the road, such as blind corners.

Where unsealed pavements meet sealed pavement/bridge approaches have been identified as areas of with a high safety risk to the road user. With continuous impact from vehicles these areas often pothole and corrugated and this can lead to loss of control. High-risk sites are being identified and a targeted programme is being implemented to address some of these safety risks through the minor safety improvement programme.

Recently, using a combination of renewal and minor improvements we have been making safety improvements by undertaking shape correction followed by a seal coat to increase traction for the road user. The next steps are to identify all of these risky transition sites and prioritise them for improvement works to ensure a consistent and safe journey.

Unsealed roads resilience

Our unsealed roads can be hit hard during storm events. High-intensity rainfall leads to the aggregate being washed off the road and into side-drains. This increases the likelihood of culverts becoming blocked, which in turn can lead to heavy scouring or the loss of sections of road. Additional to loss of aggregate, unsealed roads have minimum side drain depths, where if a slip occurs, water is forced across the road. This can lead to dropouts on the opposite side of the road. Given the narrow formation width, a dropout can have significant impact to Level of Service, with loss of access, or increased risk exposure.

Damage to Unsealed Road through Logging Activitv

Option analysis

Historically, under a measure and value contract model, roads were programmed on a cyclic basis and influenced by the underlying commercial drivers of the contract model. This could result in roads being graded or metalled even when it was not required. Following the establishment of the Tararua Alliance, the Level of Service has been tested and roads are now graded or metaled when required rather than to achieve specific quantity targets (i.e. length of road graded, or aggregate volume applied).

The frequency of grading and metalling of roads were altered, then monitored by field-staff in combination with the number of Customer Requests for Maintenance to determine the suitability of this approach. With little changes to the condition of the pavement and the reduction in complaints (as shown in the previous tables), the current Level of Service and intervention strategy is believed to be suitable.

Taking into consideration the above, only two options have been analysed for the unsealed road asset. One maintains the current approach for maintenance, renewals and safety improvements while the other increases funding for safety improvements.

Options Table

Unsealed Pavements			
	Previous NLTP (2021-24)	**Option 1: Network Need – Low Risk**	**Option 2: Proposed Level of Service (Preferred Option)**
		• No proposed funding change outside of allowance for cost escalation • Improved data collection & programming, and increased focus on drainage (from other budgets) • Allowance for the current cost escalation trend to continue	• No proposed funding change outside of allowance for cost escalation • Improved data collection & programming, and increased focus on drainage (from other budgets)
Maintenance	$1,875,794	$2,210,323	$2,046,595
Renewals	$2,585,141	$4,199,191	$3,888,140
Total	**$4,460,935**	**$6,409,514**	**$5,934,735**
Variance from previous		+44%	+33%

Preferred Option

Our preferred option is Option 2 – continuing with our current approach with a high level of running course application and grading to ensure a good quality network while focusing on increasing cross-fall to increase resilience of the asset.

This will bring the following benefits:

- reduced financial risk
- overall condition improvement
- asset consumption reduced
- improvement in customer satisfaction / reduction in CRMS
- improved safety and reduced risk of DSIs
- improved network resilience.

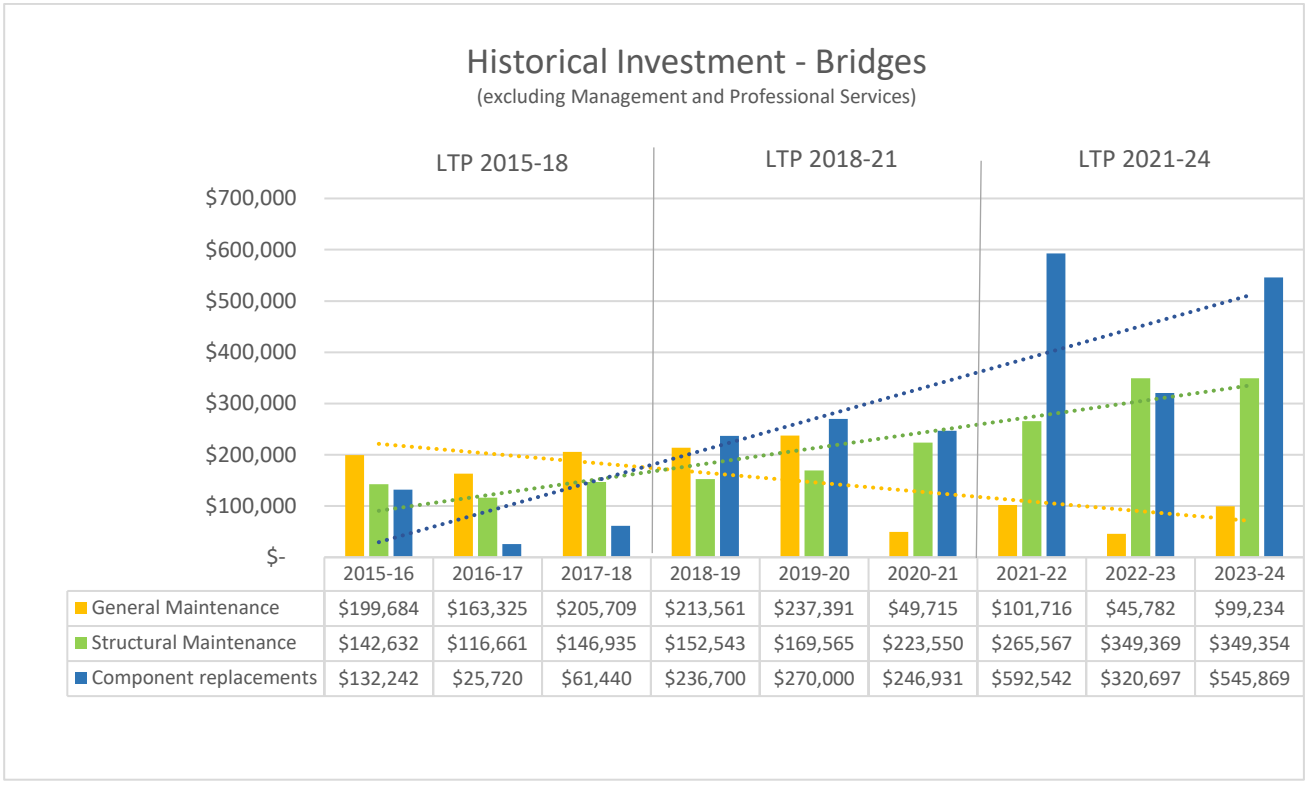
Alignment to Benefit Statements:

2024/27 NLTP Bid Outcome			
	Unsealed Road Maintenance	**Unsealed Road Metalling**	**Total**
2021-24 NLTP	$1,637,276	$3,110,512	$4,747,788
Requested	$2,306,920	$3,718,599	$6,025,519
Approved	$2,306,899	$3,199,971	$5,506,870
Aligning with the 2024 GPS priorities of improving pavement conditions, when taking into account inflation, our funding levels have been maintained for our unsealed network. This funding will allow us to maintain the current Level of Service for our unsealed network.			

3.3.5 Structures

Historical investment

Expenditure on the general and structural maintenance of our bridges remained relatively static over the period between 2015-2021, as work to improve the understanding of condition of the bridge stock took place. With improved information resulting from increased inspections on the aging assets, component replacement increased over the 2021-24 NLTP. With increasing focus and subsequent understanding of these assets, we are increasingly aware of the risks and steps we need take to address issues we face with our ageing bridge stock.



	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
General Maintenance	$199,684	$163,325	$205,709	$213,561	$237,391	$49,715	$101,716	$45,782	$99,234
Structural Maintenance	$142,632	$116,661	$146,935	$152,543	$169,565	$223,550	$265,567	$349,369	$349,354
Component replacements	$132,242	$25,720	$61,440	$236,700	$270,000	$246,931	$592,542	$320,697	$545,869

Bridges – current level of service (what are we currently achieving)

Having completed a study into the state of our bridge stock and with the data transfer into RAMM now complete, we now have easier access to bridge asset information and improved ability to analyse the data. Over the upcoming AMP period, the information now in RAMM will be used to build on our understanding of the condition of our bridge assets and better plan for and programme maintenance and renewals to achieve the desired Level of Service, to maintain the current posted rating on the bridge (not lowering current weight limits) and extend the life of the high value assets.

With many of our bridges nearing the end of design life, the updated information reviewed to date and supported by the increase in structural and component replacement, forecasted expenditure to maintain our bridges continues to trend upwards. This indicates we are identifying and repairing a greater number of issues with our structures. Increases in traffic volumes along certain routes are also putting pressure on the asset, with increased weights, over and above what they were originally designed for and increased frequency of use by heavy traffic.

With the increasing demand and stress on our bridge assets deterioration rates are likely to accelerate. If this continues, there will be a reduction in the Level of Service as bridges age.

Retaining wall condition – what condition are they in

Following identification and initial condition assessment of retaining walls, it has been identified that these are an 'Achilles heel' for the Tararua roading network. The increased frequency of high-intensity rainfall events has seen several walls sustain damage, which required extensive repairs. Over the 2021-24 NLTP, all identifiable retaining structures have been entered into RAMM. This allows us to actively manage and monitor these structures. With no prior asset inventory, historically, maintenance and renewals of these assets has been little to none. The asset inventory creates greater awareness of the vulnerable condition of these assets.

Link to problem statements

Large environmental events, whether storms or earthquakes, can lead to significant damage to our bridges and failures of retaining walls.

Resilience - Many of our district's rivers form the headwaters of larger catchments (i.e. Manawatū) however, during high intensity rainfall events our larger bridges tend to fare well as they are not having to manage the large volumes of water that those in the lower catchments face. Our smaller bridges are often impacted due to the rapid rise and fall of flow volumes leading to scouring of headwalls and abutments. Increasing intensity of rainfall and frequency of these events has increased the vulnerability of our bridge stock and is contributing to the resilience issues we have. This includes large scale scouring on approaches to bridges on River Road as a result of the storm events over 2022 and 2023, including Cyclone Gabrielle. Some of this scouring is nearing the point that river channels no longer align with the bridge itself, and it is likely significant work will be required to realign waterways following future events.

With an aging stock, the increased pressures on our bridges are leading to accelerated deterioration rates as well as restricting our ability to grow the district.

Safety - Growing traffic volumes due to the mobilisation of the rural workforce is increasing demand on our one-lane bridges. With a number of these near corners or in dips, there is increased likelihood of an accident occurring at these bridges.

Bridges across the district are generally narrow and have been built to support vehicles rather than mixed-modal transport (vehicles/bikes/pedestrians). Combine this with poor approach visibility, people can be discouraged to use alternative modes of transport such as bikes as there is an increased safety risk in doing so. Designating then developing cycle friendly routes is being considered to improve the network.

Links between our problems across the network and retaining walls are very similar to bridges, as they both perform a similar function enabling traffic to traverse our network. As a result of no retaining wall inventory, maintenance of these assets has been minimum, and our network is placed in a vulnerable state. Failure of retaining walls can lead to the road closures and costly remedial action, both financially and environmentally.

Options analysis

Based on the fault-data available and recent increases in bridge repairs and component replacement, it is deemed necessary to increase the investment in the bridge stock to ensure that the assets continue to meet the required Level of Service.

The retaining wall database is in its infancy and with limited data available to analyse, we cannot provide options to compare funding approaches. However, from the inspections completed and failures experienced, we do know that funding is required. Funding will allow us to repair the already stressed asset and reduce the likelihood of failures of this asset type.

Options Table:

Structures				
	Previous NLTP (2021-24)	**Option 1: Network Need – Low Risk**	**Option 2: Proposed Level of Service**	**Option 3: Long Term Implementation – High Risk (preferred option)**
		• Increase in retaining wall renewals and maintenance (6-10 structures renewed or restored to good condition annually) • Increased investment in bridge and large culvert renewal and maintenance (3-6 structures renewed or restored to good condition annually) • Allowance for the current cost escalation trend to continue	• Increase in retaining wall renewals and maintenance (3-5 structures renewed or restored to good condition annually) • Continued investment in bridge and large culvert renewal and maintenance (2-4 structures renewed or restored to good condition annually)	• Increase in retaining wall renewals and maintenance (2-4 structures renewed or restored to good condition annually) • Continued investment in bridge and large culvert renewal and maintenance (2-3 structures renewed or restored to good condition annually)
Maintenance	$1,424,874	$2,162,034	$2,017,898	$1,873,763
Renewals / Component Replacements	$1,459,108	$4,796,854	$3,048,667	$2,984,709
Total	$2,883,982	$6,958,888	$5,066,565	$4,858,472
Variance from previous		+141%	+76%	+68%

Preferred Option

Option 3 – Long-term implementation was selected as the preferred option due to it being the most affordable. This will see the following benefits:

- overall condition improvement
- improved resilience through reduced impact from weather events
- reduced asset consumption; good asset stewardship.

Alignment to Benefit Statements:

2024/27 NLTP Bid Outcome			
	Structures Maintenance	**Structures Component Replacements**	**Total**
2021-24 NLTP	$1,424,874	$1,459,108	**$2,883,982**
Requested	$2,069,511	$2,903,555	**$4,973,066**
Approved	$1,736,939	$1,929,932	**$3,666,871**

The 2024 GPS for Transport has shifted the focus towards activities that improve pavement condition. This has seen reduced funding available for structures maintenance and renewals.

Approved funding is below the level required to maintain the Level of Service and condition of bridges. We had also proposed to start proactive maintenance of retaining wall structures, which previously had been managed on a run to failure method (replace when required). Funding is not available for this; we will continue to see the gradual deterioration of retaining structures.

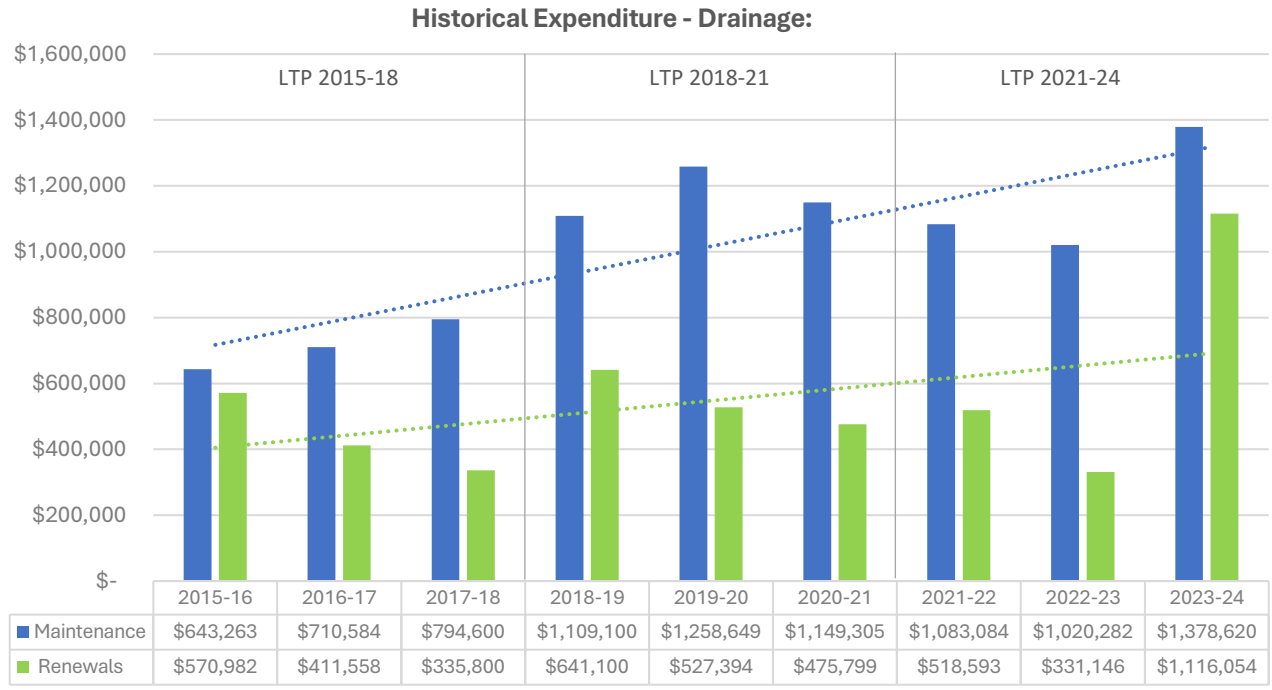
3.3.6 Drainage

Historical investment

Across the 2018-21 NLTP period, significant work went into updating the drainage asset inventory to allow for better management of these assets. This saw all known culverts and associated minor structures loaded into RAMM and assigned a unique asset identifier. With improved asset information, there has been increased investment in maintenance of this asset over the past few years. Our drainage renewals have been targeted towards culvert upgrades in conjunction with pavement rehabilitations to gain cost efficiencies. This allowed us to future proof the new pavements while maximising the opportunity to complete the works at low cost as establishment costs and surface reinstatement is covered by the rehabilitation works scope.

While investing in culvert replacements alongside pavement renewal works is a cost-effective strategy, it absorbs most of our drainage renewals budget.

Once renewals associated with pavement renewals have been completed, there is a minimal amount to proactively renew aging drainage assets outside of the main work programmes.



	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Maintenance	$643,263	$710,584	$794,600	$1,109,100	$1,258,649	$1,149,305	$1,083,084	$1,020,282	$1,378,620
Renewals	$570,982	$411,558	$335,800	$641,100	$527,394	$475,799	$518,593	$331,146	$1,116,054

Asset condition

Data quality

Over the past two years a full Asset Drainage Asset survey has been undertaken to improve the quality of our data. This action was required as our RAMM database previously had very limited information.

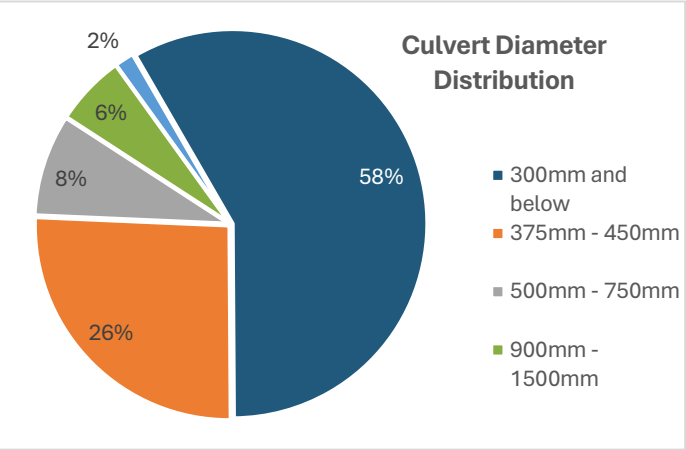
With the concerted effort to improve the data over the previous AMP cycle we are now confident with the information we have on this asset and are shifting to maintaining this information.

Culvert condition

With water from the surrounding surfaces collecting at the inlet points of culverts, they play a critical role in drainage systems. If this water is not able to pass through the culvert it backs up and will find alternative flow-paths. This can either be along the water channels, which can lead to scouring due to the increase in volume and speed of flow, or over the road, which can lead to damage to the road structure. In some cases, blocked culverts can lead to the complete loss of a carriageway formation. There is an inherent risk to our roads from having culverts in poor condition.

The largest focus of the data improvement action completed over the last two years was to refresh the culvert information. All culverts were located and numbered, with the database updated where required, and their condition assessed with follow up actions identified.

Analysing the data collected during the survey, combined with knowledge of how our drainage assets handle heavy rain events, we have identified issues with our culverts across the network.



58% of the culverts across the network are 300mm or less in diameter. With increasing volumes of rainfall and further increases likely due to the changing climate, these sized assets present a risk to the resilience of our network.

When travelling the network (and confirmed by the recent drainage inventory refresh) it is noticeable that culvert inlet and outlets are in a poor state. Prior to the refresh, culverts were not marked with identification pegs. With poor records of culverts, locating them for inspection and maintenance was a challenge and few having inlet/outlet structures (headwalls etc) they could easily become blocked by long grass/vegetation.

Many of our larger culverts are aged and in poor structural condition, and in need of renewal. Our biggest risk are the large culverts that are installed at great depth. If these were to fail, it can lead to significant repair costs and long periods of road closure.

By targeting our high-risk culvert assets, we can begin to minimise the risk profile and improve the resilience of our roading network.

Case study – 2017 culvert collapse

In April 2017, a cyclone caused significant damage across the Tararua district. One of our key access routes (Route 52) suffered the loss of a section of road, caused by the failure of a 900mm diameter culvert. The carriageway formation crossed a 15m deep gully and when it failed, water started to back up behind the fill embankment. Once water reached the top it crossed the carriageway and ran down the opposite side causing scouring that eventually led to the loss of the entire road. A stream had formed through the scoured gully at a depth of ~8m below the road surface. A pond had formed and had saturated the area making it difficult for machinery to access and excavate to culvert depth. With the onset of winter and costs mounting, a temporary road for 4wd vehicles was created and the site was left until conditions improved. The closure resulted in an additional 30km added for freight trips to the south. The cost to install a temporary road, drain the pond to allow the surrounding ground to dry, excavate down to and remove the failed culvert, install a replacement culvert, rebuild road formation and construct carriageway was $800,000.

Unlined surface water channel (side drains) condition

An unlined surface water channel is the drain running in parallel with the carriageway. Its function is to channel water away from the road to the natural water courses of the surrounding land. With Tararua having a predominately rural road network, most of our carriageways have these channels running alongside them. Maintenance is important, as saturation of a pavement can quickly lead to its failure. Cleaning drains is a relatively low cost but high impact activity.

Historically, many side drains were not formed at great depth and were not maintained well. As work occurs around the network these issues are gradually being rectified, but with a large network, there is much work to do in this space.

Over the period of the previous AMP, we made a concerted effort to get on top of high shoulder and water channel clearing. With increased focus on this maintenance activity, overall pavement maintenance costs can be reduced.

Lined surface water channels condition

Lined surface water channels are concrete kerb and channel or concrete dish-drains that predominately feature within the urban area. With high demands across our rural network, limited investment in funding is spent on this asset beyond cyclic maintenance and isolated minor repairs.

There are many issues with drainage within the urban stormwater networks that have a root cause outside of roading. Tararua District Council is in the final stages of developing an overall strategy to manage the combined Roading and 3 Waters Urban Stormwater networks. Once this strategy is in place and the root causes are addressed, greater focus will be placed on the lined surface water channels.

Sump condition

The sumps, which are located largely within the urban boundaries, were installed over 40 years ago. While these are not the modern pre-cast units found today, their condition is not of concern. As with lined surface channels, the wider urban stormwater network requires greater focus.

Drainage methodology

Following a significant amount of work to update the drainage data within RAMM, we now have adequate data to allow us to make informed decisions when it comes to drainage maintenance and renewals. Analysis of the data shows a need to alter the strategy for this asset and direct attention towards drainage assets, which present resilience issues for us.

The methodology for how we undertake drainage maintenance and renewals hasn't changed, but what assets are renewed will.

Current Level of Service summary

With increasing frequency of high-intensity rainfall events, the resilience of our drainage assets is being tested. In recent years we have identified drainage as an asset that requires an increase in funding to improve the asset condition to a suitable Level of Service.

A minimum size of 375mm diameter for culverts has been set for renewals to manage increased water-flows and protect the pavement assets. With over 58% of culverts sizes less than this diameter, there is much work to do to improve resilience. There has been a focus on ensuring surface water channels are maintained and a 7-year cycle of maintenance and renewal is underway to ensure each road has clear flowing water channels. This programme solely maintains surface water channels. With increased high-intensity rainfall events, many of the surface water channels are no longer fit for purpose, or natural ground infiltration is no longer sufficient to manage the volumes of water observed.

Link to Problem Statements – How is it affecting our problems

Our roading network is built on varying terrain and soil types of which some (sloping and clay type soils) are prone to slips and dropouts. With changing climate conditions and more frequent high-intensity rainfall events, the vulnerabilities within our drainage systems are exposed, with capacity limits being tested.

Following the creation of the drainage asset inventory over the 2018-21 NLTP, and analysis over the 2021-24 NLTP, it has been identified that our drainage assets are below optimum condition.

With varying different design standards across the district, the quality of infrastructure varies across the district, with assets in certain areas easier to manage/maintain than other areas. This has come about due to the priorities and methods of management of the previous Borough and County Councils that were in place prior to the creation of the Tararua District.

Investment is needed to improve the condition and function of the asset, both surface water channels and culverts. Investing in this area will reduce maintenance costs across other asset types such as pavement maintenance and reduce the financial and community impact from storm events.

Options analysis

The recent drainage inventory refresh identified 79 assets in very poor condition and 874 that are below our desired Level of Service and require intervention. This has been taken into consideration when developing our life-cycle cost options for our drainage assets.

With the asset considered to be in a 'stressed' state, a reduction in funding has not been considered. Three options have been considered when reviewing our approach to drainage maintenance and renewals and are presented in the following tables.

Options Table:

Drainage				
	Previous NLTP (2021-24)	**Option 1: Network Need – Low Risk**	**Option 2: Proposed Level of Service (preferred option)**	**Option 3: Long Term Implementation – High Risk**
		• Increase culvert clearing/unblocking (backlog cleared within 3 years) • Increase in SWC clearing and high shoulder removal • Increase in culvert renewals (backlog cleared within 3 years) • Allowance for the current cost escalation trend to continue	• Increase culvert clearing/unblocking (backlog cleared within 2 NLTPs / 6 years) • Increase in SWC clearing and high shoulder removal • Increase in culvert renewals (backlog cleared within 2 NLTP periods / 6 years)	• Increase culvert clearing/unblocking (backlog cleared within 10 years) • Increase in SWC clearing and high shoulder removal • Increase in culvert renewals (backlog cleared within 10 years)
Maintenance	$2,994,282	$7,220,250	$6,044,861	$5,541,122
Renewals	$1,910,810	$5,621,581	$3,952,674	$3,249,976
Total	**$4,904,756**	**$12,841,831**	**$9,997,535**	**$8,791,099**
Variance from previous:		+162%	+104%	+79%

Preferred Option

Option 2 is the preferred choice as it allows us to address drainage related resilience issues we face across the network.

Benefits (Option 2):

- overall condition improvement
- improved resilience through reduced impact from weather events
- minimised asset consumption - good asset stewardship
- increased pavement lives and reduced pavement maintenance over the long term
- improved safety and reduced risk of DSIs
- reduced financial risk.

Following workshops with Council, it was agreed that a mixed option of funding would be presented to NZTA, given the criticality of this asset in protecting pavement assets and reducing storm damage. This would see the mid-point between Option 1 (3 years) and Option 2 (6 years) become the preferred option for renewals of the stressed drainage assets.

Alignment to benefit statements:

2024/27 NLTP Bid Outcome			
	Routine Drainage Maintenance	**Drainage Renewals**	**Total**
2021-24 NLTP	$2,994,282	$1,910,810	$4,904,756
Requested	$6,763,175	$4,485,705	$11,208,880
Approved	$3,999,964	$1,999,983	$5,999,447

The approved funding is significantly less than what was requested, due to the lack of alignment with the 2024 GPS for Transport Priorities, which focuses investment on pavement maintenance activities.

The replacement of aged assets does not align with this priority. The significant reduction in funding will reducing in the burden of replacement of aging and undersized assets deferred to future NLTP cycles.

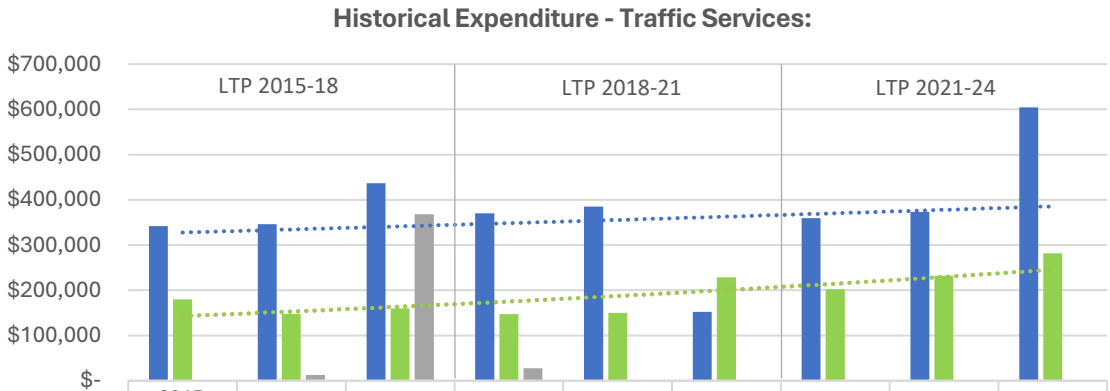
Funding provided is largely in line with the previous NLTP amount plus cost escalation. This will allow us to maintain the previous strategies for focusing maintenance and renewals around reseals and rehabilitations.

