30-Year Infrastructure STRATEGY

About this Strategy

This Strategy aims to identify significant infrastructure challenges for the South Waikato District Council over the next 30 years, and the options for managing those challenges.

South Waikato District Council

STRATEGY

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1. Executive Summary

1.1 Purpose

The purpose of the 30-year Infrastructure Strategy (the Strategy) is to identify significant infrastructure challenges for South Waikato District Council (Council) over the next 30 years and the principal options for managing those challenges.

Providing and maintaining Council's infrastructure requires good asset management practices and strategic thinking. This Strategy assists Council in taking a long-term view of South Waikato's infrastructure needs. The Strategy is an indicative estimate of Council's future infrastructure needs. It is a statement of current assumptions and thinking on what infrastructure will be required to address the major issues facing the district over the next 30 years.

The Strategy outlines Council's approach to managing and investing in the district's infrastructure including what will be required, when, and how much it will cost across the following infrastructure classes:

- Water
- Wastewater
- Stormwater
- Land transport.

The Strategy draws together information from the Three Waters Strategy and Land Transport Strategy and informs the Asset Management Plans (AMPs) for each of the classes.

The 30-year goal is to provide infrastructure in an efficient and effective manner that enables the provision of the agreed level of service for current and future customers in a sustainable manner.

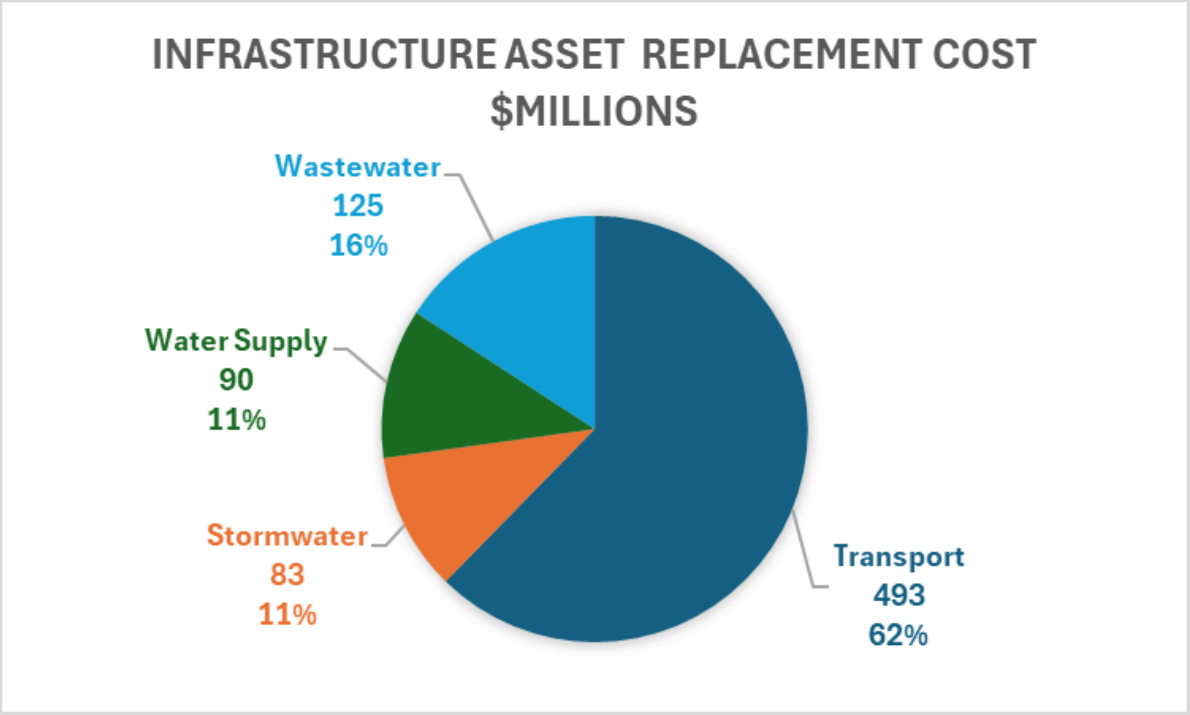
1.2 Scope

The Infrastructure Strategy includes the following assets:

- Transportation: sealing (surface layer of a road), pavements (below the surface), kerb and channel, rural drainage, traffic signs, bridges and large culverts, street lighting, footpaths, parking and vegetation control.
- Water supply: headworks, bores, reservoirs, pumps, treatment plants, underground pipe networks and all ancillary assets.
- Wastewater treatment: pump stations, treatment plants, underground pipe networks and all ancillary assets.
- Stormwater: major culverts, lined channels, underground pipe network, detention structures, swales, wadies and ancillary assets.