3.3.7 Traffic Services

When developing the options for the Traffic Service assets we have considered what the Tararua District has now then compare it to the national context of what is being promoted through the 2021 Government Policy Statement for Transport and other guiding documents.

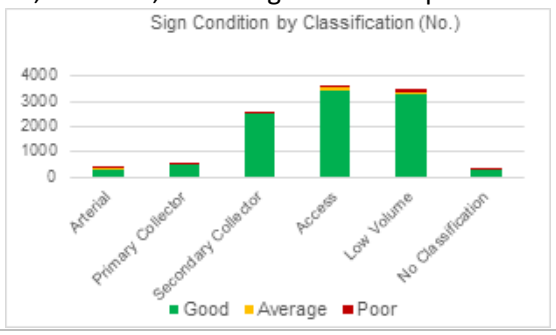
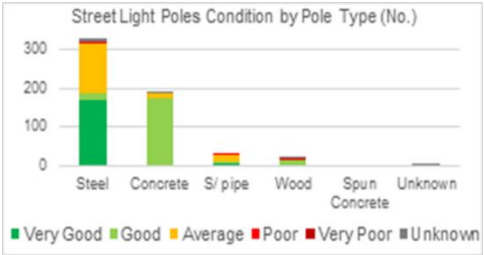
Historical investment

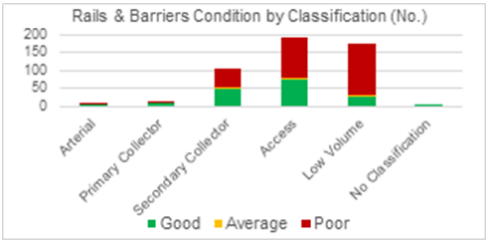
Investment in the Maintenance and Renewals of Traffic Services has remained relatively static over the previous nine years, with a focus on maintaining the current Level of Service. Over the 2021/24 NLTP and in line with the 2021 GPS, a signs standardisation project and speed zone changes saw an increase and improvement of the signage assets, however, due to the demands place on budgets after multiple storm events throughout 2022 and 2023, this project was only partly completed. Toward the end of 2023, the 2024 draft GPS for transport was released, indicating a reduced emphasis on safety improvements, including signage. These two influencing factors saw us defer the implementation of the speed zone changes due to potential changes.



	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Maintenance	$341,922	$345,956	$436,747	$369,957	$385,000	$152,134	$359,501	$372,652	$604,095
Renewals	$179,507	$147,933	$159,957	$147,497	$150,000	$228,944	$202,106	$232,264	$281,394
Street Light LED Upgrade		$12,960	$368,071	$27,672					

Asset condition

Signage	The 'All Faults' system is used to record identified defects in the sign stock. Using this defect data we can assign a derived condition using: • Assets with defects requiring renewal = Poor condition • Assets with defects requiring maintenance = Average condition • Assets with no defects = Good condition Less than 3% of the signs are in poor condition with 0.2% (one sign) being on arterial and primary collector roads. A formal condition rating is not considered cost effective due to the low value and risk to the asset, however, collecting all faults improves operational maintenance efficiency and renewals planning effectiveness. **Data quality** Confidence in the sign asset information is high, following a data collection and validation project carried out between 2016-2017. 
Line-marking	The condition of road markings is not assessed as a once yearly line-mark maintains the markings to an acceptable standard.
EMPs	Edge marker posts do not feature strongly within the Tararua District, historically these have been installed sporadically around the network and generally the placement has not conformed with NZTA MOTSAM delineation guidelines. The maintenance strategy for the upkeep of these assets has been ad-hoc. When a maker is damaged it is replaced, which further prolongs the inconsistency. Since the establishment of the Alliance, pavement renewal sites have had EMPs installed to MOTSAM and ONRC guidelines and maintained thereafter. This is slowly improving the Level of Service, but it is also contributing towards the inconsistency across the network as the number of these short sections grow.
Street Lighting	Following the upgrade of street-lights to LEDs, the condition of these assets has greatly improved. On-going maintenance of light fittings and renewals of poles will ensure these are kept in good condition. As shown by the chart, pole condition still requires focus. 

Rails & Barriers	The railing and guardrails across Tararua are in a 'stressed state', due to low levels of maintenance in the past and the sporadic nature of where and when these were installed. Most of the guardrails have bull-nose or fish-tail end treatment, which are now considered 'unsafe'.  Formal condition assessments are not completed on these assets with faults being identified as part of routine network and asset inspections. Utilising this data, we can derive an approximate condition rating by assuming: • Assets with defects requiring renewal = Poor condition • Assets with defects requiring maintenance = Average condition • Assets with no defects = Good condition

Current Level of Service summary

Signage	The current Level of Service provided by the signage assets is mixed. Regulatory and basic general Information signage is in good condition, but permanent warning signs such as chevrons feature sporadically about the district, and many are the old black and white type. Compared to other rural networks, we have limited signage to improve safety.
Line-marking	Line-marking consistency is considered to be an asset which requires improvement, with a low Level of Service across the district's roads, compared to other rural road networks in the surrounding districts. Over the 2021/24 NLTP, a project to increase line-marking on sealed roads was implemented, with corners on narrow sealed roads marked to increase safety.
EMPs	As with linemarking, the Tararua District has a very low Level of Service for edge marker pegs. Markers around the district are not installed to MOTSAM standards or align with the desired Level of Service established in guiding documents (ONRC). Over the 2021/24 NLTP there has been improvement in alignment, but with an expanding asset base it has not been seen as a priority as there is limited funding to continue maintenance of additional EMPs.
Street Lighting	There is no specific standard Council aims to achieve when it comes to lighting across the District, as guidelines are designed for larger metropolitan areas. A LUX (luminosity) survey recently complete identified many of the urban streets where lighting could be improved. This would require significant investment. Investment in additional street lighting is not seen as priority for the District's road infrastructure due to the ongoing maintenance, operations and renewal costs associated with additional lighting. Lighting is only considered where there is a critical safety risk.
Rails & Barriers	Rails and barriers are in a stressed state with little to no maintenance and renewal of the existing assets for many years. As part of the *Traffic Services Standardisation & Improvement Project* a new Level of Service is to be developed for this asset type.

Link to problem statements

The District-wide inconsistency across traffic services links directly to our problem statement of *"Inconsistent road form and ad hoc safety measures are resulting in a high risk of serious crash to motorists."* Devices designed to improve safety, such as chevrons, edge marker posts and sight-rails feature sporadically around the District and many are not installed to MOTSAM standards.

Line-marking is generally only found on the routes with high traffic volumes.

With a large percentage of our roads falling into the lower ONRC categories, following the guidelines for Level of Service will not result in a great deal of change. To address this, as we transition to the ONF, we are reviewing the network with specific focus on developing additional guidelines for where improved traffic service assets will provide the most cost optimal benefit to road user safety.

Options analysis

With traffic services having strong links to our problems of inconsistency, a reduction of Level of Service is not being considered for traffic services.

Options Table:

Traffic Services				
	Previous NLTP (2021-24)	**Option 1: Network Need – Low Risk**	**Option 2: Proposed Level of Service (preferred option)**	**Option 3: Long Term Implementation – High Risk**
		• Increased maintenance and renewals required due to growing asset inventory under LCLR and Road to Zero projects • Increase budget to account for increased damage from high winds and vandalism • Allowance for increased rail maintenance and renewals • Allowance for the current cost escalation trend to continue • Rail Crossing Maintenance based on actual costs charged to TDC by KiwiRail	• Increased maintenance and renewals required due to growing asset inventory under LCLR and Road to Zero projects • Increase budget to account for increased damage from high winds and vandalism • Allowance for increased rail maintenance and renewals • Rail Crossing Maintenance based on actual costs charged to TDC by KiwiRail	• Maintain the existing asset base, with improvement only implemented alongside renewals programmes. • No allowance for inflation • Rail Crossing Maintenance based on actual costs charged to TDC by KiwiRail
Maintenance	$1,664,528	$1,969,534	$1,715,400	$1,651,867
Renewals	$715,764	$868,084	$1,050,096	$694,467
Rail Crossings	$130,865	$107,726	$107,726	$107,726
Total	**$2,511,157**	**$2,945,344**	**$2,542,396**	**$2,454,060**
Variance from previous:		+17%	+14%	-2%

Preferred option

A modified version of Option 2 has been selected and endorsed by the elected members as the preferred option, to increase maintenance and renewals due to the growing asset inventory, and to increase rail maintenance and renewals activity.

Benefits include:

- Allows us to address specific safety concerns across the network in a low-cost manner
- Improves the consistency of the asset across the District.

Alignment to benefit statements

2024/27 NLTP Bid Outcome				
	Network Service Maintenance	**Traffic Service Renewals**	**Rail Level Crossing Warning Devices Maintenance**	**Total**
2021-24 NLTP	$1,664,528	$715,764	$130,865	$2,511,157
Requested	$1,418,504	$1,050,096	$107,726	$2,576,326
Approved	$1,368,808	$723,725	$103,952	$2,196,485

The 2024 GPS for Transport saw priorities change with reduced support for safety improvements, which includes traffic service devices.

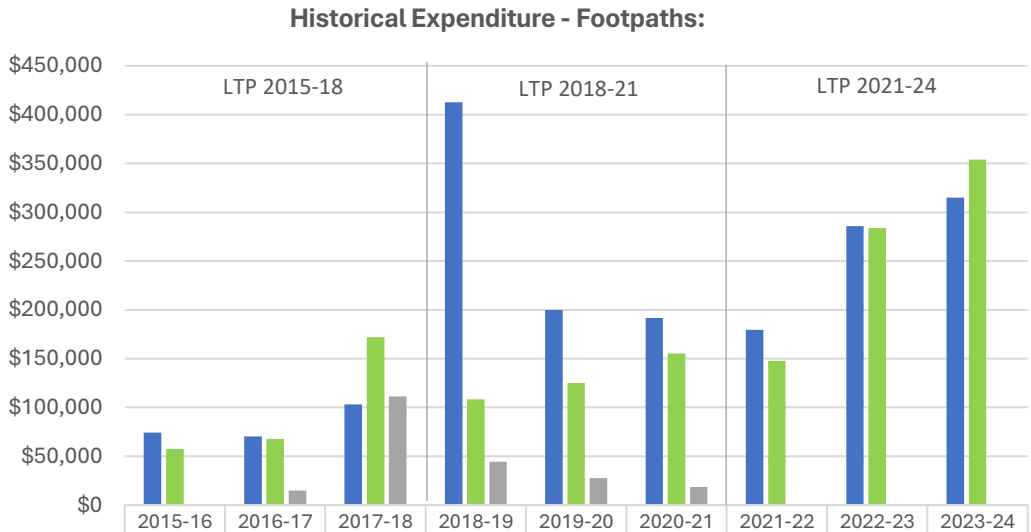
Funding available falls below that deemed necessary to maintain the current assets to the current condition. Ultimately, over the 2024-27 NLTP period the condition of traffic service devices will deteriorate.

Focus will be placed on maintaining regulatory signage (i.e. Stop signs, Give-way signs and speed signs) and reduced maintenance and replacements of non-critical devices such as street name blades, general information signage, guardrail and sight rails.

3.3.8 Footpaths, cycleways and carparks

Historical investment

Investment in footpaths has historically been low as it was funded entirely by rates. In 2018, with an increasing focus on alternative modes of transport the activity was subsidised through the NLTP, drawing increased funding. In the corresponding years, investment in the maintenance of the footpath assets has increased significantly.

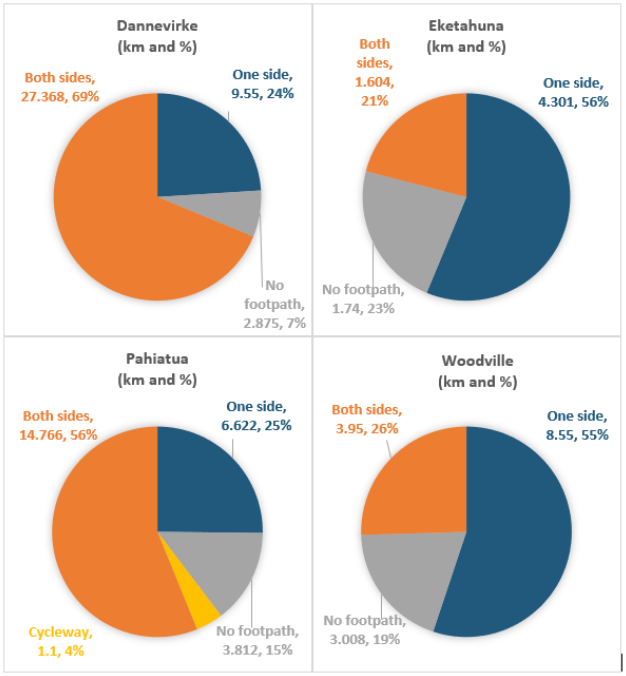


	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Footpath Maintenance	$74,113	$70,375	$103,089	$412,639	$199,832	$191,594	$179,411	$285,755	$314,831
Footpath Renewals	$57,453	$67,558	$171,829	$108,223	$124,953	$155,347	$147,553	$283,699	$354,037
Footpath Construction	$0	$14,973	$111,261	$44,301	$27,564	$18,573	$0	$0	$0

3.3.9 Current Level of Service Summary

Footpaths

Tararua District Council recognises there has been low investment in the footpath asset across the District. Having inherited a variable network from the amalgamation of the various Council boroughs, footpaths across the district provide a varying Level of Service, with Dannevirke and Pahiatua having wide kerb to boundary asphalt footpath. There is a lack of footpaths across the districts townships and is working to address this issue. The current strategy is to extend our footpath network and have a footpath along one side of the urban carriageway. Within the four major townships there is 11.4km of carriageway that currently has no footpath.



Customer satisfaction survey results

% 6-10	2024	2023	2022	2021	2020	Māori	All Other
Overall footpaths and walkways	63%	63%	61%	74%	78%	70%	60%
The availability of footpaths	72%	77%	76%	83%	83%	81%	70%
Footpaths in general	63%	67%	65%	74%	79%	71%	61%
Walkways in general	59%	61%	62%	79%	79%	74%	59%
The provision of dedicated walkways around the district	62%	61%	61%	79%	77%	75%	58%
How well footpaths are maintained	62%	62%	63%	70%	71%	69%	56%

The Customer Satisfaction Survey results show that satisfaction remains relatively steady over the 2021-24 NLTP period. There has been a slight reduction from previous 2018-21 NLTP period. This can be attributed to the increased focus on the walking and cycling activity.

NZTA investment audit recommendations around footpaths

In response to the NZTA Investment Audit Report recommendation to improve footpath assessment and condition ratings, the Tararua Alliance engaged Onsite Development Ltd to conduct a detailed inspection of the footpath network. This information has provided a better understanding of the condition of our footpath, compared to the visual inspections previously completed which required inspectors to walk the entire footpath network. The outputs from this inspection are being implemented into our forward works programme.

Onsite Development Ltd footpath inspection Moped

Given the change in methodology of fault collection, comparing the fault data within RAMM and the data collected by Onsite Development Ltd is not possible due to how the two datasets are recorded.

However, the outputs show that 3% of the footpath network is below the preferred Level of Service, along with 653m2 of footpath categorised as a risk to safety. Safety faults are related to vehicle entranceways.

Fault Severity	No. of Faults	Area of Faults	% of total network
3 – Monitor	3672	20965m2	6%
4 – Intervention Required	1087	8448m2	3%
5 – Safety	72	653m2	0%
Fault Total	**5083**	**30,066m2**	9%
		Total Footpath Asset Area	329,994m2

Property entranceway issues

A large majority of safety related footpath faults are due to poor condition vehicle entranceways. Tararua District Council does not own vehicle crossings (from edge of carriageway to boundary), and it is the property owner's responsibility to maintain them. The maintenance of these can be an area of dispute, as residents often expect Council to repair the entranceway while undertaking footpath repairs. Council has a policy to repair the section of entranceway where the footpath crosses only. If the whole entranceway was repaired Council would inherit a significant financial burden, as many of the entranceways are old and poorly constructed (AC or chipseal with minimal pavement depth).

Example of poor condition Vehicle Entranceway that is affecting the condition of footpaths

Walkways and cycleways

With only 1.1km of dedicated cycleway in the District and increasing demand for this mode of transport, expansion on this network is being explored. Tararua District Council has recently released a "Visitor and Walk-cycle Strategy and Action plan" for the development of walkways and cycleways across the district.

There is one project proposed which would see an expansion of the Walkways and Cycleways network is to create a cycleway between Woodville and Ferry Reserve, which is located at the eastern end of the (now closed) Manawatū Gorge. If this route is created it will address an issue of narrowness along the State-Highway and provide important safety benefits for cyclists. This project is being partly progressed alongside the Te Ahu a Turanga – Manawatū Tararua Highway project. This will see a path formed between Woodville and the Eastern Roundabout of the project. The remainder of the project may progress during the Revocation project which will see the old State-Highway 3 section of road leading up to the Manawatū Gorge reverted back to a local road. This may see an expansion of the walkway and cycleway network expanded over the 2024-25 NLTP.

Carparks

The Tararua District Council actively maintains 28 offroad carparks across the District as part of its Transport Activity. There are other minor carparks managed via facilities that are excluded from NLTP consideration.

Much of the civic area has formed roadside parking, with most of these parks along the State Highways, with the pavement component managed by NZTA and line marking maintained by Tararua District Council.

Link to problem statements

Footpaths and cycleways link to our problems statement of "Limited options for walking and cycling and low service levels, combined with a lack of public transport results in high vehicle use within Tararua's urban towns and villages, increasing the risk of accidents for vulnerable users and impacts on the environment," which linked to the 2021 GPS strategy of developing better travel options. Development of alternative modes of transport have not been a focus of our transport strategy in the past.

With a limited ratepayer base, a lack of footpath network in urban spaces and a cycleway network so small it barely registers, development of these assets must also contribute to the economic prosperity of the District. The development of the *"Walk-Cycle Strategy and Action Plan"* was a way to contribute to Government Policy Statement objectives of promoting alternative modes of transport and Councils' economic development goals.

The creation of new carparks in areas where people congregate also improves the safety of people.

2024 GPS for Transport update

The revised GPS saw a shift in priorities, with significantly reduced emphasis on the Walking and Cycling Activity.

The 2021 GPS for Transport Walking and Cycling activity saw focus placed on:

- activities to improve uptake of walking and cycling for journeys to main urban destinations
- investment to improve the level of service and increase uptake for walking and cycling
- new walking and cycling infrastructure that improves the level of service for journeys to main urban destinations
- activities to promote shared and active modes of transport
- footpath maintenance.

The 2024 GPS for Transport states:

- Investment in walking and cycling should only take place where there is either clear benefit for increasing economic growth or clear benefit for improving safety and where there is an existing or reliably forecast demand for walking or cycling.
- Investment in walking and cycling is expected to contribute to economic growth and productivity.

To achieve this, project specifications should take a "no frills" approach and funding should be directed to reduce congestion and/or improve pedestrian safety.

There was limited alignment between the 2021 GPS for Transport Priorities and the Tararua District's Priorities for Transport.

Options analysis

With a small population with comparatively low use of the footpaths compared to centres with higher populations, the Tararua District Council doesn't consider it a priority to significantly expand our walking and cycling options.

There is desire to reduce the deficit of footpaths in Woodville and Eketahuna compared to Dannevirke and Pahiatua (see previous Pie-diagrams) if funding is available. The Tararua District

walking and cycling priorities are seeking to improve the condition of footpaths across the district and achieve consistent and appropriate safety standards.

One key consideration during the 2024-27 NLTP is to address safety concerns related to poor condition vehicle entranceways. Tararua District Council has previously considered these to be the property owners' responsibility, however, had limited ability to force upgrades of these, and the majority were developed before suitable engineering standards were adopted.

With increased emphasis on the walking and cycling activity in the 2021 GPS for Transport, Council have agreed to take control of the safety issues created by poor condition vehicle entranceways and increase funding to repair the asset where it crosses the footpath.

Options Table:

Footpaths and Cycleways				
	Previous NLTP (2021-24)	**Option 1: Network Need – Short Term Implementation**	**Option 2: Network Need – Medium Term Implementation**	**Option 3: Network Need – Long Term Implementation**
		• Council to take on ownership/responsibility of vehicle entranceways (over footpaths), through increased maintenance funding • Renew current condition C4 & C5 assets within 3 years (this NLTP period) • Increased maintenance budget to account for new walkways • Allowance for the current cost escalation trend to continue	• Council to take on ownership/responsibility of vehicle entranceways (over footpaths), through increased maintenance funding • Renew current condition C4 & C5 assets within 6 years (2 NLTP periods) • Reduced maintenance budget to account for additional renews • Allowance for the current cost escalation trend to continue	• Council to take on ownership/responsibility of vehicle entranceways (over footpaths), through increased maintenance funding • Renew current condition C4 & C5 assets within 10 years • Allowance for the current cost escalation trend to continue • Reduced maintenance budget to account for additional renews
Maintenance	$1,619,810	$1,325,412	$1,230,740	$1,230,740
Renewals	$0	$5,727,674	$3,029,514	$1,940,782
Total	**$1,619,810**	**$7,053,086**	**$4,260,254**	**$3,171,522**
Variance from previous:		335%	163%	96%

Preferred Option:

With increased emphasis on this asset class, the elected members endorsed an Option 2 with Condition 4 and 5 renewals spread over 8-year time period. This change spreads the financial impact to rates over a longer period.

Benefits include:

- overall condition improvement
- improvement in customer satisfaction / reduction in CRMs
- improved safety and reduced risk of slips/trips/falls
- reduced impact on the environment through greater footpath use and less light vehicle emissions

Alignment with Benefit Statements:

2024/27 NLTP Bid Outcome			
	Footpath Maintenance	**Footpath Renewals**	**Total**
2021-24 NLTP	$1,619,810	$0	$1,619,810
Requested	$1,156,119	$2,860,155	$4,016,274
Approved	$648,000	$0	$648,000

Our proposed investment in the Walking activity would have seen significant improvements in the footpath network across the district, with a large renewals programme proposed.

Due to the realignment of the 2024 GPS priorities, we have seen a significant drop in subsidised funding, with funding for maintenance of footpaths significantly reduced and no funding received for footpath renewals.

This reduction in funding eliminates the ability to complete any improvements to the footpath network, and general maintenance activities reducing to the bare minimum.

Over the 2024-27 NLTP period, the focus is to be solely of safety related issues. No routine inspection will occur of the footpaths, with the only inspection being a condition assessment completed to assess the needs for the next NLTP.

Tararua District residents should expect a reduced Level-of-Service with regards to footpaths.

3.3.10 Environmental Maintenance

With an extensive roading network spread over a wide variety of terrain types, managing the environment provides one of our greatest challenges within Tararua.

The routine activities (moving, high-reach vegetation control, roadside spray) performed as part of this Work Activity are visually more noticeable than many of our other road maintenance activities, as they add to the amenity value of the district. However, the most important benefit that this activity provides are benefits to safety e.g.: maintaining sight line visibility for traffic through the mowing of grass. As a result, our strategic approach to this activity and funding is highly important.

Routine operations

The Tararua District operates both Subsidised and Unsubsidised activities as routine environmental maintenance activities.

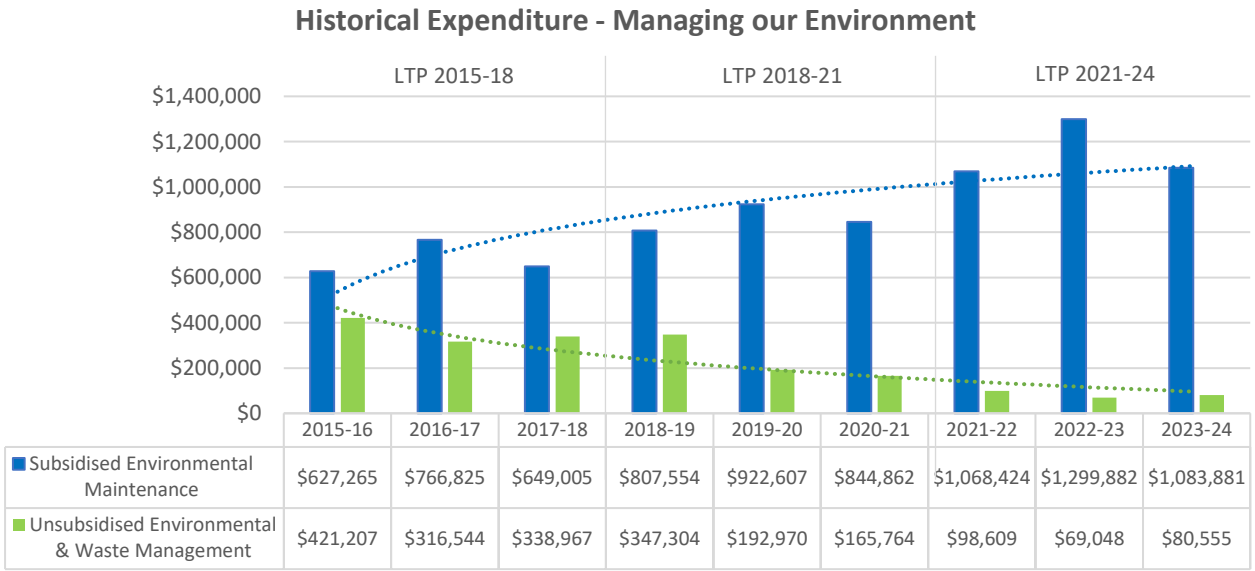
Subsidised activities include;

- Roadside Mowing
- High-reach vegetation control
- Roadside Spraying

The budget for the Routine Operations of subsidised Environmental Maintenance activities has been increased in recent years to improve the Level of Service. The increased in investment is targeted towards activities that will protect the condition and improve function of other assets.

Unsubsidised activities include;

- Noxious Weed spraying
- Drain clearing outside of the road reserve
- Waste management (rubbish bins)



	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Subsidised Environmental Maintenance	$627,265	$766,825	$649,005	$807,554	$922,607	$844,862	$1,068,424	$1,299,882	$1,083,881
Unsubsidised Environmental & Waste Management	$421,207	$316,544	$338,967	$347,304	$192,970	$165,764	$98,609	$69,048	$80,555

Emergency Event Recovery

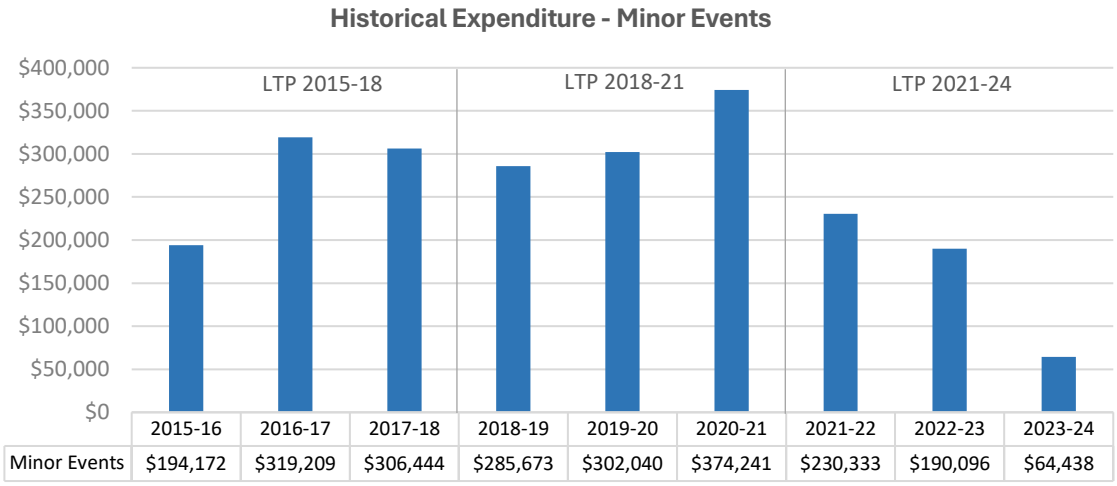
Minor Events

This Work Category allows for response and recovery addressing minor, short-duration, sudden events that cause urgent safety and access problems on part(s) of the transport network. Examples of activities considered to be Minor Events are;

- removal of rocks and slip material from roads, public footpaths and cycleways that have resulted from minor events
- repairs to road, public footpaths and cycleway surfaces in response to minor events
- restoration of network facilities damaged as a result of a minor event.

NZTA funded criteria states that Minor Events are those where in total the damage to the network is valued less than $100,000 and are funded at the standard Financial Assistance Rate (FAR). Events with a total value over $100,000 are considered Emergency Events and are funded at a higher FAR.