Table 1 and Figure 1 provide a breakdown of assets owned by Council covered by the 30-year Infrastructure Strategy.

Asset Class	Replacement Cost ($millions)
Transport	493 (2023[2])
Stormwater	83 (2022[1])
Water Supply	90 (2022[2])
Wastewater	125 (2022[3])
Total	**791**



1.3 Infrastructure Strategic Challenges

In order to deliver Council outcomes, Council needs to focus on its infrastructure investments.

The following challenges are the most important infrastructure matters for Council to address:

- Renewals: Managing the replacement of existing assets by informed decision making.
- Population Growth: Responding to an increase in demand for services.
- Resilience: Planning for service disruptions.
- Compliance: Maintaining or improving public health outcomes, improving environmental outcomes and providing a safe transport system.

[1] Beca Valuation, Peer Review of SWDC Three Waters Infrastructure Assets, 24 August 2022
[2] Beca Valuation, July 2023. SWDC Roading Valuation 2023

- Levels of Service: Maintaining sustainable delivery of existing levels of service and managing expectations for improved levels of service.
- Recovery: Responding to natural disasters, the effects of the COVID-19 pandemic and planning for future pandemics.
- Climate change: Planning for climate change in our renewals and replacement programme, and new infrastructure.
- Critical assets: Proactively maintaining and replacing critical assets to maintain the level of service, to protect the environment, and the health and wellbeing of the community.
- Asset management improvement: Identifying improvements to Council's asset management practices to enhance asset information and systems to enable informed decision making.
- Relationships: Maintaining relationships with residents and ratepayers, tangata whenua, Waka Kotahi, Waikato Regional Council, community partners, central government and government agencies.

1.4 Population Projections

Census results show that the population in the South Waikato declined from the District's inception in 1989 through to 2013. Since the 2013 Census the district has experienced growth in population with annual population growth recorded. The population trends show that there is a demand for growth related infrastructure at the present time.

The other trend that has emerged is that the average age of our residents is increasing with the proportion over 60 years of age increasing significantly. This will have infrastructure implications as the needs and requirements change for the community. Ultimately this could lead to a change in the community's level of service expectations that will be delivered by Council.

Population projections have been researched by Natalie Jackson Demographics Ltd for low, medium and high growth projections. Council has adopted the medium growth projection for its forward planning. Under this scenario, it is assumed that the "urban areas" will experience the following annual population growth:

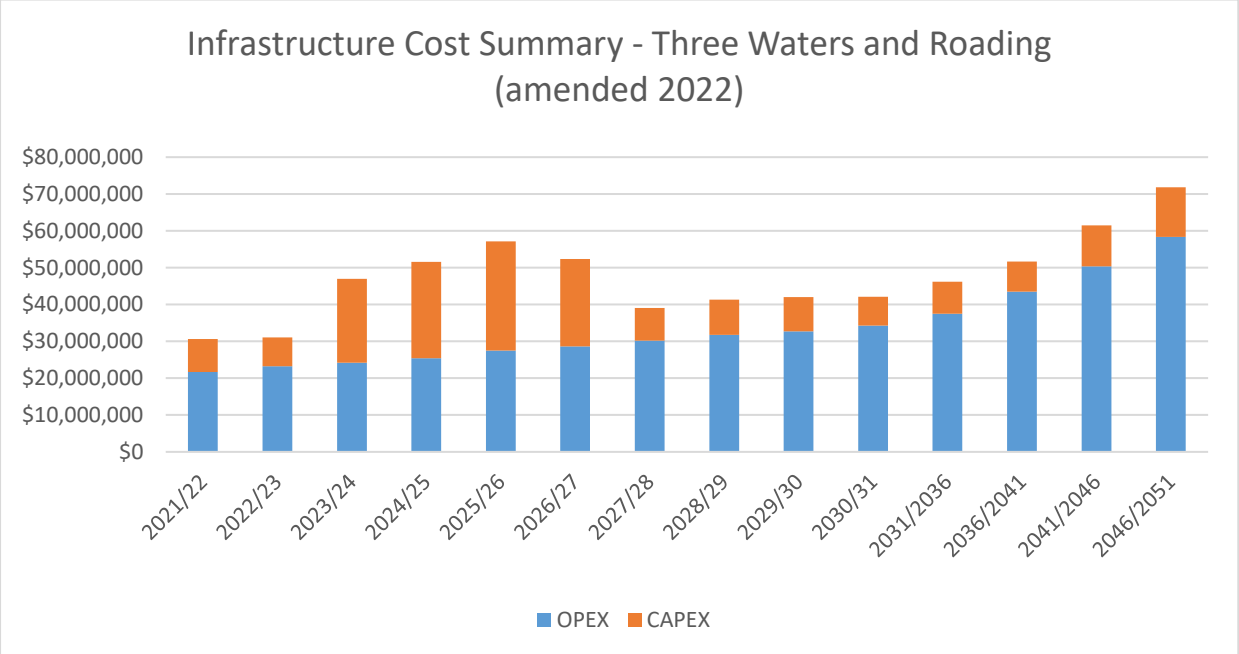
- Tokoroa 0.9%
- Putāruru 1.0%
- Tīrau 1.0%
- Arapuni 1.0%

1.5 Investment / Financials

The 30-year forecasted operational expenditure and capital expenditure for 3 waters and roading infrastructure assets is summarised in the table and figure below. This table and the bar graph below it will be revised once we have the final figures for the adoption of the Long Term Plan 2024-34.

Year	Opex	Capex	Total
2021/22	21,653,656	8,973,271	**30,626,927**
2022/23	23,245,073	7,845,593	**31,090,666**
2023/24	24,220,165	22,728,504	**46,948,670**
2024/25	25,432,873	26,113,943	**51,546,816**
2025/26	27,502,350	29,658,332	**57,160,683**
2026/27	28,672,905	23,710,280	**52,383,185**
2027/28	30,199,196	8,896,078	**39,095,273**
2028/29	31,788,916	9,521,762	**41,310,678**
2029/30	32,689,074	9,302,672	**41,991,747**
2030/31	34,272,275	7,839,657	**42,111,932**
2031/2036	37,482,969	8,669,766	**46,152,734**
2036/2041	43,453,034	8,201,541	**51,654,575**
2041/2046	50,373,976	11,125,063	**61,499,039**
2046/2051	58,397,244	13,412,657	**71,809,901**
Total	**1,228,212,600**	**361,635,227**	**1,589,847,826**

Note: From 2031 onward the 5-yearly amounts shown are the annual average.



The renewal programme for wastewater and water reticulation networks over the next 30 years will be based on the results of performance, maintenance, breakage history, criticality and condition of specific assets. A programme of condition assessments is carried out. The assets are selected based on remaining life, criticality, performance and maintenance history. The information is analysed to determine what pipes will be replaced and when they will be replaced.

Network modeling has been carried out to assess where pipe sizes need to be increased to provide the level of service and where additional capacity is required to cater for growth.