As shown by the following chart, there has been significant increases in Emergency work, with 2022-2024 being exceptional. This sharp rise is associated with Cyclone Gabrielle and its impact on the roading network.



	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Minor Events	$194,172	$319,209	$306,444	$285,673	$302,040	$374,241	$230,333	$190,096	$64,438

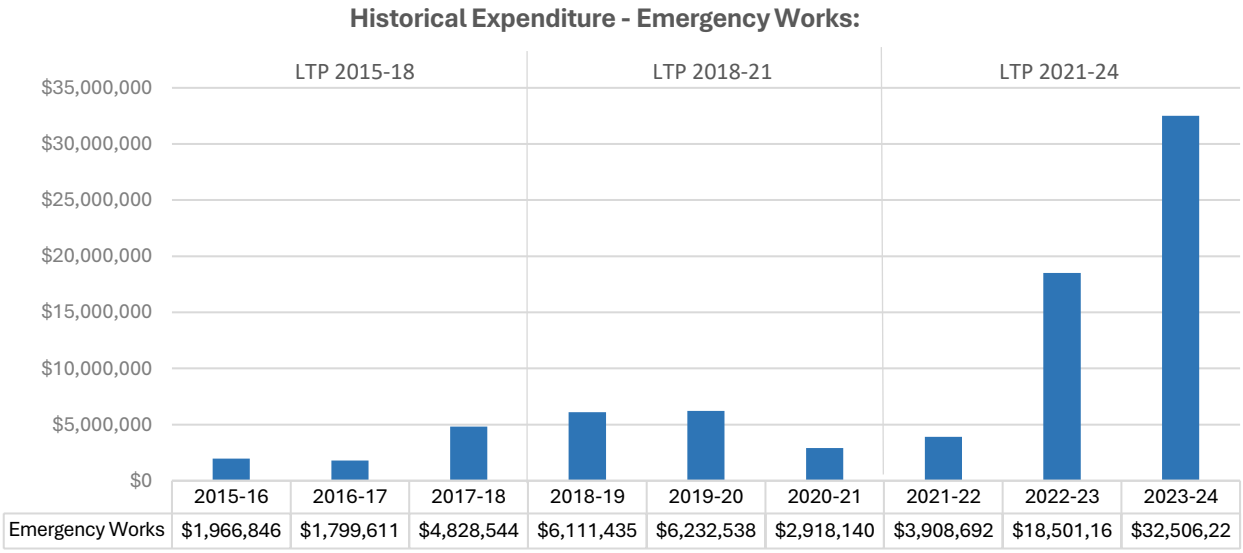
Emergency Works

This Work Category allows for the Initial Response and Recovery activities required to restore the network to an appropriate Level of Service following to address the impact of major, short-duration, sudden events that cause urgent safety and access problems.

NZTA funded criteria states that Emergency Works are those where in total the damage to the network is valued greater the $100,000 and are funded at the standard Financial Assistance Rate (FAR). Events with a total value over $100,000 are considered Emergency Events and are funded at a higher FAR.

At time of writing, Emergency Works is funded at an enhanced FAR of +20%* over the Tararua District's normal FAR (currently 73% +20%).

**Note: NZTA are currently reviewing the enhanced FAR, where they propose to reduce the enhanced rate to +10%*



	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Emergency Works	$1,966,846	$1,799,611	$4,828,544	$6,111,435	$6,232,538	$2,918,140	$3,908,692	$18,501,16	$32,506,22

Current level of service summary

Mowing and High-reach Vegetation control: With increasing health and safety obligations and increased Traffic Management requirements, the cost of Mobile operations (such as mowing) has steadily increased. Tararua District Council have been attempting to operate within existing budgets for a number of years by altering Level of Service (for vegetation control, but with an increasing number of CRMs for mowing and high-reach vegetation control, we are no longer meeting the customers' LoS expectations.

Roadside Spraying: Over the past 2 years we have revised the approach of this activity. The revision is expected to reduce cost of maintenance for other assets such as Surface water channel clearing and culvert inlet/outlet clear. This is not immediately noticeable as growth takes a number of spraying cycles to get on top of. We believe the current approach will address the issues faced and is suitable at this current point in time.

Debris and Litter Control: With more frequent minor events, low cyclic mowing frequencies and increasing costs, the budget for Detritus and Litter control has been exceeded for a number of years now. To fund the shortfall, funds for vegetation control has been transferred. If the current LoS is to be maintained, increased funding must be allocated to this activity.

Minor Events and Emergency Works: Minor and Major events can have huge impacts on our network. Across the 2021-24 NLTP the Tararua District experienced 10 Emergency Events that resulted additional funding sort and received through the Emergency Works category.

Minor Events and Emergency Works funding allows for the reinstatement of previous Level-of-Service taking into account modern design standards.

Link to problem statements – how is it affecting our problems

Routine operations

The routine activities undertaken as part of Environmental Maintenance assist in keeping or network clean, tidy and safe. With a large rural network, narrow winding roads and a large number of single-lane bridges, overgrown vegetation compromises the Safety of People, by reducing sight distances and traffic being forced towards to the centre of the road.

Environmental Maintenance activities promote Economic Prosperity as a clean and tidy district improves people's perceptions of the Tararua and encourages people to want to live or visit here. They also allow other asset types, such as side-drains and culverts, to function to at capacity, thus improving resilience and security of our network.

Reactive operations – minor events and emergency works

In recent years, Emergency Events have been the greatest contributor to our problems within the Tararua District. With increased intensity and frequency of these storms, the resilience of our network is being tested. Following high-intensity rainfall events, many of our roads sustain heavy damage with closures or access restriction in place for significant lengths of time. The closure of roads puts the Safety of People at risk as they may not be able to access medical services, or medical services may not be able to reach them.

Severed Freight Connections and the cost to recover from the events impact the economic prosperity of the district. Following storm events, the environment is also impacted. Closures lead to an increase in emissions, as road users are having to use longer routes to reach their destinations. Additional to this, the disturbance required to repair damaged section of roads impacts flora and fauna.

While these events are naturally occurring, large storm events impact the environment, our economy and our people in a significant way. With no physical assets associated with Environmental Maintenance, focus on improving the resilience of other asset groups such as Drainage and Structures, can limit the impacts on our district.

Option analysis

Although many of our problems are linked to storm damage and the associated costs are managed as part of this group, we can only influence the costs associated with Routine Maintenance.

The options we have considered largely influence the safety and amenity of our network and are:

Routine operations

1. Maintain the current LoS within a normal inflationary environment
2. Maintain the current LoS within a high inflationary environment

Minor Events

1. With increasing frequency of storm events, we propose to increase the amount of funding to cover Minor Events.

Options table:

Environmental Maintenance			
	Previous NLTP (2021-24)	**Option 1: Normal inflationary environment (preferred option)**	**Option 2: High inflationary environment**
		• No proposed change to current Routine Maintenance LoS • 20% increased allowance for Minor Works due to increased severity and frequency of weather events across the district	• No proposed change to current Routine Maintenance LoS • Allowance for high-cost escalation trend to continue • 50% increased allowance for Minor Works due to increased severity and frequency of weather events across the district
Maintenance	$3,671,898	$4,039,807	$4,265,494
Minor Events	$991,366	$1,896,989	$2,417,854
Total	$4,663,264	$5,844,606	$6,683,348
Variance from previous		+25%	+43%

Preferred Option

Option 1 being to maintain the current LoS was selected as the preferred option, which provides the following Level-of-Service.

- Roadside berm mowing (rural sealed) – 2 x per year
- Roadside berm mowing (rural unsealed) – nil
- Heavy vegetation / high reach cutting – every 2 years
- Roadside vegetation spraying (urban) – 4 x per year
- Roadside vegetation spraying (rural sealed) – 2 x per year
- Roadside vegetation spraying (rural unsealed) – 1 x per year
- Surface detritus and litter removal – as required
- Increased allowance for Minor Events

Alignment to Benefit Statements:

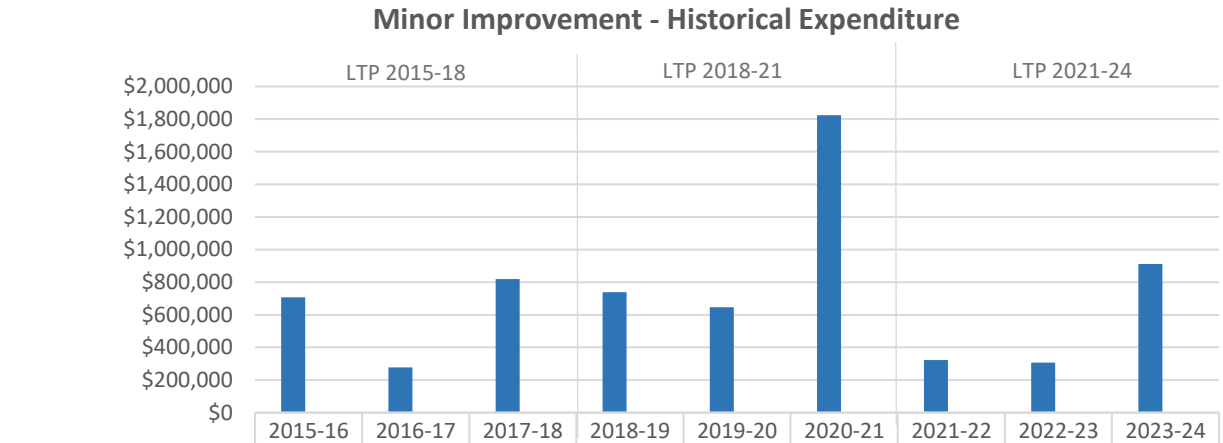
2024/27 NLTP Bid Outcome			
	Environmental Maintenance	**Minor Works**	**Total**
2021-24 NLTP	$3,671,898	$991,366	$4,663,264
Requested	$4,039,807	$1,896,989	$5,936,796
Approved	$3,898,277	$1,157,959	$5,056,236

Funding for Routine Environmental Maintenance has largely been approved. We will seek to maintain the current Level-of-Service for programmed activities, with minor reductions in in response times to tasks such as litter collection.

The reduction in Minor Events allowance reduce the ability to response to minor events. This will see increased requirements to gain additional Emergency Works funding if we are to maintain the current condition of road network.

3.3.11 Low Cost, Low Risk roading Improvements

As part of the NLTP bid process, we have the opportunity to submit to NZTA Low Cost Low Risk programmes. These are projects that improve our network or target specific challenges that are not directly funded through other Work Categories. NZTA assess these against the GPS for Transport and other Local Authority submissions. Over the past years, our investment has ranged between 1% and 7% of the overall budget spend each year.



	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Minor Improvements	$707,363	$277,215	$818,824	$738,674	$646,934	$1,822,93	$321,500	$305,768	$910,646
% of Total Expenditure	5%	2%	4%	4%	3%	7%	1%	1%	2%

What do we want to do

Road Safety

In line with the 2021 GPS for Transport, over the next funding cycle we propose to focus on projects related to safety.

The standardisation of signage and delineation across our network continues to be a priority. With the merger of multiple boroughs and counties into what is now the Tararua District there is a lingering difference in the way each area approached safety. The project seeks to standardise signage and delineation across the district to provide a consistent journey for road users.

With the 2021 GPS for Transport promoting safer speed limits, we seek to continue improve the safety around schools by modifying the speed limit for those areas in line with NZTAs changes to speed limits.

Local Road Improvements – General roading

Alongside renewal activities, we propose to continue to improve the road network through widening of narrow roads, easing of corners and shape correction works for to improve Out-of-Context curves.

Local Road Improvements – Network Resilience

The impacts of multiple storm events throughout 2022 and 2023 has highlighted the vulnerability of the Tararua Districts roading network. With significant investment in storm repairs, especially follow Cyclone Gabrille, the Tararua District Council see additional investment in minor resilience improvement as a key step in reducing the burden of future storm events.

This project would see;

- undersized drainage infrastructure improves, and culvert outlet protection install to reduce the potential for dropouts to form due to culvert blockages or culvert outlet scouring.
- Water diverted away from unstable downslopes through in the installation of new culvert infrastructure and forming of earth bunding where water running over the edge of downslopes can lead to dropouts.

2024/27 NLTP Bid Outcome				
	Road to Zero	**Walking and Cycling Improvements**	**Local Road Improvements**	**Total**
2021-24 NLTP	$650,000		$917,473	$1,567,473
Requested		$100,000	$5,465,000	$5,465,000
Approved		$0	$0	$0

Nationally, due to budget restrictions, NZTA was requested to restrict Low-Cost Low-Risk projects to those only with high alignment with the 2024 GPS priorities and projects that were in progress, or those already committed (contractors signed up).

The projects promoted did not align with these criteria.

NZTA has advised that additional funding may be made available over the course of the NLTP, with this in mind, we will continue to seek to have Local Road Improvements funded.

4. How we manage the Transport Activity

4.1 Managing our Assets

With a combined value of $791M, the roading network and its associated assets has the highest net worth of all the infrastructure types Tararua District Council has responsibility over. It also influences the greatest amount of people of any infrastructure group, with most residents and visitors using it daily.

To gain maximal efficiencies and long-term value for money, the roading network is managed with a holistic asset management focus. This means all assets are linked operationally and strategically, so how we manage/maintain one asset type and its lifecycle can influence how other assets perform.

Balancing the maintenance cost over the course of individual assets lifecycle against wider strategic asset objectives is the challenge this section intends to address.

4.1.1 Network lifecycle management

Infrastructure asset management is the combination of financial and economic management across the entire lifecycle of an asset, the application of engineering principals to maximise an assets lifespan, and other practices with the objective of providing the best value LoS for the costs involved. The lifecycle of infrastructure can be described by the following phases:

- **Creation** (design, construction and commissioning)
- **Operation** (managing, maintaining, renewing)
- **Disposal** (removal, decommissioning, divesting)

The Strategic Environment outlined in Section 2 of this document guides our decision making when it comes to the creation and operation of our transportation infrastructure. To minimise costs our intent is to limit the creation of assets, as well as proactively maintain existing assets in a manner that will not place undue burden on future generations of the Tararua districts ratepayers.

4.2 How the Activity is delivered

4.2.1 Management & Delivery of Road Maintenance activities

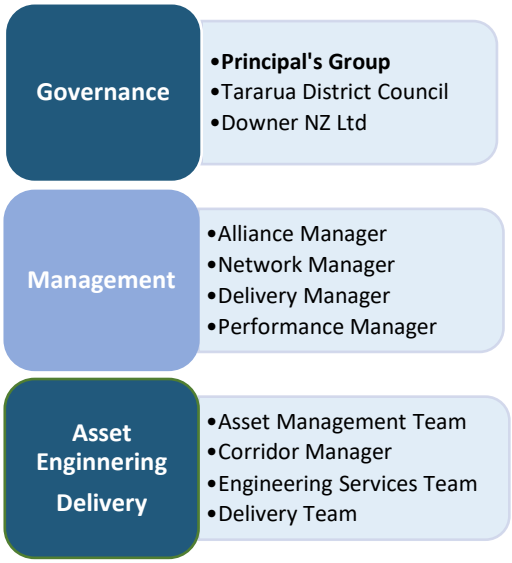
Road maintenance and capital works form the largest component of the Tararua District Councils procurement of transportation services. For maximum effectiveness and efficiency, TDC's whole road corridor maintenance contract is carried out by a single entity - the Tararua Alliance. This entity model is a "pure alliance" / shared risk (advanced) Public/Private Partnership delivery model, where the supplier selection method is quality based.

Established in 2014, the Tararua Alliance is an unincorporated joint venture between Tararua District Council and Downer NZ Ltd and is responsible for managing all aspects of the transport network, from the high-level management (development of long-term strategies and plans) to the physical day-to-day delivery of road maintenance activities. Initially established over a 5 year term between 2014-2019, the term of the Tararua Alliance was extended through until the end of June 2029.

4.2.2 The Tararua Alliance

The governance of the Tararua Alliance is overseen by the Principal's Group which comprises of Senior Council Staff, Downer Senior Management, as well as NZTA representatives. The Alliance itself is overseen by an Alliance Manager who reports to the Principal's Group. The Alliance Manager is supported by a Network Manager, Delivery Manager and Performance Manger, with who oversee the Asset Management Team, Engineering Services Team, Delivery Teams, and Performance Team. These teams then oversee the operational component of the Alliance (the day-to-day running). Details of each parties' roles are provided in the following table.

Roles and responsibilities within the Alliance are spread across both Council and Downer staff, working as one team in a shared office based at the Oringi Business Park located between Woodville and Dannevirke.



Network Management

Management of the transportation network and short and long-term planning for physical works is the responsibility of the Tararua Alliance Network team, including the Asset, Engineering and Corridor Management activities.

Asset Management Team

The Asset Management teams role is to maintain our asset inventory, monitor the network condition and trends then develop physical works programmes to meet the desired Level of Service (LoS) established through this document and its overarching documents.

A clear understanding of both the capacity demands, which drive LoS, as well as an assets capability to deliver on those demands is critical to allow for the effective management of the transport network.

RAMM is used utilised for a single source of truth for all network inventory information. RAMM is an internationally recognised Asset Management software tool used by Road Controlling Authorities, including NZTA across New Zealand. It is a live database and is used to store and analyse asset data, record, and monitor faults and programme/track physical works.

To plan for physical works, an understanding of network condition and the condition of its physical assets is required. This knowledge is gained through several channels. Information can be sourced externally through the Customer Request for Maintenance (CRMs) process; or developed internally through Network Condition Assessments, Traffic/Pedestrian Surveys, and Network Inspections. The primary source of information is gained through Network Inspections with condition and fault data stored in the RAMM All-Faults Database.

Engineering Services Team

The Tararua Alliance's Engineering Services team provides the majority of Design and Engineering requirements for the roading operation. Given the relatively isolated nature of the Tararua District, having an in-house engineering team provides significant cost efficiencies to Council (compared to outsourcing these services) through enabling "fit-for-Tararua" solutions to be developed. The in-house team undertakes Draughting, Geometric Design, Survey, Quality Assurance Testing and Structural Engineering (inc. Bridges) for the Alliance.

Corridor Management

The corridor management team are responsible for the monitoring of activities within the roading corridor, this includes the approval of Corridor Access Requests (CAR), review and approval of Traffic Management Plans (TMPs) and review of development proposal to ensure they meet the requirements of the District Plan and other relevant standards. The corridor management team also monitors contractor's activities for compliance with the approved plans.

Delivery of Road Maintenance

The Tararua Alliance's Delivery Team undertake all operational service delivery requirements for the Tararua District Council. Operational plans are developed in conjunction with the Network teams to ensure the Asset Management strategy is implemented.

Physical delivery of works are performed through a combination of Downer NZ staff within the Alliance, as well as Sub-contractors engaged for specific activities.

Procurement

TDC's Procurement Framework guides sourcing and contracting arrangements for Tararua District's roading activities. This includes a Waka Kotahi – NZTA endorsed Transport Activity Procurement Strategy 2023-2026[5] which factors in the Waka Kotahi – NZTA Procurement Manual and legislative requirements relating to procurement. The Waka Kotahi – NZTA Endorsement Letter is attached within Appendix D – Procurement Strategy Endorsement Letter.

Performance Management

Tararua District Council manages the performance of the Tararua Alliance (and therefore Downer as the supply chain partner) through the financial and non-financial performance mechanisms embedded within the contract.

Part of the Tararua Alliance contract, financial and non-financial performance measures have been developed to enable and measure the Tararua Alliance's market competitiveness, value for money, and continuous improvement. An overview of these performance measures is included within Appendix E: Tararua Alliance Performance Framework – 2024.

The Performance Manager monitors the Network and Delivery teams and provides statistics and data through to the Tararua Alliance's Principals Group to allow visibility of performance.

Third party auditors regularly review and assess the Tararua Alliance to ensure it is meeting the requirements of a Local Authority and is operating in a cost-efficient manner.

Risk Management

TDC's Risk Management Framework is incorporated into the Tararua Alliance's management of roading activities, including application of the risk management policy and procedures.

The council's Strategic Risk Register is regularly reviewed and reported on through the Council's Audit and Risk Committee and includes a number of risks that directly relate to roading activities. These risks and mitigations are outlined within Appendix C – Strategic Risk Register (as at July 2024).

Over this next AMP period there will be further work undertaken to develop and actively manage a specific Asset Management Risk Register.

[5] TDC Transport Activity Procurement Strategy 2023-2026

4.3 Data and Information Systems for the Activity

The Tararua District Council and Tararua Alliance use a variety of tools to manage Asset Information and enable the effective and efficient management of the Roading network.

4.3.1 RAMM

Roading Assessment and Maintenance Management (RAMM) is used to hold asset data on most of the physical assets that support the transport activity. This includes data on age, maintenance history, technical specifications, inspection records, survey data and visual inspection records. The pavement treatment selection algorithm is used to support the development of short-term renewal profiles and indicative short-term maintenance programmes for pavements and surfacing using this asset data. Timely entry of faults on the network and as-built information from programmed works are entered into RAMM by contractors.

The data quality within RAMM is measured based on its accuracy, completeness, and timeliness. The data is also measured on its adequacy for reporting against the ONRC key issues and asset management.

Network inspections and the all-faults database

Condition surveys and asset assessments are undertaken based on an inspection regime with data entered into RAMM. This has been further explained in Section 6 – Lifecycle Management.

4.3.2 Crash Analysis Data (CAS)

NZTA Waka Kotahi's Crash Analysis System (CAS) is used to record crash data which in turn is used to compare and monitor crash trends over time. This data is used to predict and prioritise safety improvements for roading maintenance and project works. Cash data is uploaded into RAMM and subsequently into the ONRC PMRT tool.

4.3.3 Network Modelling

The Tararua Alliance's Asset team utilise a variety of tools to monitor asset condition and build short and long-term Forward Works Programmes.

The two predominant performance modelling tools utilised are dTIMS and Junoviewer. With each provide different "focal lengths" or forecast accuracy. All-Faults are the main inputs to run the model along with other data inputs, situations when Data currency are not up to mark the team will be using High speed data to compensate the data gaps in all-faults.

To assist with short (1-3 year) and long-term (3-10 year) planning cycles, two models are run using dTIMS (Downer will be migrating to a new modelling platform called Julia soon) to assist in planning

These models are:

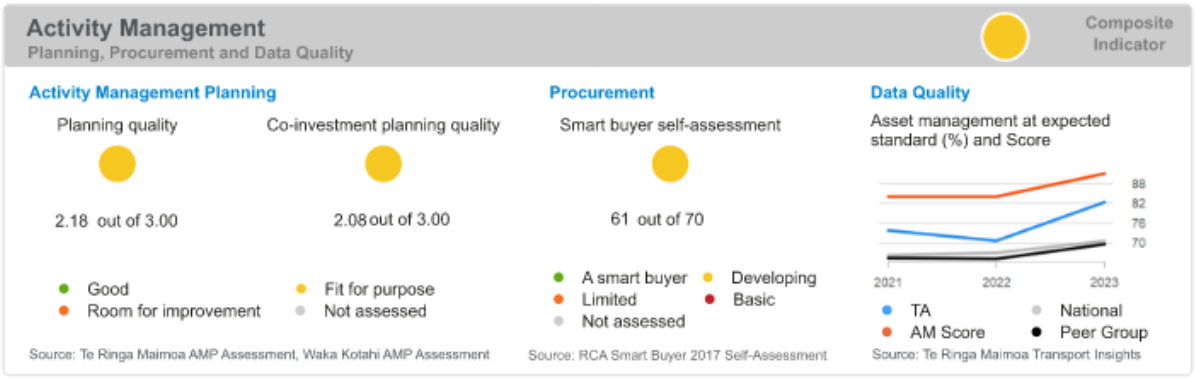
1. The NZ IDS model/junoviewer model – Run on a 3 yearly cycle prior to NLTP / LTP bid round. This is used primarily to support and justify the NLTP funding application process and give in-depth understanding of long-term network needs
2. Tararua District Optimised model – Run annually, this model is designed to optimise on maintenance need and integrated drainage (surface water channel), pavement and surface renewals programmes. The final model output is delivered with three different budget scenarios (Current, optimised, and unconstrained budget) to plan and update the programme

The two models provide comparative perspectives and provide complementary views which result in a deeper understanding of network performance. Using these two approaches provides a broader understanding of wider influences that impact of deterioration of the network.

4.3.4 Asset Management Performance - Transport Insights

Developed and managed by Te Ringa Maimoa - The Road Efficiency Group (REG), Transport Insights is a national tool that uses information uploaded from RAMM and manually entered auditing information to monitor individual Councils against specified customer and technical levels of service. It can also report on Council's performance compared to similar transport networks around the country. The Transport Insights Portal is under continual improvement, with dashboard reporting being developed from high level customer outcomes performance to detailed data confidence performance.

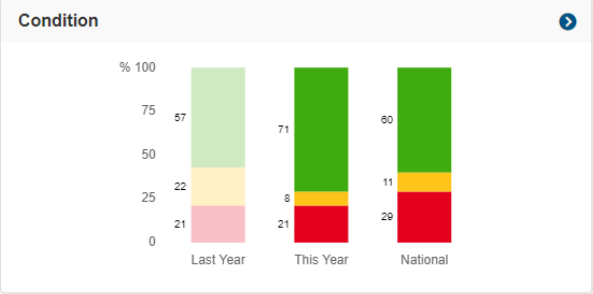
The chart below shows Tararua District 2022-23 Transport Insights assessment report of the management of the Transport Activity.



The report shows that the Tararua District Council are operating in a Fit for Purpose manner, and performing better than the National and Peer Group average.

Transport Insights Condition rating data

When reviewing the condition of our network, between 2022-23 and 2023-24, there has been an improvement in condition. Our network is also performing better than the national average.



NZTA Investment Audit 2022

This was completed between 10-13 October 2022, with the results reported back to Council in December 2022.

The audit identified the need to improve line of sight between the Council systems, outputs / information into NZTA Transport Investment Online and the Tararua Alliance systems, who submit claims to Council. The audit also identified the need for further collaboration between the finance team at Council and the Finance Manager within the Tararua Alliance. Further collaboration will allow for optimization of processes between the Downer financial systems, Tararua District Council financial systems and NZTA Transport Investment Online portal.

Since this audit, a process has been put in place to regularly reconcile TDC transactions against Downer financial systems.

NZTA Emergency Works Procedural Audit 2023

An audit was undertaken between 21-22 August 2023 with results reported back to Council in October 2023. The audit identified good financial processes to separately identify emergency works activities and the sample of expenditure items tested were eligible for funding assistance. The audit identified a need for Council to ensure that any work procured outside of the Alliance agreement is

adequately documented in the asset management system. While the likelihood of this situation occurring again in future is low, the audit recommendation will be adhered to if it does.

NZTA Technical Audit 2019/20

The last NZTA Technical Audit was completed between the 21-24 October 2019. The Executive Summary is provided as follows:

> *Tararua District Council's road network is generally well managed and in acceptable condition, despite a challenging terrain. Works are completed to a good standard of quality and effective, innovative treatments are being applied.*
> *Systems around data recording and reporting require strengthening to ensure reliable and accurate data for decision making. Condition rating is a mandatory requirement of Waka Kotahi NZ Transport Agency (the Transport Agency) and must be reinstated.*
> *The annual number of deaths and serious injuries (DSIs), listed in New Zealand's Crash Analysis System (CAS) as occurring in Tararua District, has been relatively stable since 2012/13, but there was a marked increase since 2017 on arterial roads (due to traffic diverted from state highway 3 closure).*
> *There is however scope for some road safety improvement, particularly around providing consistent delineation and hazard marking.*

Steady progress has been made on actioning the recommendations of the audit, including an Asset Data quality improvement plan to allow for improved decision making, as well as the development of the Signs Standardisation Project.

Some of these improvement works have been placed on hold as a result of the increased demands on budgets and the Asset Management team following the 13 storm events across 2022 and 2023, including Cyclone Gabrielle, with priorities shifting temporarily. Work will continue through the 2024-27 NLTP period to further improve systems and processes.

The Tararua District has a Technical Audit scheduled in October 2024.

5. Levels of Service

The Tararua District Council are currently operating under the ONRC customer Levels of Service outcomes, developed by industry through the Te Ringa Maimoa – previously the Road Efficiency Group. These have been established for each road classification and Council have set targets for travel time reliability, resilience, safety, amenity, and accessibility outcomes.

Comparison against initial targets set by Te Ringa Maimoa and against peer group councils suggest the district is currently delivering mid-range service levels overall. Improvements are required in safety and resilience.

Over the 2024-27 NLTP, the Tararua District Council are seeking to develop and refine the Levels of Service in line with the One Network Framework (ONF). This may include a differential Levels of Service for extra low volume roads to accommodate the rural nature of our network.