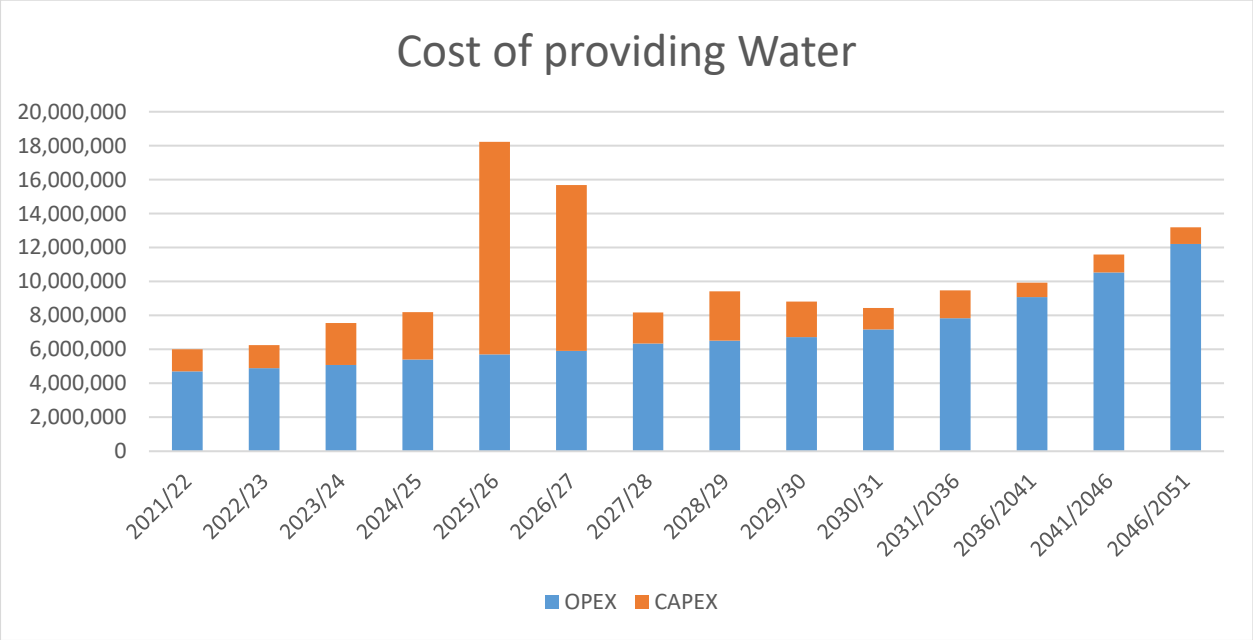
The result of the condition assessments and network modeling inform the forward works programme.

Council has financially assessed the risks around not having adequate reserves for replacement of existing assets. We have looked at current reserve levels, the funding requirements of replacing assets and the projected rates revenue we will receive to establish the funding position over the next 30 years.

Water Supply

Council will be implementing a programme of condition assessments based on performance and maintenance history, to determine the remaining service life of the assets. The condition assessment programme will then inform the actual replacement programme.

The 30-year capital and operating cost of water is detailed in the graph below. From 2034 onward the 5 yearly amounts shown are the annual average.



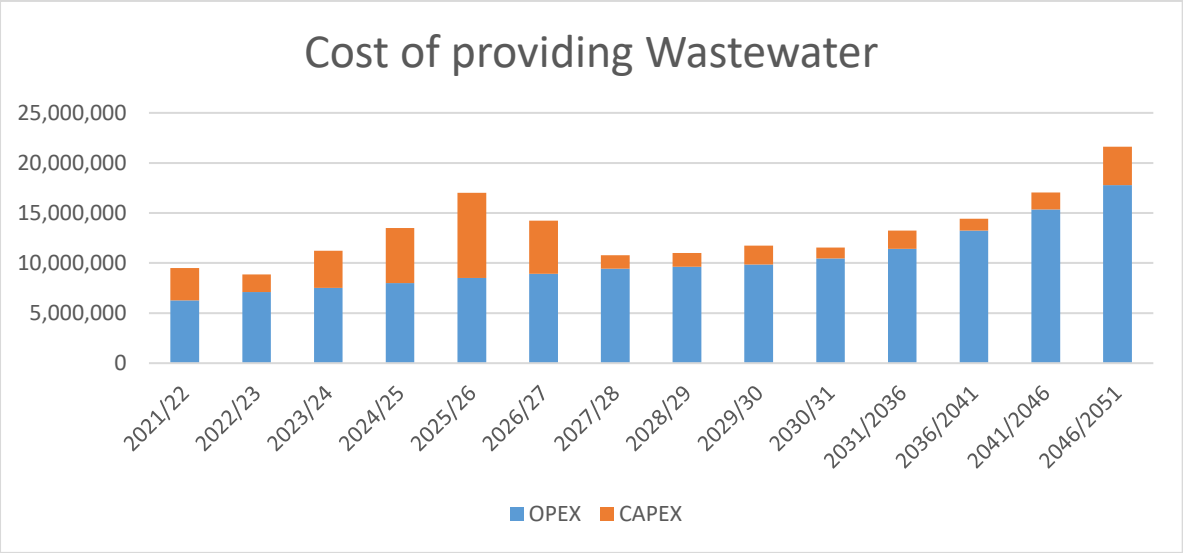
The graph above reflects an increase in the water supply capital expenditure in years 2025 to 2027. The increase in expenditure is due to projects that increase the level of service or provide capacity to service growth.