LOS outcomes	Current performance	Risks of not investing	Implications of not investing
Safety 	• Collective Risk across TDC controlled roads is comparable or lower to Peer Group councils • Personal Risk poorer than Peer Group average	Increased likelihood and consequence of incidents	Increasing number of death and serious injury crashes, and crashes overall
Resilience 	Very high network vulnerability to weather events, resulting in road closures and increased costs	Increased likelihood and consequence of weather events	More frequent network outages, reducing accessibility and economic productivity, and increasing reactive costs
Amenity 	For Access and Low Volume Roads (82% of TDCs road network; • Smooth Travel Exposure trending towards reduced LoS • Peak Roughness trending towards improved LoS • Average Roughness poorer than Peer Group and Regional average	Deterioration of network	• Reduced customer satisfaction • Reduced tourism opportunities
Accessibility 	• Structures capacity information currently limited and being addressed, likely to result in an increase of roads inaccessible to HPMV and 50MAX vehicles • Available data shows 4.5% of network is not accessible to 50MAX vehicles	• Loss of access on road network. • Lower potential for economic growth.	Reduced economic productivity for the district, region and NZ Inc.
Cost efficiency 	Percentage of sealed network resurfaced and rehabilitated per year lower than National, Regional and Peer Group average	• Network becomes unaffordable to maintain and renew due to a higher proportion of the network being outside Customer Level of Service • Asset consumption	Increased rates, reduced levels of service, differed costs impacting future years/generations

6. Lifecycle Management

6.1 Management and delivery of transportation services

The Transportation Activity is managed and delivered by the Tararua Alliance, an unincorporated joint venture between the Council and Downer NZ Ltd. Responsibilities of the Tararua Alliance include management of all Transport assets, short- and long-term planning for the maintenance and renewals of assets, the delivery of physical works to maintain and renew assets and the management of compliance obligations for operators on the network.

The Strategic Environment outlined in the previous section of this document guides our decision making when it comes to the creation and operation of our transportation infrastructure.

The Tararua Alliance is responsible for the management of all transport assets, from Creation through to Disposal as well as the physical delivery of Maintenance and Renewal activities.

The Tararua District's Asset base is grouped to allow for the effective management of similar assets. These groups are defined by the type of asset they are, function they serve, or the type of activities undertaken to maintain the network in general.

Groups are split into various Work Categories (WC), which are separated into the specific activities undertaken in the group (e.g. Maintenance / Renewals), those activities which draw NZTA Subsidies, and those which Tararua District Council must fund themselves. This separation is required for financial purposes, due to the different funding avenues i.e. Subsidised/Unsubsidised – Maintenance/Renewals. Additional to financial tracking, the work categories allow NZTA/TDC to monitor outputs and compare performance across Roading Authorities in New Zealand.

	Group	Description and NZTA Work Category
Asset Based	**Sealed Pavement**	A surfaced carriageway, including pavement structure and chip-seal or Asphalt surface. WC 111: Sealed pavement maintenance, WC 212: Sealed road resurfacing, WC 214: Sealed road pavement rehabilitation, WC 325: Seal extension
	Unsealed Pavement	A carriageway with a gravel surface. WC 112: Unsealed pavement maintenance, WC 211: Unsealed road metalling
	Structures	Large man-made structures which allows the transport network to cross natural features (Bridges) or supports the carriageway (Retaining Walls) WC 114: Structures maintenance, WC 215: Structures component replacements, WC 322: Replacement of bridges and structures
	Drainage	Roadside drains or small structures (culverts) which allow water to flow away from or under road formations. WC 113: Routine drainage maintenance, WC 213: Drainage renewals
	Traffic Services	Features of a transport network which enhance safety and provide guidance to road users (sign, line-marking, safety railing)

		WC 122: Traffic services maintenance, WC 222: Traffic services renewals
	Footpaths, Cycleways and Carparks	Formed paths for pedestrians and cyclists and Carparks. WC 125: Footpath maintenance, WC 124: Cycle path maintenance, CPR: Unsubsidised Carpark Maintenance
Activity Based	**Environment**	Activities undertaken to control the natural environment the transport network or restore the network to an acceptable Level of Service following an event which impacts the road formation. WC 121: Environmental maintenance, WC 140: Minor events, WC 141: Emergency works, ENV: Unsubsidised Environmental & Waste Management
	Network and Asset Management	Provides for the general management and control of the road network and management of road assets including public footpaths and cycleways and associated facilities. WC 151: Network and asset management
	Low Cost, Low Risk	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 $1,000,000. WC 341: Low cost, low risk roading improvements

6.2 Asset creation

Assets are typically created as a response to growth pressure or changes in the desired level of service. The creation of new transportation infrastructure is either by capital works undertaken by Council, or assets created by developers then vested to Council.

In general, the following can be used as a guide to when Council will create a new asset;

- Where there is a high risk of accidents, and a new asset will reduce the risk;
- When network resilience is compromised by not having an asset in place; or
- isolated storm damage significantly impacts the Level of Service; or
- when the long-term maintenance costs are expected to be lowered through the creation of the asset; or
- when regulatory changes require us to create a new asset.

Our broad strategy is to restrict the growth in the creation of assets, as well as proactively maintain existing assets, in a manner that will not place undue burden on future generations of Tararua ratepayers.

6.2.1 Vested assets

Over time, with population movement and changing economic demands, development occurs around the district. This development can lead to private entities creating new roading assets for which Council will take responsibility for in accordance with planning rules and regulations.

Within this NLTP period it is expected that the number of assets vested to Council is to increase as new subdivisions are formed.

6.3 Network and Asset Management

The Work Category Network and Asset Management covers all costs associated with the management and planning for the maintenance and renewals of Tararua District's Transport Assets. Activities can include:

- management of the road network
- promotion and information activities (network user information – see below) that maximise the efficiency of the road network in support of the activity management plan
- implementation and operation of road asset management systems
- regular, routine updates to the activity management plan
- roughness and condition rating surveys
- traffic count surveys, including pedestrian and cycle counts
- road network inspections and field validation of proposed programmes
- routine refreshing of the asset deterioration model
- maintenance and routine updating of transport models
- special road maintenance, renewal or improvement related studies that do not fit the transport planning work categories' description, e.g. KiwiRap studies
- professional services for road maintenance activity classes other than for operational traffic management and emergency works.

Current Outputs

Network and Asset Management activities are enablers to the delivery of the roading level of service. Since 2014, through the Tararua Alliance, the Tararua District has been on a journey to optimise Asset Management processes. Through the adoption of standardised methods for Asset Management, asset maturity and data quality has increased greatly which has allowed more confident decision making to be performed. Through this activity traffic counting, Roughness and High Speed Data (texture and rutting) surveys are performed that are inputs into decision making processes and compliance activities.

The 2024-27 NLTP sees significant changes to how outputs are measured, with NZTA implementing the Consistent Condition Data Collection project (CCDC), and an Asset Management Data Standard (AMDS).These initiatives allow for better alignment and review of Local Authorities activities across New Zealand.

With constantly improving digital tools to assist with modelling and planning of road condition, practice has shifted from a reactive to proactive approach to managing the road network and the ability to make that happen comes from solid planning that can be delivered well ahead of time. By ensuring plans are delivered early the operational delivery side of the Tararua District Council derives great benefit from being able to plan activities ahead of time and gives confidence and early warning of their ability to deliver the programme of works.

Our efforts in focusing on data quality have also shown consistent improvement with the latest results showing us ahead of the national average, and peer group. This coupled with the ongoing effort to increase accuracy in the capture all our assets see us getting a clearer and clearer picture of our network. This accuracy also contributes to more accurate modelling and future planning for the network.

Asset Management Maturity Assessments undertaken annually have shown that Asset Management practices in the transport space are sitting in the "Proficient" Category and at 68.7% and are high enough to be considered for ISO 55001 accreditation.

Consistent Condition Data Collection project

The Consistent Condition Data Collection (CCDC) project, in conjunction with the sector, will improve both local and national asset management planning and decision making by:

1. Developing national data standards, specifications and methodologies to ensure consistent condition data collection, accuracy, processing and management.
2. Establishing a national approach to data management and quality assurance to ensure consistency.
3. Undertaking condition data collection of some assets on behalf of RCAs to meet new requirements using modern international technologies.

The expected benefits include:

- better lifecycle management and performance
- enhanced asset management decision making
- improved road safety outcomes
- value for money in both data collection and forward programmes.

The Asset Management Data Standard AMDS

The Asset Management Data Standard (AMDS) is a data standard that informs activity management decisions for transport so we can plan and implement activities which deliver services as expected for the cost expected. It is a common language that describes the service, impact, and asset lifecycle across the transport system.

The standard will create a structure that will ensure the consistency of collection of data. This will enable Road Controlling Authorities (RCAs), Waka Kotahi NZ Transport Agency and the transport sector to collect better quality data, helping them meet asset management goals.

Development of the standard and implementation approach is a joint collaboration between Waka Kotahi, RCAs, maintenance contractors and service consultants.

AMDS offers a consistent, integrated approach to data structures and asset management. It enables:

- better asset data acquisition and analytics
- better management of land transport asset data
- greater opportunities for sharing and collaboration.

This consistent, spatially enabled evidence base helps:

- forward work planning
- strategic asset management
- improved sector-wide investment decisions.

The AMDS is one of the building blocks to enable a digital engineering approach by providing an agreed set of definitions, labels, categories and data requirements for land transport assets across New Zealand. With the increased Government emphasis on infrastructure the AMDS will build on the maintenance work to date, including additional zones and multi-modal assets as part of capital projects, providing the asset information requirements.

Network inspections and the all-faults database

The Asset team within the Tararua Alliance are responsible for the development of work programmes in-line with approved budgets. Network Inspectors within the team travel the network on a cyclic basis to identify faults and defects across all assets. Faults identified through these inspections are entered into the RAMM database (referred to as the "All-faults Database").

Each fault should have the following information stored against it;

- Asset type the fault relates to
- The primary cause of the fault
- The severity of the fault
- The dimensions of the fault
- The proposed treatment to repair the fault
- Photographs or other media to clearly show the fault.

The condition assessment prioritisation (Severity) guidelines from the National Asset Management Steering Committee (2011) have been adopted. These are outlined below:

- Very good condition - no fault is recorded.
- Minor fault - Identified fault is above the LoS but is recorded to allow deterioration monitoring. The threshold for data capture is that the fault would need treatment before a reseal can occur.
- Moderate fault - Fault is safe and is below the desired LoS. The fault would not be repaired in isolation, however if a similar activity was programmed nearby these faults would be considered for repair.
- Requires intervention – Fault is now a defect and is below the requirements of the LoS. Intervention is required within the appropriate response time for the asset type.
- Unsafe – Defect is significantly below the LoS threshold for safety and requires an immediate intervention either through temporary repair or site management.

The asset type, its location and the type of fault/repair method will determine if it will be repaired in isolation, rectified as part of a wider work programme, or left to deteriorate. The determining factors will influence whether it will be treated as part of Route Maintenance or as a Renewal.

6.4 Road Pavement and Surface

6.4.1 Our sealed roads

The purpose of the sealed road network is to provide effective movement of goods, produce and people across a safe and suitable all-weather surface.

Our aim is to provide sealed roads that are appropriate to their location and position in the network hierarchy; functional in terms of skid resistance, noise level and smoothness of ride; and have a structure suitable for the current and future loading demands.

Maintaining our sealed pavement network is the primary activity for which the majority of our transport budget is committed too. With a limited base of funding and a large network to maintain, careful prioritisation of sealed road activities is required to satisfy the expectations of our road users for a consistent, accessible and safe sealed road network.

Our primary industries of Agriculture and Forestry rely on our sealed roads to get product to market, therefore any lowering of LoS for our sealed pavements can greatly impact our districts economic viability.

Failure to maintain our Sealed Pavement assets appropriately will have lasting impacts on future generations.

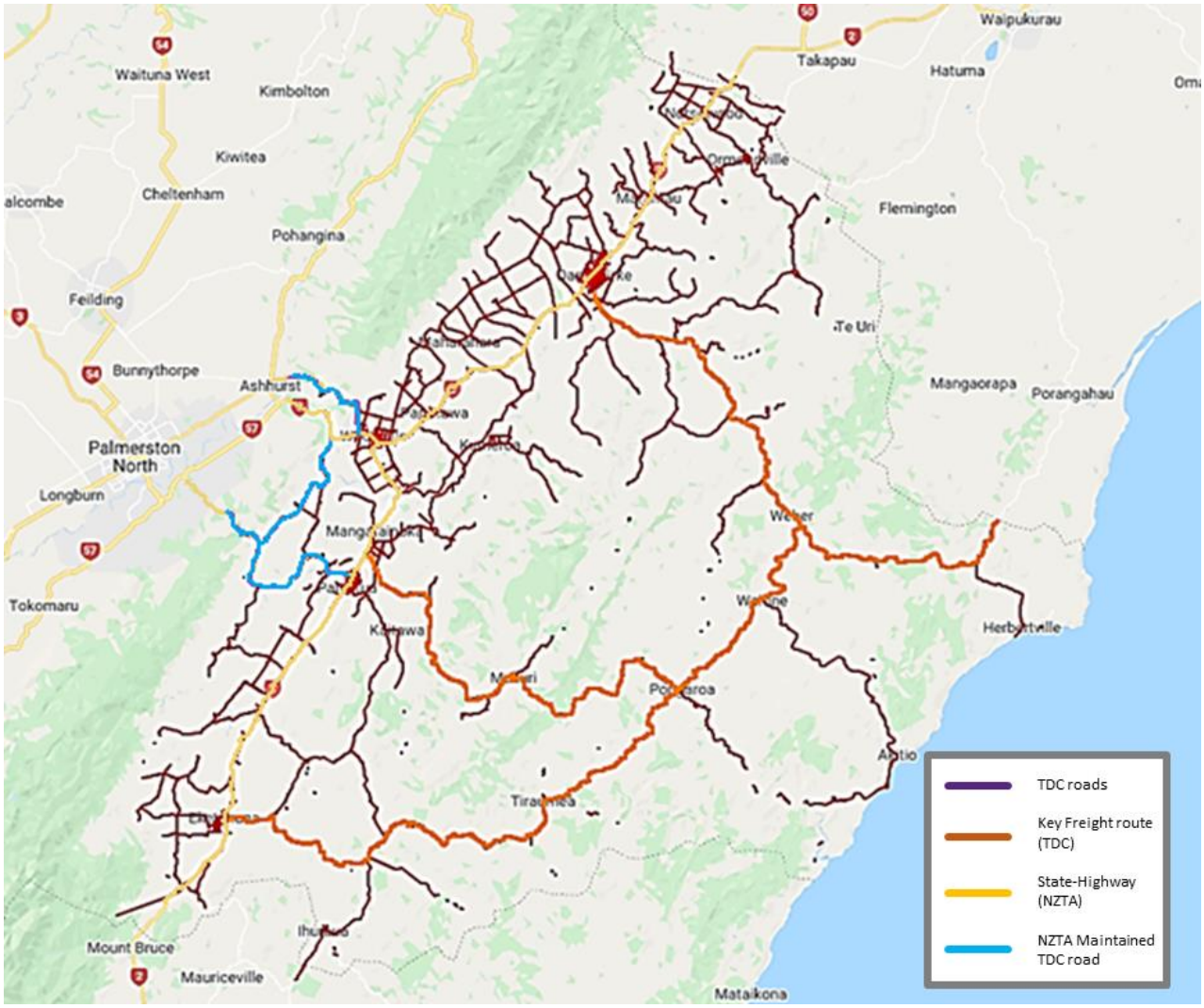
Asset inventory

The Tararua District Council owns and operates 1,187 kilometres of sealed roads throughout the district and run over a wide variety of terrain types.

In the east where the State Highway 2 network spine runs, the roads run through rolling hills to the north and over river plains in the south. These have the greatest traffic volumes, as this is where much of our population live.

The roads towards the west run through rugged gorges, mountainous terrain, and end along the coast. The roads in the east, although few, provide the critical connections to our important Primary Sector Industries of Agriculture and Forestry.

The wide variety of terrain types spread throughout the district provided with us multiple challenges to maintain LoS on the sealed road network.



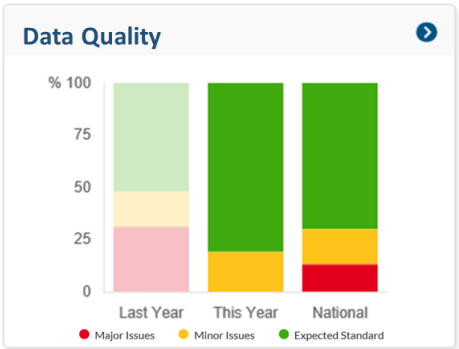
Most of our sealed pavements have chip-sealed surfaces with the average age of surface being 18 years old. Only 0.1% or 3.7km are surfaced with Asphaltic Concrete (AC). These AC surfaces have an average age of 24 years and are likely to be chip-sealed once surface renewal is required. This is due to the cost of replacement.

Asset data quality

With this asset group being of such high importance and our biggest asset based on value, our sealed pavement asset data is managed closely.

The Transport Insights tool allows us to compare data quality across other NZ transport networks. The reporting tool shows that our data quality is better than average when comparing ourselves to other rural districts.

As shown in the table opposite there has been a large improvement in recent years. This reflects the amount of work that has been put into improving our data quality over the period of the last AMP cycle.



Asset condition – what state are our sealed roads currently in?

As with many rural transport networks across New Zealand, parts of our network have been built to a high standard and perform well. Other parts of our network have underlying issues and present on-going maintenance challenges.

Our sealed road asset resilience is closely linked to the geological features of the district. With easy access to quality Greywacke aggregates along the river flats in the west, these roads, if built well, broadly perform better than the ones to the east. The roads in the east are built on ground that is prone to movement due to the geologically young and rugged clay-based nature of the soils they are situated on. These roads are also more commonly built with locally sourced softer material, which do not perform as well as the river aggregates in the west.

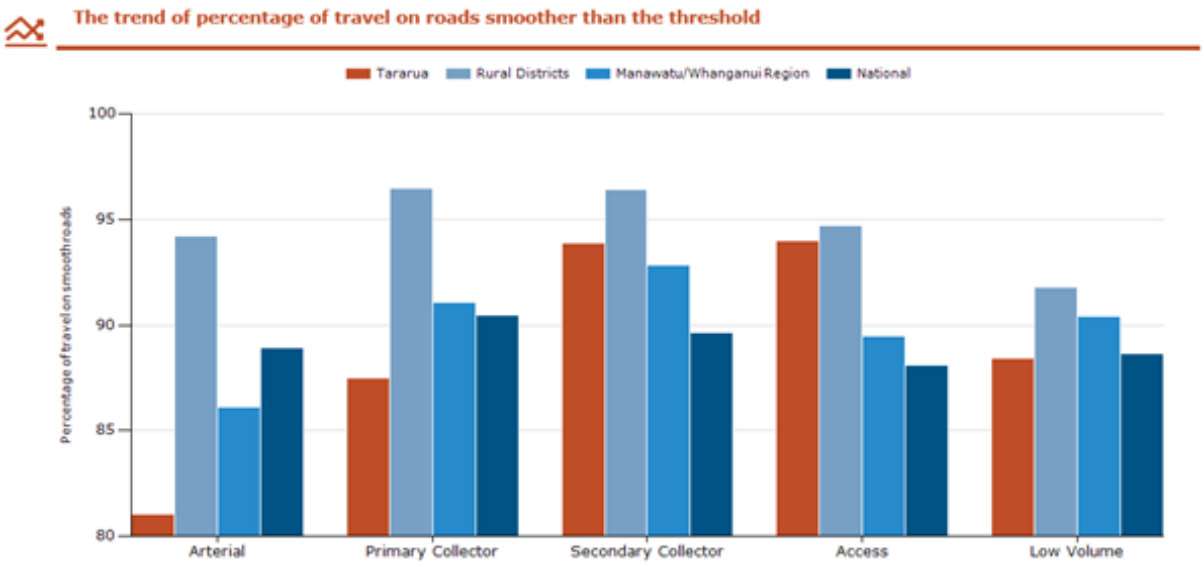
With increasing vehicle weight limits and an increase in forestry activities, the east of our sealed network is being impacted now more than ever and the vulnerabilities of this asset are exposed.

Pavement condition assessment

There are a number of tools available to assess the condition of transport networks. The ONRC tool performance criteria focus on Safety; Resilience; Amenity; Accessibility; and Cost Efficiency. Reports are available through the tool to allow us to compare the Tararua's network to others.

Smooth travel exposure, roughness comparisons and cost efficiency comparisons are used to assess the condition of our sealed pavements.

The chart below compares the Tararua District's Smooth Travel Exposure (how comfortable roads are when travelling) to others across the region and country:



Most roads owned and maintained by Tararua District Council are Secondary Collectors, Access and Low Volume roads. On average these roads are smoother than those in the Manawatū/Whanganui region (our region), but not as smooth as the overall average of Rural Districts across New Zealand. The tool indicates greater focus is required on Low Volume roads.

Our Arterial and Primary Collector roads form a very small percentage of our network, and the chart shows these are significantly lower than the other comparisons. However, these sections of roads are short in length (Arterials - 900m in length) and are in similar condition to the adjoining sections of the same road. Treating these sections in isolation would place these roads out of context for where they are situated, therefore improving the Smooth Travel Exposure of these roads is not a priority.

Pavement all-faults

Transport Insights allows us to compare our network to others, it does not focus on the specific issues and faults across each network. Faults must be assessed locally due to the regional varieties of terrain and geology.

The sealed road network is inspected on a cyclic basis using the ONRC classification (transitioning to ONF in 2024) to determine the frequency of inspections. On inspection our All-Faults database is updated to allow us to make informed decisions around Pavement Maintenance and Renewals.

Faults can be either pothole, pavement structural failures, surface failures, rutting etc. The type of fault, quantity, severity, and clustering is used to develop our forward works Maintenance and Renewal programmes.

Following the implementation of the ONRC framework, Sealed Pavement Maintenance and Renewals have become more targeted.

Sealed Pavement Methodology

The Maintenance and Renewals of Sealed Pavements form the largest part of transport expenditure, and the strategies developed as part of this AMP will have long lasting consequences for pavement conditions. With high investment and long-lasting impacts, the creation of pavement strategies is closely scrutinised.

The methodology we use to manage our Sealed Pavement follow those that our Alliance partner, Downer NZ, have developed for their NZTA Network Outcome Contracts, but with consideration for the rural nature of the district. Using this methodology under an Alliance model allows us to use a proven process when forming our Pavement Maintenance Strategies and make “Best for Network” decisions.

Asset information management

Information is a key component when it comes to the management and development of forward works programmes. A dedicated Asset team is responsible for our assets. From creation to disposal, the largest percentage of their time is invested in managing the Sealed Pavement asset and its information.

This team works within various software programmes such as RAMM, Juno-Viewer and dTIIMS to analyse fault data, track expenditure and monitor pavement condition, all of which assist in the development of forward works programmes. These tools are also used for reporting to organisations such as NZTA and forecasting expenditure for the Council in the short and long-term.

Sealed Road Asset Creation

The creation of new Sealed Pavement assets can result from;

- New works. I.e. new roads (green fields construction) and;
- Pavements and other assets that are vested with Council as a result of subdivision development.

Projects are justified and prioritised on the basis of a benefit / cost analysis which accounts for:

- The benefit to the road user for reducing delays in the time to travel along a given route
- Vehicle operating cost savings
- Safety benefits
- Intangible benefits, including community dislocation, environmental issues (pollution, dust, water quality, noise and vibrations) and other possible local, regional and national issues.

Tararua District Council seeks to follow AUSRoads design standards for pavement construction activities (including rehabilitations), however seal widths and geometric alignment are determined by the terrain for where they are situated and deviations from the standards are often required to ensure we can achieve fit-for-purpose outcomes.

The minimum width we try to achieve is 5.5m for Access Roads and 6m+ for those in higher ONRC categories.

Asset Creation - Seal Widening

Seal widening is typically performed alongside pavement rehabilitations, as we seek to standardise our road formations. The formation works is funded through the Low Cost, Low Risk improvement programme.

Isolated Seal Widening can occur where a network need is identified. This is typically to treat isolated safety issues, or where a long-term increase in traffic on a section of carriageway is identified and the road no longer meets an acceptable Level of Service.

Asset Creation - Seal Extension

Seal extensions are considered in response to a safety issue created through a change in use of the road (i.e. increased traffic volumes), or when a section of unsealed pavement has higher maintenance requirements due to its location in the network. In recent years, Seal Extensions have occurred at bridge approaches on unsealed roads as it reduces potholes and/or damage to the bridge structure caused by Maintenance Grading.

Currently seal extensions funded by the Tararua District Council is not considered as this increases the financial burden on the ratepayer.

Asset Creation - Road Realignments

Road realignments can be undertaken to improve the safety of a section of road in conjunction with Rehabilitations. These improvements will typically involve the straightening of a hazardous corner and result in a slight reduction in the length of carriageway.

Road realignments may also occur in response to a storm event where damage has occurred to a section of pavement and shifting the road results in improved resilience of the carriageway.

Asset Creation – Vesting of Roads

The creation of Sealed Road Assets can come about through the Vesting of Roads by private developers. Following decades of a decline population base, the Tararua District is now experiencing growth, with new roads being formed as part of Sub-division developments.

Sealed pavement forward works programme development

The Reseal and Rehabilitation programmes lead our maintenance programmes, with a large portion of Pavement Maintenance expenditure spent on Pre-Seal repairs. Our target is to complete pavement pre-seal repairs at least 1 year prior to resurfacing.

The sealed pavement forward works programme (FWP) employs the dTIMS model, which uses a Multi-Criteria Analysis (MCA) approach to determine optimal treatment strategies based on various performance triggers related to pavement conditions. This analytical framework incorporates a range of data parameters such as roughness, rutting, surface age, number of seal layers, maintenance costs, and fault data, ensuring a comprehensive evaluation of pavement health, surface health and treatment needs.

Each treatment strategy is influenced by specific criteria or triggers derived from the data parameters. For example, the most common treatments identified in the analysis are:

Resurfing_Age – Chipseal: This treatment is primarily triggered by surface age. It is applied when the surface age exceeds its expected lifespan, indicating that it may be time to refresh the pavement layer.

Reseal_Intervention - Chipseal: This treatment is prompted by intervention needs which arise from visible defects in the pavement surface, such as significant texture issues, cracks, or other degradations affecting the pavement's integrity.

The MCA considers the various triggers and weighs their importance to determine the best treatment strategies for different budget scenarios:

Current Budget (2023-24): Strategies aligned with the current funding available for pavement maintenance.

Unconstrained Budget: Ideal strategies without financial limitations, allowing for a comprehensive upgrade and maintenance plan.

Optimised Budget: A balanced approach that maximizes the pavement condition improvements within the financial constraints where the unconstrained budget is used to spread across the 10 or 30 year planning.

These models forecast how the existing condition will deteriorate over time, treatments available to correct this deterioration, and the impact that these treatments will have on condition. The software tests the outcome of these models for a range of treatment options against the economic principles for each combination.

Routine maintenance

Variable factors across a carriageway such as sub-grade strength, moisture, aggregate gradings, traffic point loadings and surface strength lead to differing rates of deterioration. These deterioration rates can lead to isolated failures on sections of pavement. Routine Pavement Maintenance refers to any maintenance tasks that are undertaken on an ongoing basis to repair isolated faults and return that section of pavement to an acceptable LoS.

Routine Sealed Pavement Maintenance tasks we undertake are;

- The repair of potholes
- Sealing of cracks in the surface
- Insitu-stabilisation repairs
- Pavement digouts
- Edge break and low shoulder repairs to restore pavement width
- Shape correction (surface levelling, rip and remake)

Our comprehensive and up to date All Faults data is the primary source of information for short-term maintenance.

Sealed pavement maintenance programme development

While some Sealed Pavement Maintenance repairs occur throughout the year (potholes, edge break, low shoulders) other works are restricted by the climate and location of the works. The ability to undertake Digouts, Stabilisation and Surfacing repairs are generally restricted to September through to April, when the weather is warmer and allows for efficient surfacing operations. During the other months, only safety related faults, faults with high-risk to the integrity of the asset or faults not requiring surfacing are targeted for repair.

To achieve maximum cost efficiencies when undertaking Sealed Pavement Maintenance, it is best to undertake repairs in clusters as establishment forms a significant part of the cost when completing repairs in isolation. To develop these clusters, we focus the repairs we undertake around the reseal programmes. This is further done with the help of a Programming Prioritisation tool that enables multiple quantitative and qualitative criteria to refine and prioritise the fault list. Using this prioritisation tool that works under an MCA framework streamlines the process of fault prioritisation in our 3 month rolling programmes.