The major projects are:

- Tīrau - Increasing water storage to improve level of service to existing customers; additional pipeline upgrades to meet fire flow requirements in existing industrial zones.
- Tīrau – Infrastructure upgrades to provide capacity to service growth over the next 30 years.
- Tokoroa - Infrastructure upgrades to provide capacity to service growth over the next 30 years.

Wastewater

The 30-year capital and operating cost of wastewater is detailed in the graph below. From 2034 onward the 5 yearly amounts shown are the annual average.



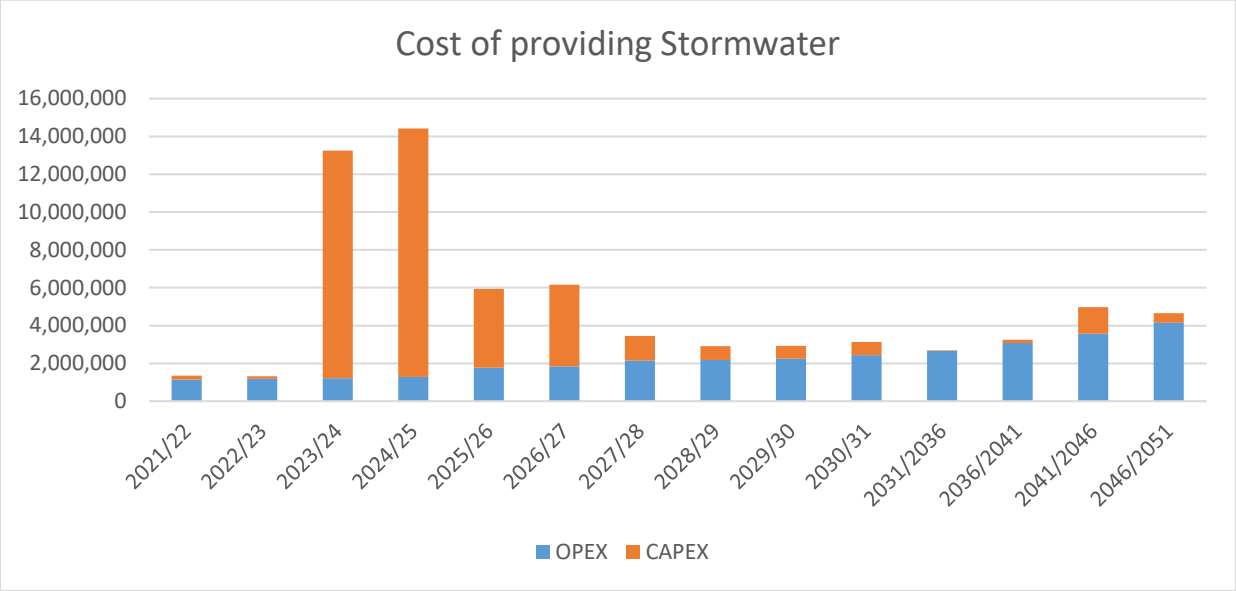
The graph above reflects an increase in the wastewater capital expenditure in years 2025 to 2027. The increase in expenditure is due to projects that increase the level of service or provide capacity to service growth.

The major projects are:

- Tīrau – Infrastructure upgrades to provide capacity to service growth over the next 30 years
- Tokoroa – Infrastructure upgrades to provide capacity to service growth over the next 30 years

Stormwater

The 30-year capital and operating cost of stormwater is detailed in the graph below. From 2031 onward the 5 yearly amounts shown are the annual average.