The priority methodology for programming treatment utilises the programme category, road classification, and the fault severity along with other customisable weightings to calculate a fault score. The table on the following page is a representation of the priority score application.

TDC Road ONRC Road Hierarchy Intervention Priorities

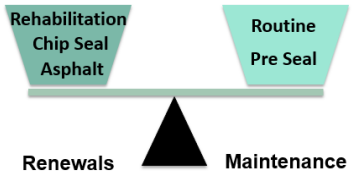
Programme Category	Primary Collector	Secondary Collector	Access	Low Volume
Safety Hazard (P5)	Target 12 hour response		24 hour response	
Presurface YR0 (MIS P)				
Presurface Y01 (MIS A)				
Preventative Maintenance				
Pre-Rehab (MIS D & E)				
General Mainteance				

KEY	Priority	RAMM	Response
	Urgent - Make Safe	5 -Safety	Priority intervention - Urgent respond to eliminate, or minimise the hazard
	High	4 - Intervention Required	Priority Programmed Works
	Medium	3 - Intervention Medium	Programme works in conjunction with P4 where appropriate
	Low	2 - Identified	Plan the work and programme the sites/faults where capacity and efficiency allow
	Negligable	2 - Identified	Clustering opportunity alongside other priority sites/faults

The priority score will adjust depending on the month if the year it is being calculated to provide an emphasis on delivery timing and network risk. For example, Faults sitting in the Pre-surface YR0 (MIS P) programme category and not completed within 2 months of planned reseal will be upgraded to immediate leading to a new score and higher rank in the fault priority matrix.

Advanced pre-reseal repair treatments

Delivery of pre reseal repairs the year prior to resurfacing is considered best practice in pavement operations and enables resurfacing to be done at the most optimal time of the year. In the previous financial year, all known pavement defects within reseal sites were repaired. Work is now focussed on the following years reseal programme, with these repairs likely to start in October. It is our intention to maintain this strategy of completing pre-reseal repairs one year prior.



There is a link between the level of maintenance and renewal expenditure as depicted by the balance of Periodic and Routine maintenance shown in the figure opposite. With increases in the lengths of reseals, a subsequent increase in maintenance expenditure is required. When considering reseal programmes, thoughts of maintenance and renewals across other assets groups are considered. I.e. If a culvert is in poor condition replacement is considered prior to the resurfacing.

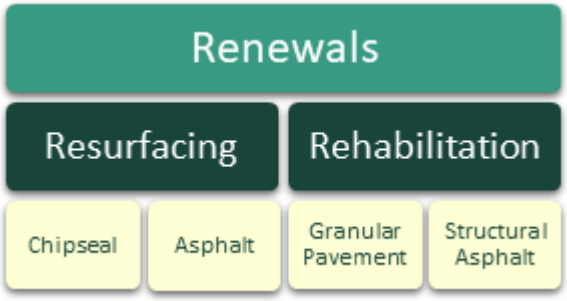
Preventative maintenance

The ultimate goal of Sealed Pavement Maintenance is to undertake repairs prior to them reaching the point of failure. This typically means treating Priority 2 Faults, before they reach Priority 3-4-5. Intervening in at lower priority often means faults can be repaired at a lower cost as a greater number of options are available in regards to treatment. In the case of Sealed Pavement Maintenance an example of this would be to complete crack sealing to waterproof the pavement. Water ingress into the pavement is the predominate cause of failure deterioration.

Historically, treating Priority 2 and 3 faults has not been possible due to funding limitations, however our strategy is continuing to improve our pavement condition through increased Reseals and Rehabilitations. This will result in slower deterioration rates across the district as pavements become more resilient. This will allow us to be more targeted with our Preventative Maintenance and allow us to intervene at an earlier stage.

Sealed pavement renewals

Carriageway renewal is a major work activity which restores, replaces or rehabilitates an existing asset to its original condition.



During a pavements early life, deterioration is generally limited to the surface layer. With open drainage systems, quality aggregates and adequate pavement depth, the sub-grade is protected, therefore maintains its shape and strength. Through traffic use, surfaces are stressed and wear, this can lead to reduced traction for vehicles, which contribute to accidents. To restore surface texture, pavements are programmed for resurfacing. Another reason for resurfacing is to waterproof the pavement structure, wear and tear of the surface can lead to water ingress into the pavement and accelerate deterioration.

If a pavement is not resurfaced at the optimum time its life can be greatly reduced.

As the pavement ages, deterioration rates accelerate. Continual loading can start to deform the Sub-grade and/or damage the structural integrity of a road. At a point in time, this deterioration will reach a point where resurfacing becomes untenable. When this occurs, pavement Rehabilitation is considered. A Pavement rehabilitation can be through a number of different treatments; Granular overlay, renovation, smoothing or full reconstructions. These treatments will be explored further in this section.

Renewal decision making process

Creating a renewals programme is a complex undertaking, requiring the successful completion of many processes. This ensures robust forward works programme for renewals are created. The process include:

- Data collection and preparation
- Data analysis and scenario modelling
- Field validation and model alignment
- Economic justification
- Outcome verification
- Final programme formulation

A set of strategy envelopes (demonstrated in diagram) are used to help inform our treatment selection process. The envelopes help create a first cut of possible treatment options based on the current and predicted condition of the carriageway section.

ONRC	Do Nothing	Do Preventative	Do Minimum	Heavy Maint	Do Renewal
National (High Volume)	1	1	1	5	100
National	1	1	3	7	100
Regional	1	3	5	9	100
Arterial	1	5	7	11	100
Primary Collector	1	7	9	13	100
Secondary Collector	1	9	11	15	100
Access	1	11	13	17	100
Access (Low Volume)	1	15	15	19	100

Potential candidates for renewal treatments are identified using the computer modelling tools detailed in the table below. These models give us different perspectives on the future need for the carriageway asset in terms of renewals. A virtual drive over of treatment sites eliminates sites where there are obvious benefits to delaying treatment, such as aligning with capital works or development programmes. Field validation and model alignment occurs once we have refined the model outputs in the office.

Model	Summary	Detail
Financial Model	Age and condition-based replacement schedule	A renewal forecast using remaining useful life has been considered based on the asset valuation information. The valuation process using condition data to adjust asset age and remaining useful life which we have used to forecast the timing for renewal of the carriageway asset components.
New Zealand Roads (IDS) dTIMS Model	A long-term condition optimisation model	The IDS empirical mechanistic model is highly sensitive to condition data and achieves best results with year-on-year data sets from a high-speed data collection survey.
Downer dTIMS Model	A long-term total cost optimisation model	The Downer dTIMS model uses historic maintenance cost information and current defect data, as well as high speed data to inform a probabilistic deterioration model.

JunoViewer and Juno FIT are used for field validation tool to manage the forward works programme, taking FWP information into the field on handheld devices and capturing field notes and photographs to aid in the decision-making process.

Rehabilitation sites are analysed in detail to determine if they can be justified according to the criteria in the Transport Agency's Economic Evaluation Manual. Sites are justified when the whole of life cost is lower for the renewal option than the do nothing or do minimum options.

Resurfacing strategy

Tararua District Council have adopted a target of resealing +5% of the network each year. The ability to achieve this is subject to funding secured through the NLTP process, and network needs, with certain reseal sites requiring higher cost treatments (e.g. Polymer Modified Bitumen and Asphalt vs Single Coat seals) and the varying widths of the sites selected in each year's programme.

Excluding first coats and 2nd coat seals of new or rehabilitated pavements, this will increase the lifespan of reseals and align us closer with our Council peer group.

Surfacing treatment selection

The type of surfacing used is determined using the NZTA 'Bituminous Sealing Manual' and is dependent on-site specific factors such as the existing surface texture, surface defects, traffic stresses, traffic volumes and noise levels.

The types of surfacing commonly used in Tararua include two-coat, racked-in and wet-lock (in high-stress areas). Rehabilitated sites have 2nd coats applied 1-2 years after construction, and it is typically a Texturizing seal due to the large chip size of the first coat (being a two coat 3/5). Moving forward we are considering using 4/6 on low-risk sites to allow the 2nd coat to be permanent seal.

Surfacing treatment selection – Level of Service

Chip seal is significantly cheaper and more flexible than Asphalt surfacing. As a result, Asphalt treatment is only considered where there is greater Benefit than Cost. This can occur in the following situations;

- Areas of high turning stresses (e.g. busy intersection or cul-de-sac head), where there is a high cost for ongoing maintenance of a chipseal surface
- Roads in industrial / commercial areas where there is a high concentration of heavy commercial vehicle traffic

It is anticipated that there will be a move toward the use of bitumen emulsions in preference to hot cutback bitumen. Emulsions are sprayed at much lower temperatures and use water instead of kerosene to reduce the viscosity. These two factors have both environmental and safety benefits but come at a higher cost.

Sealed pavement rehabilitation strategy

Road pavement rehabilitation renewals are required where the pavement layers are reaching the end of their design life and are showing signs of deterioration. Renewal works, rather than resurfacing, then becomes the best option when considering the whole life costs of the pavement.

Potential candidates for rehabilitation are identified from summarisation of All Faults data, dTIMS (maintenance & renewal forecasting tool) and staff judgement via a network drive over. These sites are investigated in detail as part of developing a programme of works.

The annual programme is developed with an emphasis on road hierarchy in the first instance. Priority is given to roads with high traffic volumes, especially heavy commercial vehicles. Consideration will also be given to the likely rate of pavement deterioration should no action be taken, i.e. roads with the highest maintenance costs per unit length will be given priority for road rehabilitation.

The treatment type is determined following an investigation of the existing pavement, an assessment of the future traffic loading and an economic assessment of the available options. The availability of suitable local aggregates is a prime consideration in determining the most cost-effective method of rehabilitating the existing pavement.

Pavement rehabilitation treatments

Granular Overlay

The life of a pavement is extended by overlay through the addition of a layer of basecourse and new sealed surface over an existing pavement. This basecourse layer essentially bridges the weakened sub-grade layers and improves the overall structure of the pavement. The treatment is generally referred to as an "Area Wide Pavement Treatment" or AWPT and used predominately on rural roads.

This technique can be unsuitable where there is existing kerb and channel, such as in urban areas, as it builds up the crown of the road or street so that the resulting crossfall becomes too steep. The consequence can be that road users' vehicles "bottom out" while accessing their properties due to the break over angles. In these circumstances, it is usually more efficient to carry out a full reconstruction as described below and replace the pavement, and often the kerb and channel, to the appropriate levels.

Renovation

This increases the strength of existing basecourse/sub-base materials by adding a chemical stabiliser (hydrated lime, cement, or emulsion) and re-compacting. This involves the pavement being ripped in-situ and re-laid in place by heavy plant. This technique can incorporate blending in of new materials and stabilisation measures. This is used when the existing pavement formations can be reused in a reconstituted manner.

Smoothing

Irregularities in the road surface, where the structural condition of the carriageway is sound, are smoothed by placing additional (thick) surfacing on an existing sealed surface to smooth out irregularities. The materials used depend on traffic volumes/road geometry and road condition. The most used material is asphaltic concrete

Full Reconstruction

Full reconstruction involves removing the existing basecourse and/or sub-base and replacing it with new metal courses and a new wearing course. This is the most likely technique used on urban streets due to the height restriction created by these streets having Kerb and Channel.

Sealed pavement asset disposal

The Tararua District Council has no formal policy surrounding the disposal of Sealed pavement assets, however there are circumstances where asset disposal may be considered.

Change in Level-of-Service

Following changes to land use, with a significant amount of farmland being converted to Carbon Farming, resulting is significant reductions in traffic use, the Tararua District Council is considering adopting a Differential Level of Service, where Sealed Roads may be reverted back to Unsealed Roads and regular maintenance may cease.

Road Stopping Requests

Development activities can lead to requests by members of the public to stop a road. When these are received, the applicants are required to follow the requirements set out in the Land Transport Management Act. In these instances, the full cost of stopping the road and purchasing the land is met by the applicant.

6.4.2 Our unsealed roads

Unsealed roads in Tararua make up 39% of the total roading network and provide vital access to rural communities.

With relatively low traffic volumes, these roads typically fall under the One Network Road Classifications of Access or Low Volume, but as they provide critical connections for our farming, forestry and recreational activities, they are considered as important as our sealed road network.

With growth in the dairy sector and increased forestry harvesting we see more Heavy Vehicles travelling our unsealed road now than in previous years. These vehicles significantly increase deterioration rates and the need for maintenance has been increasing.

The effects of heavy traffic can lead to unsealed roads becoming difficult to travel if not impossible. Defects such as corrugations, potholes, rutting, heaves and shoves, loose aggregate and large stone have an impact on the ride quality and safety and with the primary user being light vehicles (cars, utes) and responding to the defects created through heavy vehicle use can be costly.

Under-investment in this asset type can lead to increased wear and tear on vehicles resulting in additional costs for the homes and businesses that the roads serve.

Unsealed roads need to be accessible and safe in all conditions and for all vehicles. This is especially important for freight operators, tourists and visitors who may not be used to these types of roads.

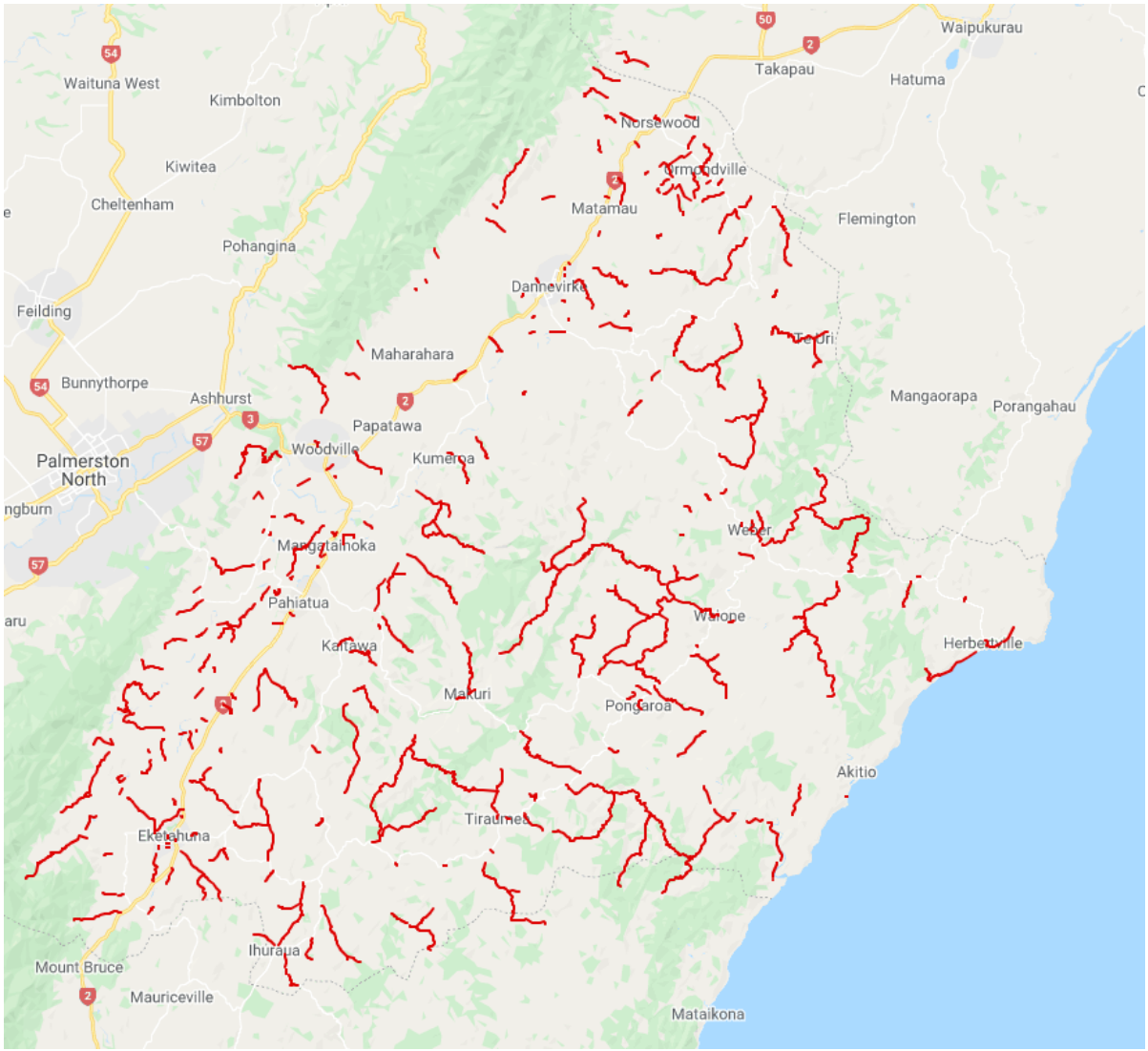
The key objectives in managing the unsealed network are to:

- provide affordable access to property;
- provide a fit-for-purpose pavement and running course for all vehicle types using the route; and
- provide a high level of maintenance for designated roads.

Asset inventory

Tararua District has 772 km of unsealed roads with less than 1 km in urban areas and the remainder being rural roads. The majority of the roads are no exit, farm or forestry access roads and provide access to areas of the district with low population densities.

The roads area scattered throughout the district and run over varying topographies. These variances provide some interesting challenges for maintenance and renewals.



Unsealed roads methodology

Our objective for Unsealed Road Maintenance and Renewals is to keep the asset functional and fit for purpose through regular inspection, filling of potholes, grading activities and re-metalling.

Asset information management

Managing the Unsealed Road Asset information involves tracking aggregate quantities applied to the roads and the frequency of maintenance activities. This information is valuable when it comes to decision making as it allows us to focus maintenance activities on the parts of the network that may be vulnerable in times of increased demand.

Recording the location of maintenance metalling activities and the frequency of grading assists us in shaping our Heavy Metalling Forward Works Programme.

As a minimum, the following information is needed to manage the planned and reactive maintenance regime of the unsealed road:

- Faults and defects (potholes, corrugations, rutting, soft spots, drainage, etc.)
- Maintenance cost (per km, per ADT for HCV, per season, per aggregate type)

Routine maintenance

Maintenance of our Unsealed Roading Network starts with inspections to determine the physical works required.

Regular inspections of the unsealed network allow us to manage the grading and metalling programmes and make wise choices in order to maximise the benefit of the funding available. The following inspection regime is used and drives our Forward Works Programme;

- Routine inspections - 3 monthly frequency
- Detailed inspections - 6 monthly frequency
- Pre-grading inspection prior to grading commencement.

The **Routine** inspection focuses on pavement assets but also accounts for other assets which can impact the unsealed pavements condition, such as environmental issues and drainage issues. The inspection staff will look at the following during the unsealed inspection:

- Physical condition defects - potholes, corrugations, loose aggregates.
- Are surface water channels, culvert inlets/outs and cut-off drains clear of detritus.
- Does the road have sufficient running course aggregate.

The **Detailed** inspection drives the renewal works (Metalling and Heavy Metal Overlays) and assists in fine tuning the maintenance grading programme. It is completed at lower speed and includes non-pavement, high value assets):

- Post grading inspection
- Drainage assets (water table, culverts, cutouts, soakpits, etc.) and their effectiveness.
- Visual check of known dropouts and slips.
- Areas in need of vegetation control.

A **Pre-grading** inspection determines the scope and type of grading and is usually carried out by the grader operator in utility vehicle.

General Maintenance (pothole filling, minor vegetation control) is carried out by Patrolperson, who will also provide feedback on the condition of the Asset.

Managing Dust

Unsealed roads have a tendency to generate a lot of dust when vehicles travel over them, generally this is not an issue as these roads tend to be isolated and away from populations centres and have few vehicle movements.

Dust generated by unsealed roads becomes an issue when there is an increase in traffic (i.e. during forestry harvesting) or in dry summer months when there is little moisture in the aggregate to bind the fine particles together. In the dry summer months, there is an increase in CRMs, with callers seeking resolution to the dust issues.

There are a number of low-cost opportunities employed to reduce or eliminate dust. Certain aggregates have properties which hold the fine particles together thus reducing dust and are used around the district.

Customers can request for alternative aggregates to be spread onto an unsealed roads surface through a Customer Request for Service. This request will be considered if the use of an alternative aggregate source will not have an undue effect on the cost of maintenance of a road.

Other high-cost initiatives may be employed to manage on-going issues. These are only used in exceptional circumstances due to the high costs associated with their use.

The table below provides details of viable for dust suppression treatments.

Dust Treatment Options	Treatment Details
Low-Cost Treatments	
Short term Water Application	The application of water to temporarily add moisture and bind fine material together. This is only used when short-term intervention is required (1-2 hours). This is only considered when there is an immediate and high risk to safety.
Alternative Aggregate	Tararua Alliance has been exploring alternative aggregates which naturally do not generate as much dust as other aggregates (i.e. river metals). Lime, which occurs naturally around many parts of Tararua is a viable alternative. Lime has a low crushing resistance and deteriorates at a greater rate than the river metals typically used; therefore, it is only considered a solution to isolated problems, such as outside houses and buildings.
High-Cost treatments (only considered in exceptional circumstances)	
Insitu Material Modification	Cement or Lime Stabilisation to reduce dust by binding the fine particles to the larger particles in aggregate. This is a long-term solution to dust as it binds the entire aggregate layer together. However, it increases the difficulty of future maintenance as the surface cannot be reshaped without extensive ripping. Additionally, aggregate applied through maintenance metalling will not bind resulting in safety issues as the stones roll on the surface. If a road is to be stabilised, it is best to Chipseal the road, due to the high-cost to perform and impacts on future maintenance.
Dust suppressant	Application of Additive (Surfactants, Hygroscopic salts, Fines agglomeration etc) to seal the surface layer. This layer is disturbed over time through traffic use and maintenance grading and is considered a high-cost, medium term solution.
Otta seals or blinding agents	An Otta seals is designed to be a temporary sealed surface. The expected life of Otta seals is about 5 years if enough thickness is laid. An Otta seal can have a very similar texture and look as a sealed road, and this may create a false expectation of a higher level of service and increased vehicle speeds.
Chip seal surface	The last option to managing dust is to seal the unsealed road with a 2-coat seal. This requires a design, and shape-correction as the pavement of an unsealed road is very different to that of a sealed road. In some cases, the basecourse may require stabilisation and/or make up metal before the chipsealing.

Maintenance grading

Maintenance graders traverse the network on a cyclic basis and base on the pre-grading inspection will grade the roads in need. The primary Maintenance Graders have scarifying teeth and a tow behind Pneumatic Tyre Roller (PTR). The teeth rip the surface and mixes the existing aggregate. The purpose of this is to avoid the segregation of aggregate and reduces the need for metalling. The roller then compacts the aggregate and reduces the migration of aggregate to the side of the road caused by traffic.

To maintain the Tararua's extensive length of Unsealed network to its currently Level-of-Service, two graders are required. One focuses its activities to the north of the district, the other to the south. A times of low demand, one of these graders can be deployed to undertake other activities.

Unsealed road renewal

Unsealed roads usually require pavement renewal for two reasons:

1. Failure of the pavement structure; typically caused by heavy vehicles in combination with saturated pavements
2. Loss of aggregate wearing course, resulting in traffic running on the pavement structural layers, eroding and damaging them.

Aggregate replacement is a regular activity undertaken throughout the year across the Unsealed roading network. Over the last three years Council has been applying approximately 10,000^3 of aggregate to the network per annum. This is exclusive of Heavy Metal Overlays which are an activity like spreading maintenance aggregates but with an increased depth along with reshaping and compacting the road surface.

Sites for Pavement Metalling and Heavy Metal Overlays are identified through inspection, network knowledge and lengths of pavement that have on-going maintenance issues. Environmental factors can also influence programmes as with no sealed surface to protect the pavement, aggregate loss is a common occurrence, especially during High-intensity rainfall events.

Aggregate is supplied through various quarries across the district and can vary in quality. The source is determined by how cost effective it is to purchase quality aggregates vs how much it costs to cart the aggregate to the metalling location.

Quality aggregate sources are primarily found in the west of our network where certain rivers, such as the Manawatū River, hold vast quantities of Grey-wacke aggregate. This aggregate is one of the better roading materials within New Zealand, but with many of our unsealed roads being in the east, it is costly to import.

Over recent years, the Tararua Alliance has been testing alternative supplies of aggregate to reduce the overall cost of maintenance and this will continue to improve our longevity of pavements while making Level of Service improvements within existing budgets.

Disposal of assets

There are no plans to dispose of any of the existing unsealed roads within our network, however, the Tararua District Council is considering adopting a differential Level-of-Service, where regular maintenance on an unsealed road may cease.

Road Stopping Requests

Development activities can lead to requests by members of the public to stop a road. When these are received, the applicants are required to follow the requirements set out in the Land Transport Management Act. In these instances, the full cost of stopping the road and purchasing the land is met by the applicant.

6.4.3 Bridges and Structures

Our Bridges

Our bridges facilitate the movement of people and goods throughout the district. Without these assets, traversing the natural waterways of the land would be extremely difficult, if not impossible, therefore these Structures form a crucial part of the Tararua's roading network.

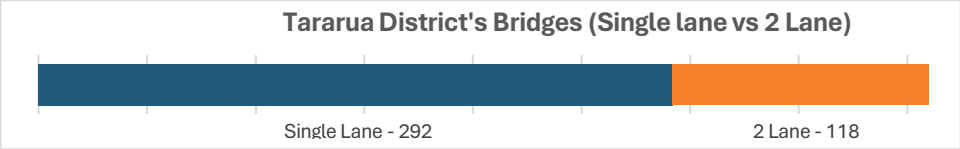
C

Name/Location	Pahiatua Town Bridge – Mangahao Rd, Pahiatua.
Constructed	Between 1931-32.
Type	Reinforced Concrete Bowstring Arch bridge
Cat 1 NZ Historic Place	Built in the midst of the Great Depression it utilised central and local government measures put in place to try and mitigate the worsening of the economic crisis. It is considered "remarkable" due to its aesthetic and a costly design, built at a time of financial hardship

Bridge asset inventory

Tararua District Council maintains a total of 410 bridges and 115 high-capacity culverts across the district. *(High-capacity culverts are those for which are >2m dia. and/or carry natural water courses)*

Many of the bridges are single lane and were constructed at a time when people were less mobile and lived in the community they served. With increased mobilisation of people, the demand for improvements to the Level of Service (LoS) our bridges provide is increasing.



Bridge Capacity

In response to government regulatory changes, which increased the maximum weight limits and allowable length of Heavy Motor Vehicles (HMVs, Tararua District Council initiated a study of the bridge stock across its network. The purpose of this study was to improve data information by updating capacity data, both structural and seismic, against the limits set in the NZ Transport Agency's recently updated Vehicle Dimension and Mass (VDAM) Rule which came into effect February 2017.

The Tararua District has 17 Class-1 capacity restricted bridges, which do not have design capability for carrying over-weight vehicles (50 tonne). These restrictions reduce the economic opportunity created through the Central Government changes to regulations.

Current capacity limits on bridge structures are advertised annually and comprise gross weight and weight limits as well as speed limits for HMVs. The posted restrictions reflect the fact that when these structures were built, they were designed and built as part of a Class 2 transportation network which was limited to vehicles with lesser gross and axle weights than the current universal Class 1 limits.

Bridge data quality

Over the past few years, Bridge Asset information has been transferred from various sources (TRIM - Council's records management system, Archives, and spreadsheets into RAMM). Broadly the asset database for bridges within RAMM is now complete and only improvements to detail is required. This detailing can be a time-consuming process as it requires transforming historical documentation into digital to allow us to analyse the data.

The next step to enable better use of the bridge asset data is to componentise them and allow the various parts (deck, sub-structure, abutments, etc) to be managed as groupings, as the different parts have different lifecycles, structural importance and maintenance activities. Our aim is to do this over the next three years within RAMM.

The date of construction is not known for 64 bridge structures, and for these an estimate has been made considering the factors of road construction date, construction type and similarity to other bridges.

Our retaining walls

Retaining walls allow vehicles to traverse parts of our network where land features prevent a standard carriageway cross-section from being formed. Retaining Walls hold just as much importance as our bridges, as if they did not exist or failed, access to some of our communities would be restricted and in some cases impossible.

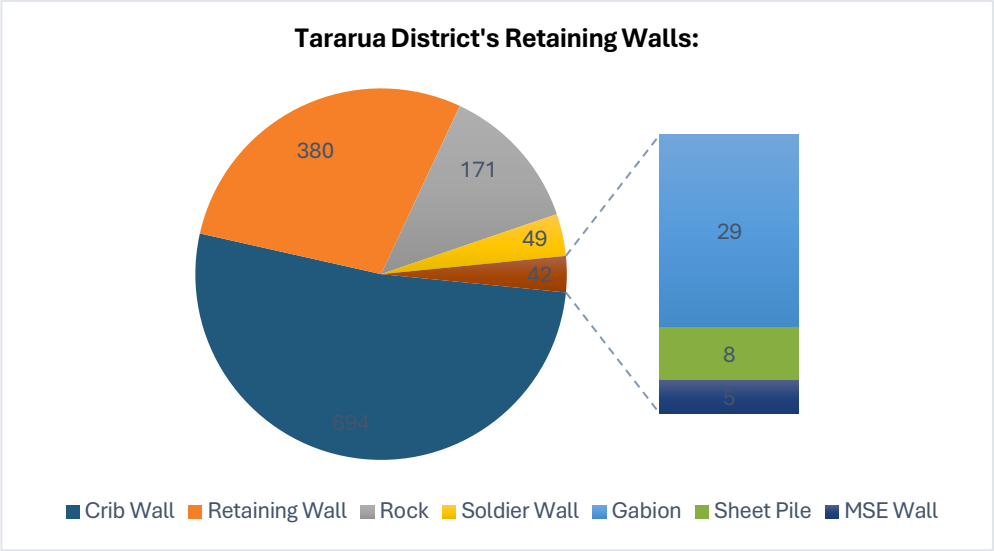
Retaining wall asset inventory

The construction of Retaining Walls is generally in response to damage caused by Environmental events and sections of pavement have been lost.

Historically, keeping records for retaining walls has been of low importance, or the method for which the information is stored is not suitable for easy analysis. Since the establishment of the Tararua Alliance, significant effort has been placed on identifying and recording these assets around the network as they present a large network resilience risk to us.

Building the Asset Database has taken time as it is difficult to locate these assets. This is due to the fact that they sit below the road out of sight and are usually covered in vegetation.

We broadly believe the majority of the walls have now been located have now and loaded into RAMM. We have 1336 identified across the district, with the majority being Timber Crib Walls.



There is still a significant amount of to do to improve our understanding of our Retaining Walls and the risks they present, and this is a focus area for the coming years.

Structures methodology

Structural Maintenance & Renewals (Bridges and Retaining Walls) are carried out as part of the Road Network Maintenance and Management Alliance Contract.

Since commencement of the contract, significant resource has been applied towards updating the information surrounding these asset types and more work is needed to fully understand the condition of and requirements for these assets.

Asset information management

With the merging of bridge data into the RAMM database and creation of retaining wall assets, we can now manage these assets in a clear and traceable manner.

Focus is now shifting towards maintenance of this information. On-going maintenance of data (both office based and by field-inspectors) is required to develop our condition data. As we progress through our All-Faults work programmes, basic updates will be performed onsite, followed later with a review by the Asset Information Manager/Engineer to check the data added onsite conforms with the standardised method of entry. This ensures consistency across the database.

Condition Assessment and Programme Development

Condition inspections are undertaken in a systematic regime which is critical to successful Structural Asset management. Frequent assessment of condition is an effective means of tracking the performance of a structural component over time.

A programme of inspection has been in place for bridges in previous years and it is likely retaining walls will be inspected with similar frequency.

Asset Type	Inspection Frequency (Years)		
	Routine	General	Detailed
Bridges	1	2	6
Large Culverts	2	2	6
Retaining Walls	0	3	0

Our Bridge Stock has 3 levels of Inspection. Every year a basic routine inspection is completed on the structures. This inspection identifies any obvious defects, such as scouring leading into the bridges, and general defects noticeable by observation from the bridge deck.

Every 2 years a more detailed general check is undertaken which looks at things like the integrity of the railing structures and drainage points to identify defects which occur gradually. Faults identified during these inspections are loaded into our All-Faults database and responded to accordingly.

Over the course of 6 years, each bridge undergoes a detailed inspection to identify any structural issues with the bridge, looking both at the Super-structure and Sub-structure. Following these inspections, a yearly Maintenance and Renewal programme is developed.

Bridge Repairs identified are prioritised to match the available annual budget using the following process.

Step	Action
1	Identify repairs from the routine repair schedule that have a high (P4) priority.
2	Check repair schedules against the road forward works programme (Year one & two). Any repairs that will impact on treatments in the first two years of the programme should automatically be escalated to a high priority.
3	Are there any repairs on the same bridge or structure with a Medium (P3) or Low (P2) priority that can be done using the same resources? If yes changes these to a high priority.
4	Review and update estimates for all high priority repairs.
5	Rank all high priority repairs by ONRC. Repairs on higher classification roads should be targeted first.
6	If all the budget has not been expended, then identify any remaining medium priority repairs and rank by ONRC.
7	Review and update estimates for medium priority repairs identified in step 6.
8	If budget not expended target Low priority repairs by ONRC.

Funding for the maintenance and/or renewals of Retaining walls has not been available, hence inspections. Our intent is to increase the maintenance of retaining walls if funding is made available. In the meantime, 3 yearly inspections will occur in preparation for the next NLTP bid.

Routine maintenance

General bridge and structures maintenance fall under the responsibility of the Tararua Alliance. A close working relationship between planning staff and delivery staff ensures priority works are identified and completed with due haste and budgets are monitored closely.

Cyclic patrol staff complete the basic and general inspections and maintenance activities across the district. Bridge work includes;

- Waterway scouring or bed aggregation
- Debris in the waterway and around piles and piers
- Damage or the deterioration of guard railings
- Wearing or loose timber deck planks
- Loose detritus on the deck
- Blocked deck drains
- Damaged signs and delineators

More detailed inspections are carried out during and/or after events that might threaten the safety or performance of bridges, such as floods, earthquakes or overloading.

A programmed maintenance/renewals programme is the most cost-effective way to manage the bridge stock. In addition to the work identified through the routine inspections and completed by general patrol-staff discussed above other types of maintenance work can include:

- Repairing structural defects, e.g. concrete spalling, corroded fastenings, rotten timber, undermining of foundations
- Repairing or replacing damaged components, e.g. wheel guards and handrails
- Restoring protective coatings, e.g. painting
- Restoring or cleaning deck expansion joints
- Watercourse training
- Repairing road approach and abutment settlements
- Cleaning around bearings

These repairs are made to protect the investment in assets by extending the life of the structure and to minimise future repair costs.

Renewals

Renewal is undertaken when a structure or significant component has reached the end of its useful economic life, i.e. it is more economical to replace or rehabilitate the structure or component than to continue maintaining it.

Renewal can include:

- Replacement of an entire structure
- Replacement of individual structural components e.g. bridge deck, bearings, handrails
- Rehabilitation to restore the structural integrity of components, e.g. reinforcing repairs

The reasons for renewal can include:

- Deterioration of the structure or component
- Damage to the structure or component via flood, earthquake or vehicle impact
- The waterway's characteristics have altered to the extent that the bridge can no longer pass the design flood flows

Renewal needs are identified through detailed inspections, confirmed through a detailed structural investigation, then validated by economic justification of net present value option consideration.

To reinstate the condition of all structures at a network level requires a significant financial investment. Therefore, we must make decisions on what maintenance work is to be undertaken within the limits of budget constraints that will enable the expected life of the asset to be maintained or extended. Hence the objective prioritisation is to select the maintenance strategy that will provide the best condition within a given budget.

Structural asset disposal

Asset disposal processes will comply with Council's legal obligations under the Local Government Act 2002, which covers:

- Public notification procedures required prior to sale
- Restrictions on the minimum value recovered, and
- Use of revenue received from asset disposal

Bridges on roads which service single properties may be reviewed for disposal. Council may decide that bridges identified in any review process for disposal will no longer be maintained by Council but will be subject to a legally binding agreement with the adjacent property owner. Council could decide to either:

- Undertake routine inspections on these bridges, paid for by the adjacent property owner who will be responsible for all maintenance requirements identified, or;
- Decommissioned to reduce potential Council liability.

All relevant costs of disposal will be considered when considering disposal options. These costs may include:

- Evaluation of options
- Consultation and advertising
- Obtaining resource consents
- Professional services, including engineering, planning, legal, survey
- Demolition, site clearing or the cost of making safe.

The use of revenue arising from the sale of assets, or the source of funds required to dispose of assets, would be considered by Council at the time of its consideration of any asset disposal.

Uneconomic bridges

A bridge may be disposed of if it is uneconomic, unsafe or becoming so, and it is not in the public interest to maintain it in an appropriate safe condition. Disposal of bridges can be carried out in the following ways:

- Sale
- Gifted; or
- Demolition without replacement.

NZTA has a general policy regarding bridges that it considers uneconomic. A bridge may be deemed uneconomic by NZTA where the ratio of the total cost of the work to be undertaken per AADT is greater than or equal to $15,000 per vehicle.

Under this policy financial assistance will be provided for the most cost-effective maintenance option. Economic assessment of bridges requires the corresponding portion of road serving the bridge to be considered.

Consideration of divestment or retention of these types of bridge and culvert assets needs to be formalised to provide future direction for asset management and forecast expenditure.

Bridge replacements are assessed on a case-by-case basis. Council is aware that ratepayers deem a bridge not being replaced as a reduction in level of service.

Bridges in remote rural areas are used for moving stock and farm machinery along public roads, therefore seen as vital for the users.

6.5 Drainage

6.5.1 Our drainage systems

Drainage infrastructure on the transportation network exists to manage water flows within the road reserve. This water can be natural water flow-paths following the terrain of the land, rainwater running off the carriageway or natural ground water rising from below the ground.

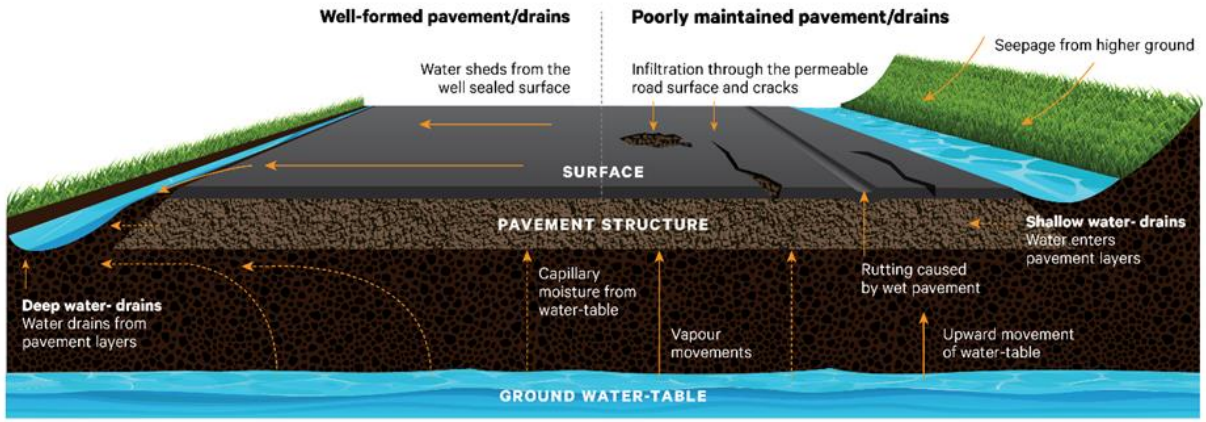
- In urban areas, the Tararua Alliance manages the drainage assets that collect the water in the road reserve and deliver it to the main reticulation network.
- In rural areas, the Tararua Alliance manages the side drains, swales, open drains, and road culverts, along with their inlet and outlet structures.

With the soil types found in Tararua, our drainage systems are an important feature of our roading network as they protect our pavements structures. The decision not to invest in this asset can negatively impact the safety, quality and the overall cost of maintenance.

Quality drainage infrastructure will;

- Allow surface water to drain away from the pavement, thus reducing the likelihood of vehicle loss of control in wet weather and damage to the pavement structure caused by water ingress.
- Efficiently drain water away from the pavement structure, thus improving subgrade conditions.
- Protect vulnerable areas of the road formation by establishing flow-paths and not allowing water to discharge over embankments.

The drainage system represents a significant risk to the transportation network. The cost of repairing the consequences of a failure generally far exceed the value of the asset causing the failure, therefore is one of our key investment areas. The image below demonstrates a well-formed road formation in comparison to a formation in poor condition.



Asset inventory

With the Tararua Districts roading network being predominately rural, the majority of drainage assets are open side drains running along the carriageway. These drains have intermittent culvert road crossings transferring water from one side of the road before discharging into natural water courses, whether it be overland or directly into streams and rivers. The table below provides details of the drainage assets across our roading network.

Asset Type	Asset Description	# of Assets	Measure
Surface Water Channels	Lined (Kerb and Channel, Dish)		192km
	Unlined Deep >200mm below seal edge		271km
	Unlined Shallow <200mm below seal edge		1379km
Fluming	Outlet structures controlling culvert outflow water down batter slopes	46	221.5m
Sumps, Manholes and Drop chamber	Inlet Sumps or drop chambers connecting to culvert pipes	1162	NA
Culverts (carriageway crossings)	Culvert crossings under carriageway	9545	10.9km
Culverts (Side drains)	Culvert crossings running parallel to carriageway	1220	12.2km
Culverts (High Risk)	Large culverts carrying natural watercourses within road formation	120	1,327m
Subsoil drains	Subsoil drains under Channel (Concrete or Stone) *NOTE: Historical Asset data not recorded.*	14	1,015m

Asset information management

Following the Drainage Inventory Refresh, our data quality is in a good state and maintaining this data is now the focus.

The maintenance of asset data involves tracking work in the field to ensure the data stored within RAMM is accurate and reflects the actual inventory in the field. The Asset Managers roll is to monitor work programmes and update this data as it occurs.

To maintain fault data, drainage assets have basic visual checks as part of general road inspections. These inspections identify issues noticeable from the carriageway.

We have a 3-year programme to undertake detailed inspections of all culverts across the network. During these inspections the culvert will have its structural condition assessed to determine if it is in a suitable condition and still functions as designed.

Creation of drainage assets

The creation of new or the need to create drainage assets are driven by factors such as;

- changes to the natural environment (catchment changes, increase in rainfall, landform, springs)
- changes to the road formation which change the point where water collects (road realignment, grade changes)
- or new road being added to the network (development).

When a new asset is created, relevant data is loaded into the RAMM database.

Routine maintenance of drainage assets

Routine maintenance of Drainage Assets reduces the risk of blockages leading to ponding which can cause scouring, damage the carriageway pavement, and/or create a safety hazard.

Routine Maintenance of our drainage assets primarily take the form the following activities;

- Periodic cleaning / clearing of culverts by hand or machine
- Vegetation control in side drains and at culvert inlet and outlets to ensure a free flow path of water along the drain and reduce the likelihood of blockages and sediment build-up
- Cyclic cleaning of kerbed water channels, sumps and catch pits in urban areas
- Water-jetting of culverts to clear blockages

Drainage assets on roads that have high traffic, cyclist or pedestrian volumes are prioritised to ensure they are maintained at a higher standard than those assets on parts of the network that have a lower ONRC classification.

The issues that affect the maintenance and operations of drainage assets include:

- Surface water channel damage by tree roots, vehicle impact or ground movement
- Low to no maintenance of drainage systems within private property and flat topography often lead to surface flooding within our urban networks
- Blockages to side drains in our rural network caused by slips and debris build-up

Renewal of drainage assets

Renewals to drainage assets are required when the asset is no longer fit for purpose, is damaged beyond the point of basic repairs, or requires modification due to changes in the wider environment.

Drainage renewals encompass three main types;

- Surface drainage – verges, shoulders, lined and unlined surface water channels
- Formation drainage – side slopes, side drains, sub-soil drains
- Storm water drainage – culverts, inlet and outlet structures, sumps, treatment devices

We are seeking to alter our approach to the programming of drainage renewal works. Historically work programmes were built predominately around the wider work programmes of Pavement Rehabilitations and Renewals. While portions of the drainage renewals work programme will still occur in conjunction with Reseals and Rehab (reforming of roadside drains, critical culvert replacements), the alteration of strategy will see more high-risk drainage issues targeted.

High-risk areas are identified using local knowledge, RAMM information and spatial analysis. A list of all candidate sites is developed, ranked by risk, visualised in a map and the list formatted to prioritise treatments needs. Consideration for the following is then made before the renewals are confirmed;

- Alignment with other forward works programmes (i.e. Reseals, AWPTs).
- Annual rainfall variation across the network.
- Failure mode analysis outcomes.

The prioritised renewal candidate sites are then compared to the annual budget to determine which sites can be added to the programme, then actioned accordingly.

Our Urban Stormwater Channel renewal programme is developed on an annual basis for kerb and channel where the frequency or extent of faults is such that spot maintenance is no longer the appropriate solution. These include sites where:

- Badly cracked channel allows water to enter the pavement layers
- Depressions or bumps in the profile cause water to pond, especially if the ponding extends onto the seal area.
- Badly cracked concrete which is becoming detached and causing a hazard to road users.

The decision to renew the kerb and channel is then confirmed by field inspection and maintenance cost analysis.

Disposal

Disposal of Drainage Assets will occur only as a result of changes or improvements to the road network itself. For example, a road realignment may change the water flow paths, thus making a culvert crossing redundant. If an asset was to be removed it typically would be replaced by another drainage in a new location or another type of asset (i.e. side drain changed to kerb and channel).

6.6 Street Lighting

With the LED Lighting upgrade completed in 2018 Street Lighting is being maintained and renewed where necessary.

There are no current plans to increase lighting in the District.

6.7 Traffic Services

Introduction

Traffic Services are the assets within the road reserve that help control the safe and orderly movement of vehicular and pedestrian traffic.

These services can be separated into the following groups;

- Traffic Signs
- Road Markings
- Carriageway Lighting
- Rails and Barriers

A good standard of Traffic Services can contribute significantly to a safer road network.

Traffic Signs fulfil several functions and can be separated into 4 categories:

- Compulsory/Regulatory signs. These signs tell you what you must do and are either Red or Blue.

- Permanent warning signs. These signs inform the road user of either a permanent hazard and are yellow and black.

- Temporary warning signs. These signs inform the road users of a Temporary hazard and are orange and black.
- *Note: These signs do not form part of our signage inventory*

- General Information signs. These signs provide locality information.

Road markings are a key safety feature of a road, as they create a visual delineation the road and its boundaries:

- Road centrelines, lane lines and edge lines indicate the alignment and edge of carriageway.
- Edge Marker Posts (EMPs) and Raised Reflective Pavement Markers (RRPMs) supplement road and lane lines to indicate alignment and the edge of carriageway at night.
- Intersection markings provide instructions for how road users are to operate at intersections.
- Marked parking areas provide for the orderly use of carparks.
- Marked crossing points provide safety provisions for pedestrians.
- Service markings provide information for important services (i.e. Fire Hydrant, Water Valves)

Carriageway lighting is provided to improve the safety of the road users and are generally located within Townships along footpaths. Occasionally they are located in the rural area to increase visibility at intersections.

Sight-rails delineate the roadway by providing continual guidance through tight bends with limited visual background. They can also provide a target background at the head of T-intersections. Sight rails constructed with wood, are painted white and are not intended to provide a physical barrier to stop vehicles leaving the carriageway.

Guardrails are similar to sight-rails (as they delineate the roadway) but are designed to provide a physical barrier between a hazard (i.e. steep cliff) and the road user. They are constructed of Galvanised steel components and designed to an international standard.
Note: We consider barriers such as Guardrails to be Structures as are design to a specific standard which is critical to their performance. The asset is managed within RAMM as part of our Minor Structures category; however, as they are similar to Sight-rails in terms of maintenance and renewals, they have been combined into this portion of the document.

Our traffic service assets

Being a rural district with low vehicle numbers travelling our roads, the number of Traffic Service assets within Tararua are low in comparison to other districts. Certain types have been installed on an ad-hoc basis and do not conform with ONRC or installation guidelines.

With the Government Policy Statement driving improvements to the safety of New Zealand's roads, greater emphasis now placed on this asset as it has a relatively low capital cost to install yet provides high-impact benefits to Safety.

The need to implement a district wide strategy to improve Traffic Services has been identified and is a key component of a number of proposals presented in the AMP.

Signage inventory

Standard regulatory signage is found throughout Tararua, with the majority of streets/roads having name blades and advisory signage at each point where speed zones change.

Permanent Warning Signage intended to warn road users of hazards, such as Chevrons is under-developed across the network and feature sporadically.

The following table provides details of our signage inventory in comparison to our roads ONRC hierarchy. As is shows, the majority of our signage is located on the Access and Low Volume roads, and this reflects the nature of our network.

	Arterial	Primary Collector	Secondary Collector	Access	Low Volume	Total
Regulatory (Speed, Give way, Stop, Railway Crossing etc)	39	148	403	1006	835	2431
Permanent Warning (Curve Advisory, Give way Ahead etc)	258	316	1191	2462	1567	2970
Permanent Warning (Chevrons)	54	27	84	110	43	318
General Information (Road name blades, Cyclists, Passing Lane)	31	148	423	659	512	1773
District Information (Tourist information, Historic Places, etc)	47	48	232	401	269	997

Line-marking and delineation devices

When driving the network, it quickly becomes apparent, that there are few roads with line-marking or delineation. The combination of narrow roads and with increased heavy vehicles presents a high risk to the light vehicles, as often heavy vehicles will straddle the centre of the road to avoid uneven edges of the pavement. At night, with little reflective delineation, alignment is difficult to determine and increases the risk of vehicles leaving the road. Asset data quality is very poor which restricts the ability to make informed decisions about the Asset.

A Traffic Services Standardisation & Improvement Project has been initiated and over the period of this AMP significant improvement is to be made to this asset.

Data is available for Line-marking is available via the annual line-marking claim and it is intended to use this data source as the basis evaluating the existing markings.

Carriageway lighting

There are currently 1,363 streetlights on the local roads which are owned and operated by Council. Council also maintains an additional 264 lights located on the State-Highway network, although these lights are owned by the NZ Transport Agency. The majority of lighting is found in Eketahuna, Pahiatua, Woodville and Dannevirke.

Street lighting operates from dusk to dawn and are controlled by the three lines companies which operate across various parts of the district.

Council owns all dedicated lighting poles on the Local road network, but not the State-highway, where the poles are owned by NZTA. If a streetlight is supported by a utility company's pole (electricity or telephone), the light and its bracket are owned by the Council and included in the Lighting Asset Register, but not the pole.

Bulb Type	Local Authority	State Highway	Total
LED	1319	44	1363
Other type	4	220	224
Total	1323	264	1587

Over the period of the previous AMP, Tararua District Council has modernised the Street Light assets with all Council controlled lights upgraded with LED bulbs. Council has also just recently completed a LUX survey (June 2020) which has identified issues with our lighting and will form the basis for our upcoming maintenance, renewals and capital investment programme.

Railing and barriers

Sight Rails and Guard Rails are not a common feature on the Tararua roading network. They occur sporadically around the network and have been poorly maintained.

When comparing Tararua against two other districts of similar road length and geography, we have 55 sections of Guardrail compared to 170 and 260. This indicates an under-investment in this asset type. The same can be said for Timber Sight Rail, with very few around the district.

Type	Total No.	Total (m)
Bridge Approach Rails	495	8342
Bridge Rails (Steel Tube and Armco)	36	577
Guardrail	52	1658
Timber Rails	8	255
Other type (Pedestrian)	11	59

Traffic services methodology

With certain assets that form part of the Traffic Services group considered to be in a poor condition.

During the first year of this AMP cycle, funding has been set aside to develop an "Out of Context Curve Project" that will identify areas for improvement across the network and determine where the best return on investment can be made in terms of overall safety improvements.

This project is likely to transform our Traffic Services inventory, as the installation of these assets typically have a high benefit to cost ratio. Additional to the safety improvements made, the project will provide consistency across the network which can then guide Maintenance and Renewal programmes into the future.

Asset information management

Signs, Street Lights and Sight and Guard rails are managed as stand-alone assets within RAMM.

Network Inspectors carry out visual assessments to identify and record faults based on the network Maintenance Intervention Strategy Visual Assessment Guide, which includes failure categories such as cleanliness, visibility and damage. If an asset meets any of the failure criteria, it is entered into the "All Faults" database, analysed and programmed for either repair or replacement. The response and reinstatement times are managed to minimise the risk to public safety.

The all faults process is an on-going operation with asset inspectors continuously monitoring the deterioration of previously recorded faults and identifying new defects, and reviewing or adjusting the priority of recorded defects.

Traffic Service assets such as Linemarking, Edge Marker Posts and Raised Reflective Pavement Markers are not recorded as individual assets within RAMM. Due to the nature of these assets, the best method of recording this is by road length. With such inconsistency across these assets, the RAMM information held currently is poor, therefore it is not currently managed.

Sign maintenance, renewals and capital improvements

Maintenance - Signs are generally maintained as part of routine network patrols. The patrol frequency is based on the road's ONRC classification. The activities undertaken as part of these patrols include; washing of signs to remove grime/graffiti to improve visibility, removal of vegetation blocking signs from road users vision, and minor maintenance such as painting and straightening of posts, and tightening of fastenings.

Renewals - Signs are renewed when they fail to meet current standards or are damaged to the point where they become ineffective. We have sufficient mitigation strategies and focused response times to prevent delays in renewals and limit the risk to public safety.

Capital improvements - New works for additional signs are predominantly driven by safety audits and programmes to improve road safety, including accessibility around schools. There are new signs associated with programmes such as minor safety improvements and capital works.

Road marking maintenance, renewal and capital improvements

Maintenance - Road Marking maintenance will occur alongside other physical works if deemed required at the time of works.

Renewals - Road markings are renewed on an annual basis, to ensure suitable reflectivity is maintained.

Raised Reflective Pavement Markers (RRPM) are renewed as required as part of the annual road marking programme, this includes RRPM installed for Fire Hydrants.

A review of our network's delineation is underway which will allow us to determine the appropriate delineation standard based on a road's classification. The new standard will be developed which will place greater emphasis on high classification roads and high-risk sections of our network.

Capital Improvements - New road marking is typically associated with programmes such as minor safety improvements and capital works. Road marking is also installed at points of the network where there is increased risk of accident caused by poor road alignment, narrowness, or poor sightlines.

Street light operations, maintenance, renewals and capital improvements

Operation Street lighting operates from dusk to dawn and are controlled by the three lines companies which operate across various parts of the district.

Street light energy use is not metered but is calculated from the database of installed lights and wattages, and the switch on/off times. This method, while widely used within the industry, is open to several sources of error. For example, it takes no account of lamps that are inoperative and is slow to respond to additions or changes to the network.

Maintenance - Currently Street light maintenance is carried out on a reactive basis, with faults typically lodged through customer requests. Most requests are due to street light outages caused by power supply issues, so are lodged with Contact Energy, who is the Council's energy provider.

With the completion of the lamp upgrade project, maintenance related faults due to the lamp failures are expected to reduce. As the street light poles age, increased inspections, maintenance and renewal will be required.

Renewals - Until 2014/15, the streetlight renewal programme was confined to the reactive replacement of individual damaged or unserviceable lanterns and columns. Following the upgrade of all TDC owned lamps in 2017-18 focus is now on developing a planned long-term programme for renewals.

LEDs are now the standard lamp fitting for TDC owned streetlights. LEDs produce a better and brighter light, reduce energy by a third and last significantly longer (two and a half times) than a sodium light, reducing the need for maintenance.

Brackets and poles can suffer from corrosion problems and external factors such as wind which causes fittings to become loose. Concrete poles are susceptible to concrete spalling as a result of corrosion and expansion of the steel reinforcing components. All poles can be subject to vehicle collision and replaced if required.

Capital improvements - Streetlights are typically acquired or upgraded in the following circumstances:

- When new lights are provided by the Council where no lights previously existed
- When the Council streetlights are installed and vested in the Council as part of a new urban subdivision
- Through work to meet the level of service arising from:
    - Improvements in association with an urban upgrade project
    - Safety improvements, and
    - Improvements in association with undergrounding of overhead utility reticulation.

Following a recent LUX survey a Capital Improvement programme is being developed to determine whether additional lights are required to ensure the lights provide for safe and convenient night-time driving, while facilitating pedestrian movement alongside and between roadways and public spaces.

Sight rails and guard rails

As part of the proposed **"Signs Standardisation & Improvement Project"** an Improvement Action will be developed to improve the condition of Sight-rails and Guardrail. These Assets are in poor condition across the network and many Guardrail Terminal Ends no longer conform with the current Safety standards.

As part of the upgrade, a new maintenance and renewals regime will be developed to maintain the assets to an acceptable LoS. This is likely to mirror the Maintenance and Renewal regime of the signs asset.

6.8 Footpaths, Cycleways and Carparks

Introduction

The purpose of footpaths and cycleways is to provide safe spaces for “non-vehicular” modes of transport to operate. They are a link between journey origin and destination for their respective users and are an essential component of an effective, efficient and sustainable transport system and enable customers to make smart transport choices.