The graph above reflects an increase in the stormwater capital expenditure in years 2023 to 2027. The increase in expenditure is due to projects that maintain or increase the level of service. The major projects are:

- Improvements to open drain from Scotia Glen to Golf Street, Putāruru
- Improvements to drainage at Countdown interaction with State Highway 1
- Drain and culvert improvements at Arapuni Street, Putāruru
- Improvements to drainage within Tokoroa at Strathmore Park, Baird Rd, Saint Andrews Drive, Dreghorn Place, and Giles Street /Pelikan Place, Tokoroa

Roading

Council does not put aside funding in an asset replacement reserve for the future replacement of our roads like it does for other core assets. Paying for upgrades, replacements, and maintenance to our roading network is paid for from rates collected in the same year that expenditure occurs. This is because:

• Council does not usually undertake significant improvements or additions to our roading network (i.e. we don't build new roads or significantly upgrade our roading system). Annual traffic counting provides evidence that there is still capacity within the network. If Council did build a new road, then it would be loan funded so that the cost of building is borne by those who benefit from it.

• The pattern of expenditure on roading that we term as capital (for accounting purposes) is similar from year to year. It is determined by the level of funding from Waka Kotahi (NZTA) and our historical spend to maintain our level of service. However, the funding requirement to maintain the same Level of Services as in the past requires a significant fund increase due to the contact price increased for maintenance, operational, and renewal of roading contracts and the cost increase due to price escalation. The programme is based on performance, condition, age and in line with the Council's annual replacement targets.

Bridge replacement is the exception to this as the cost of building new bridges is significant but is only required every few years. Most of our bridges do not need replacement for 30-60 years. However, a periodic bridge inspection programme is in progress to determine the condition of the bridges.

The One Network Framework (ONF) is the new national classification system for roads and streets. It replaces the One Network Road Clarification (ONRC). The ONF is a system two-dimensional classification tool, uses the movement and place framework to determine the function of all roads and streets, acknowledging that roads and streets perform two functions – they help move people and goods and are places where people spend time. This is a nationwide change, the ONF aligns with strategic transport planning at all levels including long-term plans, Regional Land Transport Plans (RLTPs) and the NLTP.

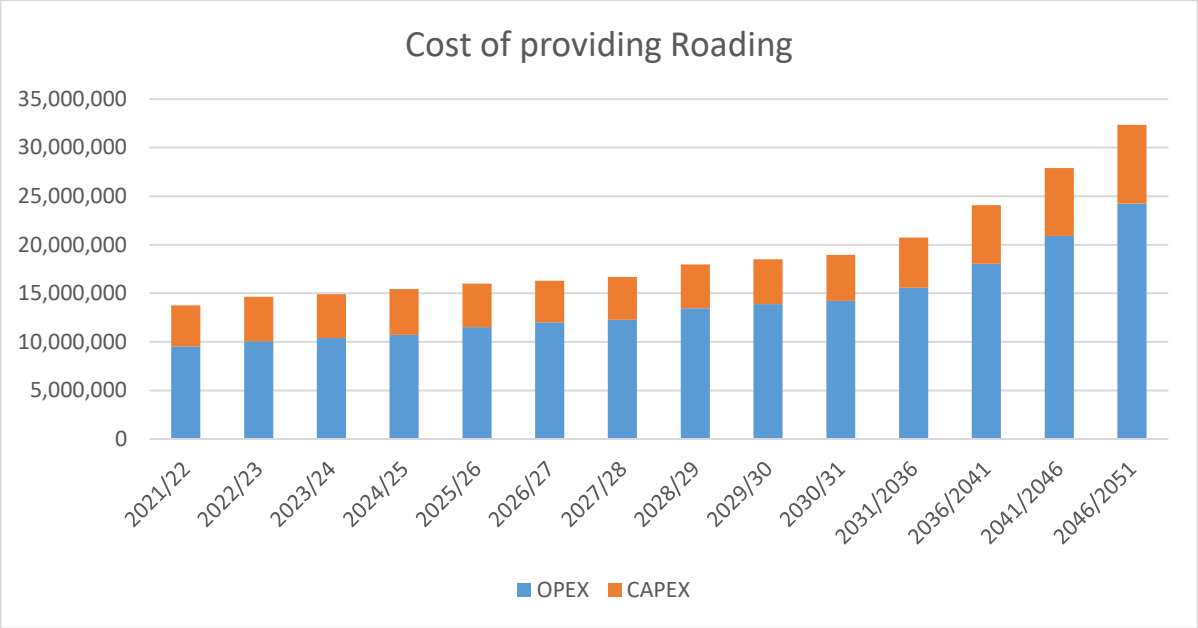
In August 2023, SWDC submitted the Draft Activity Management Plan (AMP) 2024-34 and the initial bid for the 3-year period (2024-27) to the Waka Kotahi. AMP describes in detail how the South Waikato District's network will support the Council's Vision, Outcomes and Strategies, particularly over the next 10 years as encapsulated in the Long-Term Plan 2024-2034. The outcomes and strategies include reference to National and Regional Land Transport strategies such as the National and Regional Land Transport programmes, the Ministry of Transport's Transport Outcomes Framework, and Government Policy Statement (GPS).