A footpath network in good condition is essential to provide a safe all-weather surface for pedestrians and other vulnerable users such as mobility scooters and wheelchairs.

Carparks play an important role in the transportation network and in the community itself as they enable easy access to commercial and social areas within the district. Maintaining these to a good standard encourages their use and as such, supports the community itself.

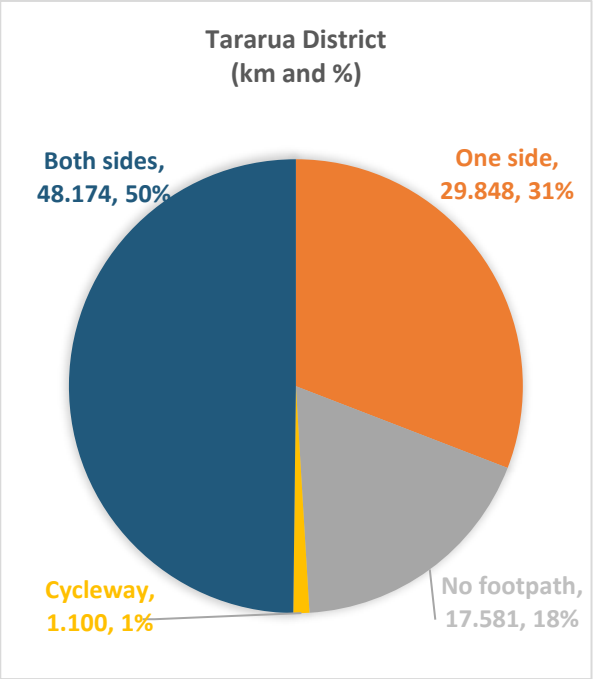
Our footpaths, cycleways and carparks

Footpaths

The majority of footpath assets are located within the four main urban areas in Tararua with a small amount in the minor townships of Norsewood, Pongaroa and Ormondville.

As is the case with many small rural townships throughout New Zealand, our footpath network is in varying stages of development. Generally, on urban streets where traffic volumes are high, footpaths run along both sides of the carriageway and as traffic volumes reduce, footpaths feature on one side only or in many cases, no footpaths exist.

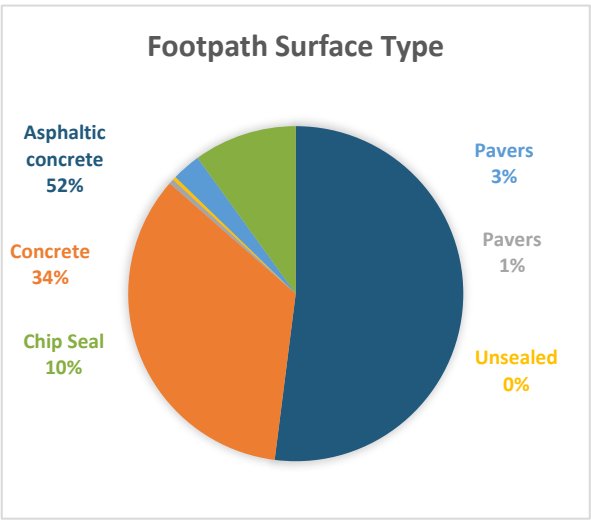
The majority of footpaths are surfaced with asphaltic concrete (asphalt) or concrete and have adequate width for the populations they service.



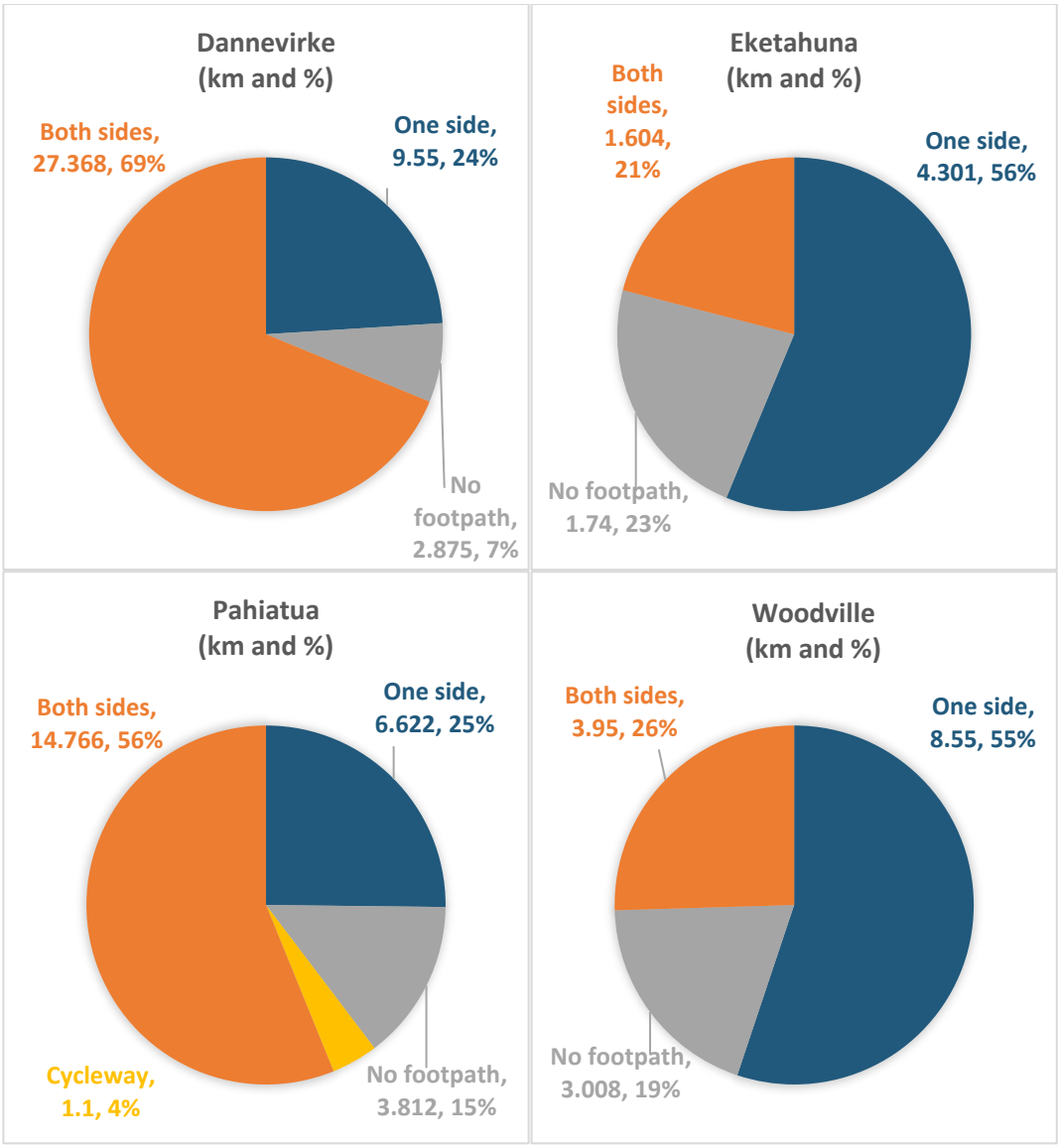
Cycleways

Similar to many other low population based rural districts, formed cycleways are not a common feature within our district. We have 1 formed cycleway running between Pahiatua and the Fonterra Dairy Processing Plant located 1.1km from the town boundary.

Although we have few cycleways, the flat topography of our urban areas allows for easy cycling. Additionally, to this, we have wide street formations which provide ample room for vehicles and cyclists to mix, making cycling a relatively safe activity. This however, cannot be said for all parts of the network. Our rural network has narrow road formations, is winding and in areas the shoulders drop quickly away. Parts of the State-Highway near the urban centres also have narrow road formations and high traffic volumes. Both these factors restrict the growth of cycling as a form of transport, as cycling in these areas can be dangerous.



The charts on the following page provides details of our asset inventory across the various townships.



Carparks

Council manages a total of 23 off-carriageway carparks within the Tararua, this supplements marked on-street parking and private carparks owned and managed by businesses. Over the period of the last AMP, Council has been investing in the creation of off-street parking at points where people gather, such as schools and maraes.

Carpark Location	# of carparks	Total Area (m2)
Dannevirke	13	20,974
Eketahuna	2	4,200
Pahiatua	3	4,159
Woodville	5	2,015
TOTAL	**23**	**31,348**

Footpaths, cycleways and carparks methodology

Footpaths, Cycleways and Carparks are managed to ensure that the desired Levels of Service (LoS) are delivered for the lowest long-term cost. This is done through a combination of general maintenance and renewal to manage the sections that have a high number of faults.

Following the release of the NZTA Pedestrian Planning Guide Tararua District Council are reviewing its approach towards the Maintenance, Renewals and Construction of Footpaths.

Fault inspection and programme development

Footpaths, Cycleways and Carparks have similar structures and surfaces to that of the Sealed Pavement assets and the faults that occur are similar albeit on a reduced scale due to the reduced stresses placed on them.

RAMM is used to manage the asset, record faults and develop work programmes. Yearly inspections are undertaken on all 3 asset types within the group and depending on the severity and spread of faults, repairs will either be programmed for maintenance or renewal. Additional to the inspections, responses to Customer Requests for Maintenance may lead to the asset in the wider area being assessed.

Footpath condition is impacted by the widespread use of the berm and footpath for the installation of underground services and to ensure these activities do not lead to a lowering of LoS careful monitor of contractors and their work methods is required to ensure public safety during the works and satisfactory reinstatement and warranty of all disturbed surfaces. This is managed by the Corridor Access Request (CAR) process.

Maintenance

One direct benefit of using the “All-Faults” system to manage the Footpaths, Cycleways and Carparks asset is that the data is readily available can be fed directly to the operational teams who use it to plan out their maintenance and renewal programmes.

The severity of a fault will determine when intervention occurs, with safety related faults targeted to be repaired in a timely manner. Lower severity faults are repaired as part of wider work programmes. All repairs are expected to be surfaced with like-for-like treatments to avoid uniformity issues.

There is also an element of reactive works generated through interaction with the public CRM system, although there is an effort to minimise this by attending high priority defects in a timely manner.

The maintenance of these assets is generally co-ordinated with the renewal programme and other works programmes to maximise cost efficiencies.

Renewal

Renewal works are considered where a significant section of the asset is in poor condition and in need of repair. Performing renewals over large areas is significantly more economical than repairing several small patches close together. Renewing larger area also has the benefits of creating a consistent and even surface that will provide a better customer experience for users at a lower whole of life cost.

The renewal sites are highlighted by the yearly “All Faults” inspections and validated by the appropriate operational team members. To ensure efficient and effective delivery of renewal works, minimum lengths of renewal are required.

Tararua District Council is reviewing the recently released NZTA’s Pedestrian Planning Guide within the context of our districts existing assets. If its guidelines allow us to maintain the consistency of our network, then it will be adopted as the standard for all renewal and construct activities.

Footpath surface treatment section

The table below describes the various surfacing materials available for footpath construction and provides an indication of the expected life and resistance to common deterioration modes.

Asphaltic concrete (asphalt) is the most common footpath surface treatment on the network as it provides a suitable surface, is quite resistant to deterioration and is much cheaper than concrete.

Footpath surface material	Average Economic Life (yrs)	Cost to construct	Cost to Maintain	Difficulty of Mtce.	Resistance (Wearing)	Resistance (Weeds & Tree Roots)	Resistance (Vehicle Overun)	Comfort of Use
Concrete	75	High	Average	Average	Best	Best	Best	Best
Pavers	75	High	Very High	Average	Good	Average	Average	Average
Asphaltic Concrete	25	High	Average	Average	Good	Good	Good	Good
Chip seal	15	Average	Average	High	Average	Average	Average	Poor
Unsealed	5	Low	Low	Low	Poor	Poor	Good	Poor

Capital improvements

The most common drivers for the creation of new assets are:

- New paths being constructed by TDC where no path previously existed
- New footpaths being vested to TDC from new urban subdivisions by private developers
- Upgrading existing assets to improve the Level of Service, particularly in relation to special or superior treatment from that which previously existed prior to upgrade.

Following the Walk-Cycle Strategy and Action Plan and review of the current footpath locations Tararua District Council have planned to invest more in the Construction of new Assets.

6.9 Environmental maintenance

The Environmental Maintenance activity encompasses the routine care and attention of the naturally occurring features (grass, trees) within the road corridor to maintain safety, aesthetic, and environmental standards, and provides for the reactive reinstatement of the transportation assets following adverse weather or emergency events.

If this type of maintenance did not occur, the network would eventually be taken over by nature and become unusable.

The specific tasks carried out for this activity are outlined in the table below.

Routine Operations	Purpose
Mechanical Vegetation control and Roadside mowing	To control vegetation growth within the corridor to maintain corridor width and sight visibility.
Roadside Spraying	To maintain water flow paths along drains and to control unwanted vegetation with the road corridor.
Detritus and Litter control	To clear lined channels of detritus and keep the road corridor tidy.
Unsubsidised Environmental and Waste Management	Providing services (i.e. Rubbish Bins, footpath cleaning) within townships to keep Tararua tidy.
Woodville Stock Effluent Facility	A purpose-built facility to allow Stock trucks to dispose of effluent. This Facility is located on State-Highway 3 at the entrance to the now closed Manawatū Gorge.
Reactive Operations	
Minor events including vehicle accidents, slips and debris removal	To clear foreign objects from carriageways, prevent chemical run-off into waterways and clear carriageways and drains of blockages.
Emergency works	To repair damage to the network caused by large scale environmental events.

Routine operations

The primary focus of Environmental Maintenance routine operations is to maintain the environment that impact other physical assets (Sealed/Unsealed Roads, Drainage systems, Structures)

Over recent years, there has been a shift in strategy and an increase in environmental activities such as vegetation control and spraying. By controlling vegetation better, we can improve the function of other assets. By removing visual barriers along carriageways, the safety on our roads improves. Through controlling vegetation in drains and at culvert inlets/outlets these assets function better as impediments to water flow are removed.

Over time it is expected that by increasing the focus on vegetation control across the network, maintenance costs in other areas, such as drain clearing will reduce.

As part of its Environmental Maintenance activity, the Tararua District Council maintains the one Stock Effluent Transport Station. This facility is located on the now closed State-Highway 3 near the entrance to the Manawatū Gorge.

Maintenance involves the emptying of tanks, and any structural repairs required to keep the asset safe and functional. The tanks have sensors which provide an alert to Council when they are nearing capacity and engages a certified waste management company to empty and dispose of the effluent at an approved facility.

Mowing and vegetation control

Uncontrolled grass and vegetation growth severely limits visibility and forces vehicles towards the centre of the road, thus increasing the chances of accidents.

To maintain this growth, the Sealed and Unsealed roads are scheduled for mowing and High-cut vegetation control on a cyclic basis. Frequency is dependent on a roads ONRC category.

Roadside spraying

This activity allows us to control vegetation growth across the roading network, whether it be vegetation growing in side-drains which impede waterflow; spraying around signs and Edge Marker Posts (EMPs) to maintain their visibility for the road user; or spraying of noxious vegetation, this activity plays a critical part in keeping our network functional and safe.

The roadside drains across the district are gradually being upgraded through clearing of existing and the formation of new drains as part of the drainage activity. This improvement is being supported by an increase in road-side spraying, to protect the reformed or new water channel.

Detritus and litter control

This activity is primarily about keeping our network clean and tidy. Maintaining the ascetics of the Tararua promotes people's well-being. For travellers, litter along the carriageway is unsightly and impacts their perception of our district.

Detritus and Litter along our roads can also impact other assets. For example, a plastic bag may block the inlet of a culvert, thus reduce its efficiency. Small slips within the water-channel will impede water-flows.

Unsubsidised environmental and waste management

Council fund and undertake a number of activities which are not subsidised through the National Land Transport Fund. These are activities are largely those which promote amenity of the district and are not directly related to the Transportation Asset and are;

Rubbish Bin Clearing

Rubbish Bins are provided around the Urban centres to allow people to dispose litter to reduce the amount dropped onto the group. This helps keep our townships clean and tidy.

CBD Footpath Cleaning

Footpaths within the CBD are cleaned through high-pressure hot water blasting to maintain ascetic values. In conjunction with this, weeds within the CBDs are controlled.

Reactive Operations (Minor Events and Emergency Works)

Reactive Operations are responses to events that impact the network and are caused by environmental factors (human or nature).

Weather events can have a major impact on the Tararua District's roading network. The combination of undulating topography and weak soil types can result in damage across our network following high-intensity rainfall. Add to this the isolation of some of our communities and limited access routes, a significant storm event can close access to parts of our network for days to weeks and create damage, which may take months to years to recover from.

While the occurrence of these events is beyond our control, we do anticipate a certain amount each year, therefore funding is set aside to respond to these events.

6.9.1 Managing our Environment - Methodology

The activities undertaken as part of Environmental Maintenance is largely driven by mother nature for which we have limited to no influence over. During long dry summer periods, growth is limited therefore the cost to maintain the network is reduced, alternatively, if summers are warm and wet

then growth accelerates, and we struggle to keep on top of vegetation growth. Managing our roading network under an Alliance model allows us to respond to these changes by increasing activities or decreasing activities as required.

The Routine Activities we undertake to manage the environment is a balancing act between over-delivering, therefore costing more money than necessary and not doing enough, leading to increased risk to safety and a deterioration of people's perception of the district.

Routine operations

Routine patrols are carried out on a cyclic basis to pick up and remedy minor defects that help improve the amenity and safety of the network.

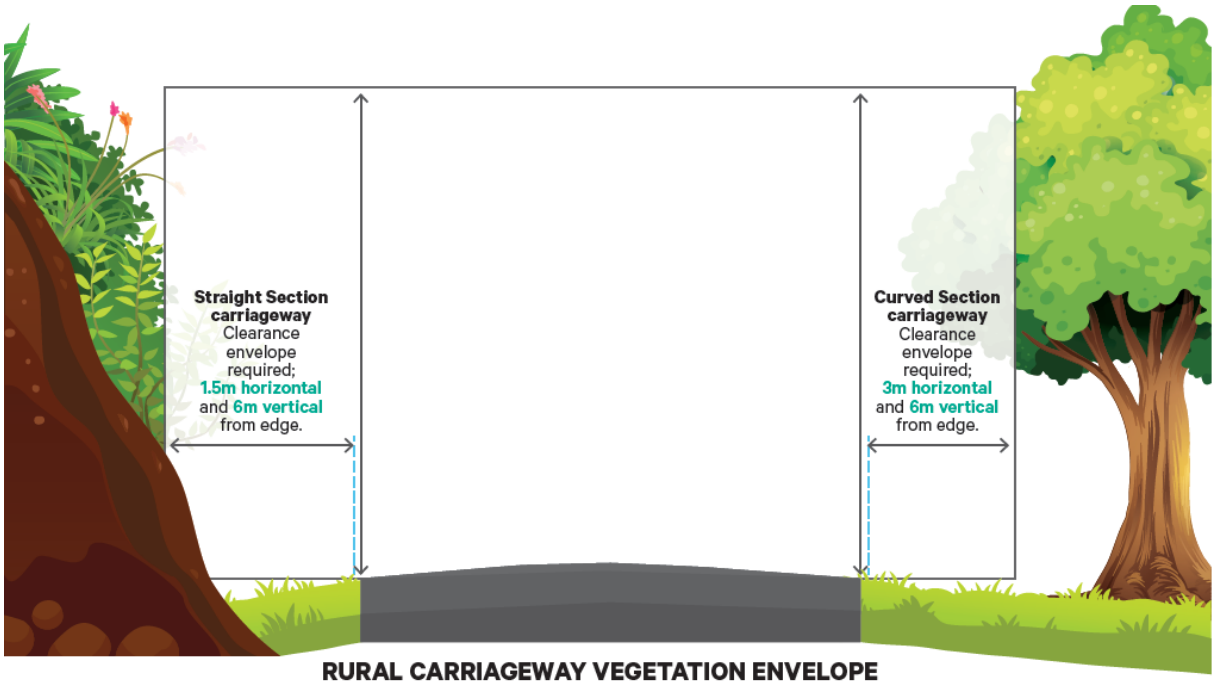
Customer requests are investigated as they are received. Issues which impact safety are responded to as soon as possible, with the patrol staff rectifying minor issues within their capability at the time (i.e. clearing fallen trees or unblocking a drain). If the request is for larger more general, then the issue may be managed through a wider programme of works (i.e. High-reach vegetation control)

Roadside mowing and vegetation control

Mowing and vegetation control is carried out on rural sealed and unsealed roads for the purpose of maintaining lines of sight for road users and to control fire risk.

Roadside mowing is undertaken on a scheduled cyclic basis rather than having a specified length for which grass has to be maintained to.

The requirements for the control of overhanging vegetation are that no foliage shall encroach inside the specified vegetation envelope such that the passage of traffic is impeded or causes visibility problems or otherwise interferes with the safe use of a road.



RURAL CARRIAGEWAY VEGETATION ENVELOPE

Vegetation maintenance is undertaken to manage safety through maintaining sight visibilityand the maintain the condition and effectiveness of other assets. Due to the size of the network, the maintenance programme is programmed on a cyclical basis in order to manage costs.

Routine Vegetation Control and Spraying Schedule					
Road Type	**ONRC**	**Length (km)**	**Proposed Mow Frequency**	**Proposed High Cut Frequency (years)**	**Proposed Spray Frequency**
Sealed	Arterial	29.25	2x year	2	2x per year
	Primary Collector	22.9	2x year	2	2x per year
	Secondary Collector	282.34	2 x year	2	2x per year
	Access	537.85	2 x year	2	2x per year
	Low Volume	227.76	2 x year	2	2x per year
Unsealed	Secondary Collector	10.44	1 x year	3	Targeted only
	Access	81.19	1 x year	3	
	Low Volume	680.02	1 x year	3	

Roadside spraying: Roadside vegetation control is undertaken on sealed and unsealed roads and specifically at bridges, culvert headwalls, sight rails, edge marker posts, kerb and channel and traffic signs.

Roadside spraying is managed under the Road Network Alliance contract with physical works sub-contracted out.

The contract specifies the following for control;

Sealed Rural Roads: Our clear expectation is to keep water tables free of vegetation to allow water to flow. Control area shall include to the control of vegetation around edge marker posts, signs, bridge end markers, culvert ends, headwall, guardrails, sight rails, kerb and channel, weight pits, side drains, culvert waterways, bridge approaches and abutments, and rest area furniture. Additional shall be the Bridge Decks Kerb area to allow no vegetation growth on Bridge Decks.

Unsealed Rural Roads: Sprayed area is to be the edge of the Unsealed Pavement to water tables with a full width spray of to allow water to flow freely to water tables with a maximum distance from edge of the Unsealed Road Pavement to the Water table at least 1.5m and Pavements with no Water table a maximum of 1.5m from the Unsealed Road Pavement edge. Additionally isolated areas requiring site visibility to allow clear vison for a standard 4 door car driver to have clear/safe visibility. The work required by this Section shall be completed in accordance with TNZ C21.

Stormwater Open Drain Spraying: Spraying of the open drain network is to be undertaken in the following towns.

- Dannevirke
- Woodville
- Pahiatua
- Eketahuna

Spraying of noxious weeds is also included in the Roadside Spraying contract with an annual budget set against it. The Regional Council monitors control of noxious weeds within the district will advise

us of what needs to be controlled, and instruction will gave given to the contractor to respond. Due to inconsistency this work, responses are paid for on a dayworks basis.

Detritus and litter collection: The Council undertake a number of litter and amenity cleaning functions within the roading network. These include; mechanical road sweeping, footpath sweeping, cycleway and cycle path sweeping/cleaning, general litter collection, and clean-up of illegal dumping. These activities are managed, and physical works completed under the Road Network Alliance Contract.

Unsubsidised rubbish bin clearing: Rubbish Bin clearing along Urban roads is managed under the Road Network Alliance Contract with physical works sub-contracted out.

Bins are emptied every morning and on demand via CRM as required.

Unsubsidised CBD footpath cleaning: CBD Footpath Cleaning is managed under the Road Network Alliance Contract, with physical works sub-contracted out.

Footpaths within Dannevirke and Woodville are cleaned 5 times a year with a High-pressure Hot-water blaster. Pahiatua will be added to the schedule following the completion of the Main Street Upgrade Project scheduled for July 2021.

Woodville stock effluent facility: The Tararua District Council maintains the Woodville Stock Effluent Facility located at the approach to the Manawatū Gorge, this effluent facility has a storage tank that requires clearer when full. The storage tank has a sensor on it to alert Council as to when it is full. On receiving an alert, a certified Environmental Waste Contractor is sent to empty the tank. The waste is then disposed of at an approved facility.

Structural maintenance occurs as required.

Reactive Operations (minor events and emergency works)

Slip and debris removal: Slip and debris removal is a critical reactive activity to maintain access to our network.

Many of our rural roads are located in close proximity to meandering streams/rivers; positioned in steep and unstable cuttings; or running down steep gradients have a high prevalence for erosion, slips and slumps. Maintaining these small slips and sediment build-up is critical, as blocked water-channels can lead to water crossing the road and lead dropouts or heavy scouring.

The Tararua Alliance Inspection and Patrol-people monitor and where possible clear any minor slips and debris as the travel the network. Where they cannot clear the item/s themselves, they will report this through to the Alliance Management and/or Supervisionary staff where is it programmed for clearing. Response times are based on the criticality of the asset being impacted.

Minor events: The Minor Event work category is funded from the local roads maintenance activity and applies to any works that would otherwise qualify as “Emergency works” except that the total cost of the works is less than $100,000 per event.

This work category applies to the following:

- Removal of rocks and slip material from roads and cycle ways
- Repairs to road and cycleway surfaces
- Reinstatement of network facilities damaged as a result of a minor event.

Emergency works: Emergency works normally arise from adverse weather events which cause significant damage to the network. Repairs to the network associated with these events are generally completed, even if expenditure exceeds the available budget, as the damage significantly lowers the LoS of the network. Other routine work is deferred to keep total expenditure within budgets.

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

Emergency works costs can vary quite significantly year on year and is largely dependent on the number and severity of weather events and the damage inflicted on the network.

Initial Response:

The initial response work category covers the work required immediately after an event to open the road to at least single lane operation. This may include:

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

Permanent Reinstatement:
Permanent reinstatement restores the road to its former (or similar) condition and generally involves:

- An engineering appraisal of options;
- Design input;
- Construction of retaining structures;
- Earthwork road retreats; and
- Culvert replacements.

The Tararua Alliance manage the Emergency works initial response, then design and reinstatement. Outside support will be called upon if the scale of the event is too great that the Alliance resources cannot respond in adequate time or design requirements exceed that of the staff.

Asset Resilience

Much of the network built up over time, starting with tracks being pushed through gullies and along the sides of hills, then gradually upgraded to a sealed surface within the budget limitations of the time. These upgrades have led to much to the network having a narrow road form with steep banks either side of the road and limited drainage to shed the water from the carriageway. A storm event will result in large slips, underslips and road washouts across the network. When these network wide events occur, whole roads can be impacted with multiple slips (as shown in the photo) blocking the carriageway. The scale of damage can result in homes and communities being isolated for a significant period of time.

While most of these communities are aware of these risks and to an extent are prepared for them, the increasingly mobility of the agricultural workforce and increasing freight volumes leaving these areas is limiting the economic performance of the district.

7. Finances

7.1 Financial Forecast

	Description		2024-27 NLTP Approved Funding	Y1	Y2	Y3	FAR
Operations	114	Structures maintenance	$1,736,939.00	$538,451.09	$573,189.87	$607,928.65	73%
	121	Environmental maintenance	$3,898,277.00	$1,208,465.87	$1,286,431.41	$1,364,396.95	73%
	122	Network Service Maintenance (Traffic service maintenance)	$1,368,808.00	$424,330.48	$451,706.64	$479,082.80	73%
	123	Network operations	$0.00	$0.00	$0.00	$0.00	73%
	131	Rail level crossing warning devices maintenance	$103,952.00	$32,225.12	$34,304.16	$36,383.20	73%
	140	Minor events	$1,157,959.00	$358,967.29	$382,126.47	$405,285.65	73%
	151	Network and asset management	$2,605,408.00	$807,676.48	$859,784.64	$911,892.80	73%
	215	Structures component replacements	$1,929,932.00	$598,278.92	$636,877.56	$675,476.20	73%
	221	Environmental renewals	$0.00	$0.00	$0.00	$0.00	73%
	222	Traffic services renewals	$723,725.00	$224,354.75	$238,829.25	$253,303.75	73%
		Total - Operations	**$13,525,000.00**	**$4,192,750.00**	**$4,463,250.00**	**$4,733,750.00**	
Pothole Prevention	111	Sealed pavement maintenance	$8,999,918.00	$2,789,974.58	$2,969,972.94	$3,149,971.30	73%
	112	Unsealed pavement maintenance	$2,306,899.00	$715,138.69	$761,276.67	$807,414.65	73%
	113	Routine drainage maintenance	$3,999,964.00	$1,239,988.84	$1,319,988.12	$1,399,987.40	73%
	211	Unsealed road metalling	$3,199,971.00	$991,991.01	$1,055,990.43	$1,119,989.85	73%
	212	Sealed road resurfacing	$15,148,459.00	$4,696,022.29	$4,998,991.47	$5,301,960.65	73%
	213	Drainage renewals	$1,999,983.00	$619,994.73	$659,994.39	$699,994.05	73%
	214	Sealed road pavement rehabilitation	$8,806,806.00	$2,730,109.86	$2,906,245.98	$3,082,382.10	73%
		Total - Pothole Prevention	**$44,642,000.00**	**$13,783,220.00**	**$14,672,460.00**	**$15,561,700.00**	
Walking & Cycling	125	Footpath maintenance	$648,000.00	$200,880.00	$226,800.00	$220,320.00	73%
	225	Footpath renewal	$0.00	$0.00	$0.00	$0.00	73%
		Total Walking & Cycling	**$648,000.00**	**$200,880.00**	**$226,800.00**	**$220,320.00**	
		Grand Total	**$58,635,000.00**	**$18,176,850.00**	**$19,362,510.00**	**$20,515,770.00**	
		Local Share (27%)	$15,831,450	$4,907,749.50	$5,227,877.70	$5,539,257.90	
		NZTA Share (73%)	$42,803,550	$13,269,100.50	$14,134,632.30	$14,976,512.10	

7.2 Asset Valuation

Council's roading assets were most recently valued in January 2022. The results of this valuation are summarised in the table below:

Roading and Footpath	Replacement Cost	Accumulated Depreciation	Depreciated Replacement Cost	Annual Depreciation
Formation	$336,082,710	$0	$336,082,710	$0
Sealed Road Surface	$30,835,341	$22,932,803	$7,902,539	$1,858,505
Sealed Pavement layers	$319,353,659	$71,256,043	$248,097,616	$1,960,514
Unsealed Pavement layers	$41,820,954	$8,383,159	$33,437,795	$892,727
Drainage	$55,593,822	$26,258,484	$29,335,338	$665,236
Surface water channel	$50,514,579	$27,870,519	$22,644,060	$566,304
Footpaths	$47,745,432	$30,033,062	$17,712,370	$1,489,089
Signs (inc Posts)	$2,692,941	$2,301,116	$391,825	$171,615
Markings and RRPMS	$199,341	$0	$199,341	$0
Railings	$952,280	$168,228	$784,052	$28,442
Streetlights	$2,217,070	$1,125,502	$1,091,568	$55,576
Retaining Walls	$54,968,762	$28,230,735	$26,738,027	$610,764
Bridges and Large Culverts	$165,927,527	$98,455,483	$67,472,044	$1,418,835
Totals	**$1,108,904,419**	**$317,015,134**	**$791,889,285**	**$9,717,606**

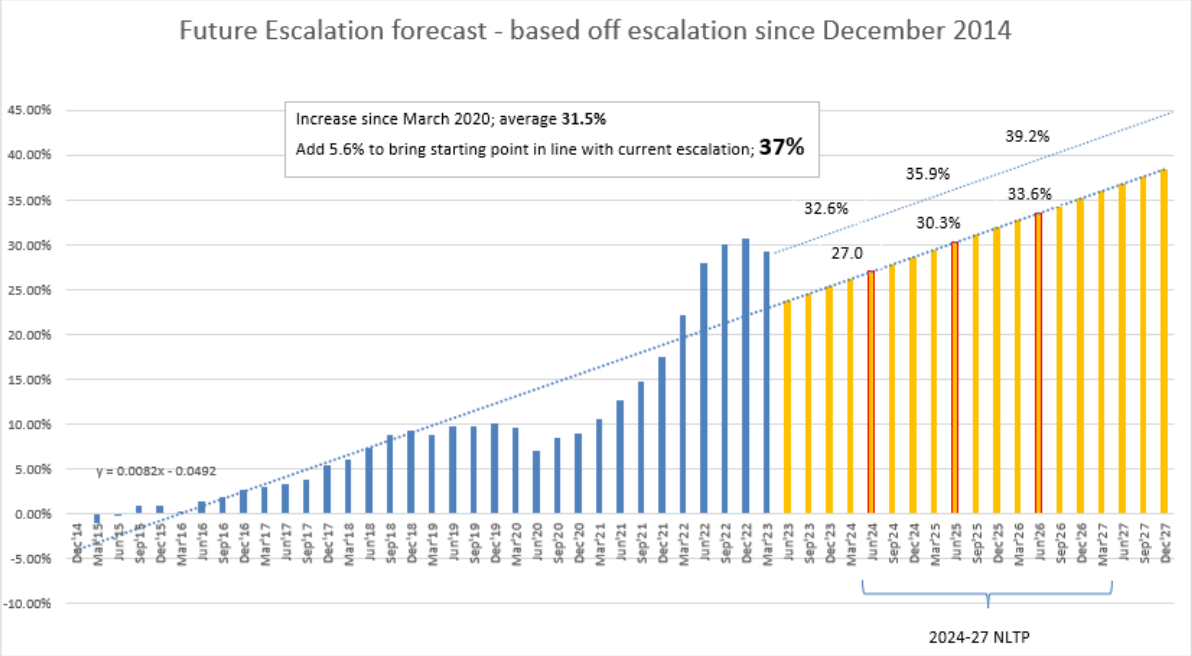
7.3 How We Pay for It

Through the Financial Assistance Rate (FAR) Tararua District council is offered a 73% subsidy from NZTA Waka Kotahi for those Work Categories that are eligible.

Activities that are not subsidised – such as carparks – are fully funded by rates collected by Tararua District Council.

The remainder of the costs that have been subsidised through the FAR are also covered by rates collected by Council.

7.4 Financial forecast uncertainty



As can be seen in the current market – with escalating inflation and fluctuating prices on materials and resources – there is some uncertainty when making financial forecasts.

The options that have been presented in the Strategic Case chapter of this document account for cost escalation between 20-30%.

8. 2024-27 AMP improvement plan

The items below are the improvement projects that we will be working on during 2024-27. They are derived from the Options analysis within the lifecycle management sections of this document. We have aligned them with the REG Pillars of Success which give a broad context to the type of project they are.

As opportunities for improvement arise over the course of the funding period, they will be added to the Asset Management Improvement plan document.

Project Name	Description	REG Pillar	Priority	Timeframe
Bridge Componentisation Project	Determine the best methodology to break down bridges into components and over the funding cycle update each bridge into RAMM.	Systems	Medium	30/06/2027
Road Hierarchy Classification Framework	Develop and implement an improved classification framework for Tararua roading network to enable better planning and investment decisions, factoring in NZTA requirements including the ONF.	Systems Decision-making	High	30/06/2026 (implementation 2027-30 NLTP)
Defining Level of Service	Based on financial pressures, Council are in the process of reviewing the Level of Service provided in line with the potential Road Hierarchy changes as above. This allows us to prioritise investment to better reflect road use.	Decision-making Service Delivery	High	30/06/2026 (implementation 2027-30 NLTP)
Asset Management Risk Register	Develop and actively manage a specific Asset Management Risk Register	Service Delivery Quality Improvement	Medium	30/06/2026

8.1 Maturity Assessment

In November 2022 Downer NZ Ltd conducted an internal audit on Asset Management within the Tararua Alliance.

The Asset Management Maturity Assessment is based on the standard ISO 55001 – Asset Management.

The audit returned a score of 72.6% placing the Asset Management Maturity at “Proficient”. This score also indicates that Asset Management within the Tararua Alliance is be eligible to meet ISO 55001 accreditation requirements.

9. Appendices

9.1 Appendix A – Relevant Bylaw Sections

The bylaws are accessible to the public on the Council website. **www.tararuadc.govt.nz.**

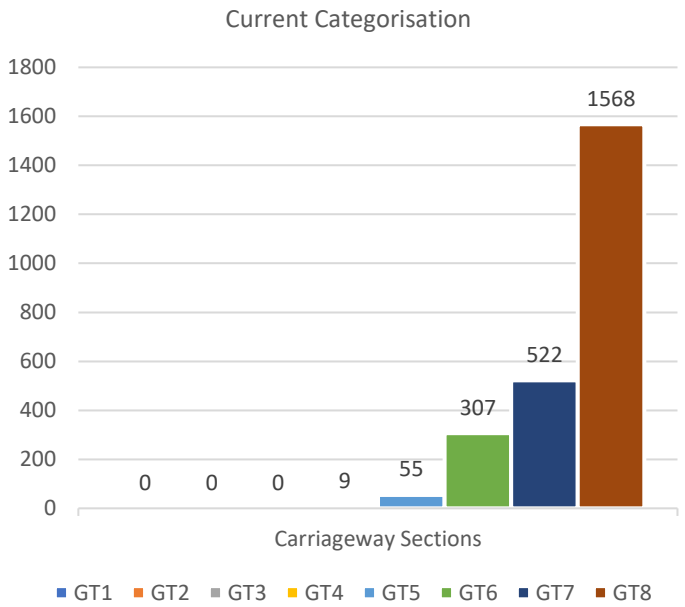
	Bylaw	Description
Chapter 2: Public Places	**Vehicular Crossings Bylaw**	Any person wishing to construct, repair, remove or widen any vehicular crossing shall first obtain a permit from the Council. If in the opinion of the Council any crossing is in a bad or unsafe state of repair, Council may require the owner of the land which the crossing provides access to, to repair, reconstruct, or renew such crossing.
	Road and Building Identification Bylaw	The Council requires properties and /or buildings to be numbered. Council shall have power at any time to alter the number of any building where in the Council's opinion it may be necessary or advisable to do so.
		No person shall permit or allow vegetation to encroach on to or over any public place so as to obstruct or interfere with the free movement of persons using that public place
Chapter 25: Traffic	**Stopping, Standing and Parking**	This Bylaw controls places vehicles may stop or stand and the length of the period they are stationary. This also applies to refuse receptacles and mobile advertising.
	Metered Areas, Parking Meters and Zone Parking	The Council may from time to time amend this bylaw in accordance with the Local Government Act 2002 to: (a) Declare any road or part of a road to be a metered area or zone parking; (b) Declare any piece of land owned or controlled by the Council and not being a road or part of a road, including any parking place or transport station to be a metered area or zone parking; (c) Declare the time allowed for parking in such metered areas and areas of zone parking beyond which it shall be unlawful to remain parked; (d) Subject to section 150 of the Local Government Act 2002, fix the fees payable for the parking of vehicles within the metered area and areas of zone parking.
	Unlawful Parking	A person shall not park any vehicle or vehicle combination in any parking space except as permitted by the provisions of this bylaw.
	One Way Roads	A person may only drive a vehicle or ride any horse or bicycle along the roads or parts of roads listed as a 'one-way road' in Schedule A of this chapter of this bylaw, in the direction specified.
	Heavy Traffic Prohibitions	This bylaw permits Council to restrict heavy traffic access on parts of its network.
	Weights of Vehicles or Loads over Bridges or Culverts	The Council may amend this bylaw in accordance with the Local Government Act 2002 to regulate the weights of vehicles or loads that may pass over bridges or culverts or to provide that any such regulation be removed.
	Offences and Penalties	Without limiting section 112 of Chapter 1 Introductory of this bylaw, every person commits an offence against this chapter of this bylaw, who:

		(a) Fails to comply in all respects with any prohibition, restriction, direction or requirement indicated by the lines, markings, traffic signs and other signs or notices laid down, placed, made or erected on or upon any road, public car park, reserve or other places controlled by the Council under the provisions of this chapter of this bylaw; (b) Fails to comply with any condition, duty, or obligation, imposed by this chapter of this bylaw. A person may not be subject to proceedings under this bylaw, if that person is also, for the same facts, being proceeded against for a breach of the Land Transport Act 1998.
	Speed Limit Bylaw	The Tararua District Council makes this bylaw to set speed limits as specified in the schedules. The roads or areas described in the schedules specified in this bylaw are declared to have the speed limits specified in the schedules and maps.
	Road Encroachment Policy	The Council reserves the right to restrict or prohibit the grazing of specific areas of roadsides, if it is felt necessary, to maintain the integrity of the constructed road or for the safety of road users.

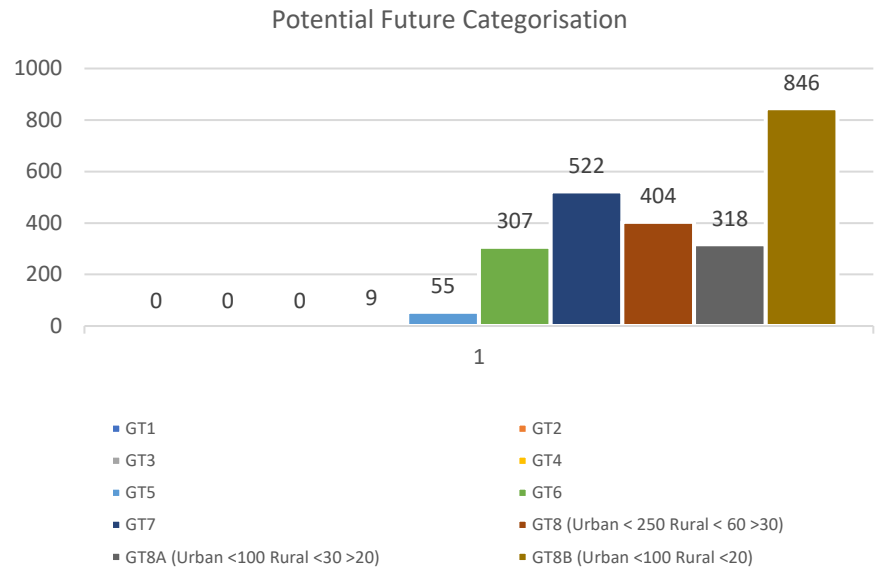
9.2 Appendix B – ONF development

The Tararua District's Road Hierarchy Project has been established to allow for the transition from the District Plan and ONRC Hierarchy to the ONF Road Hierarchy. The following provides a snapshot of how the ONF categories are currently applied for General Traffic across the carriageway sections, and how the project may expand on this to provide further granularity and help inform Levels of Service / investment prioritisation:

General Traffic						
Current ONF Categorisation of Carriageway Sections (2024)						
ONF Class	**Related ONRC Class**	**Strategic Significance**	**ONRC Metric / class differentiator**	**People movement per day**	**Graph**	
GT1	ONRC - High Volume	The high-volume movement of people nationally or to nationally significant locations. Nationally significant routes.	Urban > 35,000, Rural > 20,000 VPD	Urban > 40,000, Rural > 25,000	0%	
GT2	ONRC - National	The movement of people nationally or to nationally significant locations	Urban > 25,000 Rural > 15,000	Urban > 30,000 Rural > 18,000	0%	
GT3	ONRC - Regional	Connectors providing significant movement of people between cities and regions.	Urban > 15,000 Rural > 10,000	Urban > 18,000 Rural > 12,000	0%	
GT4	ONRC - Arterial	Connectors providing significant movement of people through or between neighbourhoods and towns.	Urban > 5,000 Rural > 3,000	Urban > 6,000 Rural > 3,500	0%	
GT5	ONRC - Primary Collector	Major collectors that link neighbourhoods to townships / districts	Urban > 3,000 Rural > 1,000	Urban > 3,500 Rural > 1,200	2%	
GT6	ONRC - Secondary Collector	Minor collectors that link local areas to neighbourhoods.	Urban > 1,000 Rural > 1,000	Urban > 1,200 Rural > 1,200	12%	
GT7	ONRC - Access	Movement within a local area or to access areas outside the local area.	Urban < 1,000 Rural < 200	Urban < 1,200 Rural < 250	21%	
GT8	ONRC - Low Volume	Low volume movement within a local area	Urban < 200 Rural < 50	Urban < 250 Rural < 60	64%	



The above breakdown of General Traffic provides limited guidance for the Tararua District Council due to the majority of roads falling under the GT8 classification. As part of the ONF development, the Tararua Alliance are modelling options to further break down the GT8 classification. The current proposal is shown on the following table.

General Traffic	
Future Considerations / Options	
With a large percentage of our carriageway sections falling within the GT8 – Low Volume Movement category, we are looking apply further granularity to this categorisation. This will allow us to better manage our very-low volume roads, with the potential to significantly reduce maintenance on these roads. The proposal is to create Tararua specific sub-categories which break down the people movement per day bands to a lower level, i.e: • GT8A (Urban <100 Rural <30 >20) • GT8B (Urban <100 Rural <20) The majority of our roads which fall under these sub-categories are unsealed and/or very low volume roads which service remote rural areas. Some of these roads have recently been converted to Carbon Farming or Plantation forestry. Given the reduction in use of these roads, compared to what was seen when they maintained farming operations, there are some roads where Council may choose to cease maintenance altogether. *Note: Any work to develop sub-categories will not impact on ONF categories / reporting.*	

Differential Levels of Service

Land use within the Tararua District is changing. Over the last decade, changes in the economy has seen a significant amount of land in the district converted to Forrestry and Carbon Farms. These farm conversatons see changes to traffic patterns, with some roads now experiencing little to no daily traffic, with forrestry (depending on the timing of harvesting cycles) and Carbon farms requiring limited labour input to maintain. The development of the ONF database allows us better understand each roads use. With a changing economic priorties, the maintenance and renewals of assets across changes. Some roads no longer experience the regular traffic that is required to service farmland. Some roads are better serviced though a larger grade aggregate. Some roads. The Tararua District Council are in the process of developing options for “Differential Levels of Service” which will be consulted upon over the 2024-27 NLTP cycle. If supported, certain roads may see increased maintenance, whereas some may see maintenance reduced or roads which are currently maintained for light-vehicles, may be altered to primaryily support heavy vehicles.

As this project is developed, the intent will be communicated to the community.

9.3 Appendix C – Strategic Risk Register (as at July 2024)

Risk Description	Mitigations	Risk Rating
Capital Projects Do-ability The Council risks failing to deliver its work programme, especially for 3Waters and Cyclone Gabrielle Recovery projects, leading to delays, increased costs, and potential for asset failures, compounded by financial uncertainties and resource constraints.	• Council works collaboratively with its supply partners • Project delivery can be revised during future LTPs • Projects are monitored by the Infrastructure, Climate Change, and Emergency Management Committee • Larger projects have a steering committee • Council has sound procurement processes and has a transport procurement strategy • Projects are well scoped during LTP development • Council centrally leads or supports projects through its Project Management Office	Severe
Climate Change The risk is that climate change may occur more rapidly and severely than predicted, leading to increased storm and flood damage, fire risk, and erosion, necessitating unfunded emergency work and additional infrastructure investment, while also impacting the global economy, driving social change, and creating supply chain constraints and insurance challenges.	• Financial Strategy • Future Community Urban Design project, and District Plan review. • Climate resilience is built into infrastructure budgets • Council is a signatory to the Manawatū-Whanganui Joint Climate Action Plan	High
NZTA Waka Kotahi Funding The risk is that changes in subsidy levels and criteria from Waka Kotahi, may reduce funding, impacting Council's ability to maintain resilient and reliable infrastructure.	• Financial Strategy • Compliance with Waka Kotahi requirements • Strong relationship with Waka Kotahi • Regional Land Transport Committee • If required can change levels of service in future LTPs	High
Infrastructure Capability The risk is that higher-than-forecast growth, along with climate change impacts, will strain the district's infrastructure, requiring significant investment and potentially leading to unexpected challenges due to data gaps and funding constraints.	• Financial Strategy • Infrastructure Strategy • Future Community Urban Design project • Improving knowledge of assets • Increased depreciation reserves • Proposed development contributions • Improving demand management	High
Population Growth The risk is that actual population or household growth, driven by factors like migration, economic conditions, and climate change, may significantly differ from forecasts, leading to incorrect LTP decisions and challenges in maintaining quality community facilities and infrastructure.	• Financial Strategy • Future Community Urban Design project • Increased depreciation reserves • Lobby government (through LGNZ) • Improving knowledge of assets	High

Risk Description	Mitigations	Risk Rating
Natural Disasters The risk is that increasing natural disasters could severely damage infrastructure and disrupt services, with the Council potentially underprepared and unable to secure affordable insurance or sufficient government support, leading to significant financial strain and the need for borrowing and rate increases for recovery efforts.	• Financial Strategy • Future Community Urban Design project • Business continuity planning • Maintain emergency response capability • Insurance • Special roading reserve	High
Sources of Funds for the Replacement of Significant Assets The risk is that depreciation funds may be insufficient to replace assets if they need earlier replacement or if long-term funding has been inadequate, potentially affecting financial stability despite a current positive forecast position.	• Financial Strategy • Current level of depreciation reserves	High
Forest Harvesting The risk is that significant increases in forestry harvesting volumes and new plantings will cause major damage to arterial roads, leading to higher renewal and operational costs	• Tararua Alliance relationship and planning with forest owners • Route 52 upgrade • Heavy vehicle rate changes • Increased depreciation funding Control over some resource consent requirements	High
Wind and Solar Farm Developments The risk is that wind and solar farm developments will significantly impact roads, necessitating increased renewals, upgrades, or timing changes, though resource consents are expected to cover the full development costs.	• Future Community Urban Design project and District Plan changes • Involvement in the resource consent process • Council can consider bringing forward renewals to take advantage of developments	High
Asset Lives The risk that assets wear out earlier or later than expected	• Data improvements, LTP process, depreciation	Moderate
Contracts Have significant unbudgeted variation	• Contracts are regularly reviewed and inflation adjusted	Moderate

9.4 Appendix D – Procurement Strategy Endorsement Letter

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50 Victoria Street
Private Bag 6995, Marion Square
Wellington 6141 New Zealand

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24 April 2023

Chris Chapman
Group Manager - Infrastructure
Tararua District Council
PO Box 115
Dannevirke 4942

Transport Activity Procurement Strategy Endorsement

Thank you for your request seeking endorsement from the Waka Kotahi NZ Transport Agency for the Transport Activity Procurement Strategy dated 20 April 2023.
I am pleased to confirm that Waka Kotahi has reviewed the Transport Activity Procurement Strategy dated April 2023. This document forms Tararua District Council's Procurement Strategy, the requirements of which are outlined in the Waka Kotahi Procurement Manual.
We are satisfied that it meets the requirements of the Waka Kotahi Procurement Manual and formally endorse the Procurement Strategy effective 24 April 2023.
We would like to draw your attention to the following matters. Waka Kotahi:

1. approves the continued use of a variation to the rules in the Procurement manual, section 10.21 *Maximum term of a term service contract for infrastructure or planning and advice* to allow Tararua District Council to use a maximum contract term of ten years (10 years) for the road maintenance, operations, and renewals term service contract.
2. approves the continued use a variation to the rules in the Procurement manual, section 10.5 *Procurement procedure advanced components* to allow Tararua District Council to use the shared risk delivery model and a quality-based supplier selection method for the road maintenance, operations, and renewals term service contract.
3. approves the continued use of in-house professional services by Tararua District Council, in accordance with s26 of the Land Transport Management Act.

The Waka Kotahi Procurement Manual requires approved organisations to review their Procurement Strategy at a minimum once every three years and ensure that they always remain fit for purpose. The Procurement Strategy's endorsement will expire on the 24 April 2026, and you are encouraged to seek endorsement of a new or revised Procurement Strategy in advance of this date.
If you would like to discuss this matter further, please do not hesitate to contact Philip Walker, Approved Organisations Senior Procurement Advisor, directly on 021 633986.

Yours sincerely

Shane Avers
Acting Senior Manager Procurement

9.5 Appendix E: Tararua Alliance Performance Framework – 2024

	Criterion	KPI	KPI Description	KPI %
Direction 18.0%	Purpose, Vision & Strategy - 7.80%	Active Strategy	Implementation and successful execution of the Tararua Alliance's documented strategic direction.	4.30%
		Consistent and Effective Governance	Principal Group meetings held throughout the financial year to ensure robust governance is achieved.	3.50%
	Organisational Culture & Leadership - 10.2%	Consistent and Effective Management	Consistent and effective management achieved by regular Leadership Team meetings during the financial year.	4.30%
		Initiatives	Value-for-money innovations derived from customer or current network requirements.	3.50%
		Celebrating Success	Acknowledging and encouraging staff to represent Tararua Alliance in line with our values.	2.40%
Execution 50.3%	Engagement - 12.6%	Staff Development & Training	Having a meaningful training and development plan for Key Talent Staff to develop and become the best they can.	4.30%
		Cadet & Graduate Development	Fostering of local cadets and graduates within the community.	3.50%
		Apprentice & Training Development	Enhanced and structured development of field staff throughout the Tararua Alliance.	3.50%
		Industry Recognition	Seeking local and national industry recognition for the Tararua Alliance model	1.30%
	Creating Sustainable Value - 13.7%	Partnerships	Enhancing the relationship between the Tararua Alliance and Council's local Iwi partners.	4.30%
		Environmental Incidents	Environmental incidents documented and reported as a result of Tararua Alliance's environmental decision making.	3.50%
		Asset Strategy	Financial decision making that gives effect to the Activity Management Plan.	3.50%
		Continuous Improvement	To develop continuous improvement strategies within the Tararua Alliance, by ensuring lessons learnt reviews are conducted and follow-up actions closed out on a regular basis.	2.40%
	Driving Performance & Transformation - 24.0%	Zero Harm Culture	Actively building a Zero Harm Culture within the Tararua Alliance, ensuring a high standard of compliance is achieved.	4.30%
		Risk Management	Risk management used as a standard business process utilitizing the Risk Management Framework.	3.50%
		Asset Management Maturity	An asset management maturity assessment (AMMA) is undertaken to ensure that data managed, collected and produced by the Tararua Alliance accurately enables data-based decision-making across the spectrum of asset management-related activities.	3.50%
		Rework	To ensure all lessons learnt are applied to future projects/activities in order to minimise any rework for the future.	2.40%
		Zero Harm Outcomes	Industry benchmarking utilizing TRiFr to ensure all staff members go home safe.	2.40%

		Temporary Traffic Management	Ensuring a high quality of temporary traffic management on Tararua Alliance's worksites for the safety of both staff and road users.	**1.30%**
		Asset Condition - Roads	The average percentage of travel on roads is smoother than the roughness threshold for each road classification, as measured by the ONRC Performance Reporting Tool.	**1.30%**
		Renewal As-Built Data	Capture and collection of newly vested asset and disposal data is completed in a timely fashion.	**1.00%**
		Claim Audit	All work claimed for in the submitted TDC monthly claim is completed and to an acceptable standard.	**4.30%**
Results 31.7%	**Strategic & Operational Performance - 18.0%**	**Stakeholder Relationship Management Plan**	Stakeholder relationship management is documented in keeping with the Communication and Stakeholder Strategy. Stakeholder interactions will be reviewed during the Monthly leadership meetings.	**4.30%**
		Integrity & Professionalism	Integrity & Professionalism is normalised in Tararua Alliance's everyday working environment.	**4.30%**
		Staff Satisfaction (VOE)	Feedback from staff is sought regularly to assess engagement and satisfaction levels. This feedback will be used to recommend and implement initiatives to help improve the overall satisfaction of staff.	**3.50%**
		Customer Request Response Time	All customer requests received are responded to within the specified time frame in order to enhance public support for Tararua Alliance.	**3.50%**
		Communication & Brand Management	Communications materials for internal and external audiences are relevant, timely and enhance the Tararua Alliance brand.	**2.40%**
	Stakeholder Perceptions 13.7%	**Performance Audit Improvement Plan**	Utilization of a Performance Improvement Plan to achieve continuous improvement of Tararua Alliances performance.	**4.30%**
		Commercial Tension	To monitor that work is carried out effectively, comparing the target estimate versus the actual costs.	**3.50%**
		Financial Tension	Ensure tension is applied to all budgets allocated to the Alliance.	**3.50%**
		TCE Timeliness	The TOC (targeted on Costs) and other supporting information, such as auditor endorsement, are developed and approved promptly.	**2.40%**

10. Versions

Version	Date	Notes
V1.1	14 March 2024	Changes to Vision Statement and Alignment with Draft GPS 2024
V1.2	8 April 2024	Updates financial figures to match TIO submission
V2	July 2024	Updated data to reflect 2023/24 financial year and incorporated agreed options
V2.1	December 2024	Updated to reflect NLTP 2024-27 agreed budgets