The initial bid of maintenance and renewal work programme for the subsidies work is for the 2024-27 period is $30,556,000. This is for maintaining our current level of service without further deterioration. This essentially is an approach to "maintain what we have" with the lowest level of risk to the network.

The table below contains the recommended average annual levels of renewal quantities over the next 5 years.

	Average Annual Quantity (cl.km/yr.)	**Annual % Network / Year**
Rehabilitation	2.1	0.4%
Chip Resurfacing	30.1	6.0%
Thin AC Resurfacing	0.2	0.04%

The cost of Roading is detailed in the graph above. From 2031 onward the 5 yearly amounts shown are the annual average.



1.6 Asset Management Improvement Programme

Providing and maintaining Council's infrastructure requires good asset management practices and strategic thinking. Understanding what assets we own and what key information (criticality, performance, condition and age) is required is fundamental to asset management.

Gaps in our asset knowledge of Council's infrastructure have been identified. A range of options have been considered to fill those gaps in order to allow Council to make good decisions that are fit for purpose. Funding for the improvement programme is identified in the 2024-34 Long Term Plan.

1.6.1 Performance Gaps

Information on how well assets are performing is missing in some areas. Collection of additional information will allow a better understanding of how our existing assets are currently performing. The information can also be used to assess how much capacity is available in our existing infrastructure to support growth.

1.6.2 Infrastructure Requirements

Key data required for forecasting and planning has been identified and a gap analysis of the existing data sets carried out.

Gaps in the management of our infrastructure assets have been identified as follows:

- Missing buried asset depths and invert levels in our asset management system.
- Our system of assessing the consequences of an asset failing needs review (criticality assessment).
- Asset condition data is missing or not current.
- Spatial location of some assets
- The process of asset data capture needs review.
- Data accuracy confidence.

1.6.3 Forward Works

The following issues have been identified as requiring further investigation:

- Audit and/or investigate asset data for missing data, accuracy, and to confirm manhole locations, depths and pipe diameters.
- Investigation of assets with identified inconsistencies in asset information.
- Reliable condition assessment to be collected on near end of life and assets with performance issues.
- Prioritising which asset catchment areas need to be investigated first, based on criticality and level of service needs.
- Investigate new technologies to assist with data capture.
- Making better use of our asset information system functionality.
- Audit of assets to determine confidence in data accuracy.
- Improvement of asset location and spatial data
- Improved monitoring and telemetry systems

1.7 Significant Infrastructure Issues

We are increasing our knowledge of the stormwater systems performance in Tokoroa township, Putāruru township and Tīrau township. The knowledge of the stormwater systems performance allows Council to assess which areas of the townships are flood prone. Council uses this information to avoid new development in flood prone areas.

We are increasing the capacity of the water reticulation to meet firefighting standards within Tokoroa and Tīrau and to meet growth requirements. Allowance for growth within Putāruru was included in the 2021/31 LTP. We are also improving remote monitoring and reporting systems to ensure that the water treatment systems operate effectively and efficiently, thereby ensuring the water supplied to residents is safe and meets the New Zealand drinking water standards.

With wastewater we are increasing the capacity of wastewater system to meet expected growth within the townships of Tokoroa and Tīrau. Allowance for growth in Putāruru was included in the 2021/31 LTP. We are also improving remote monitoring and reporting system to ensure that the treatment of wastewater is effective and efficient, thereby ensuring the treated wastewater is discharged safely and in compliance with resource consent conditions.

1.7.1 Infrastructure Strategic Issues and Decisions

This Strategy relates to Council's wastewater, water supply, stormwater drainage and transport infrastructure assets. The tables on the following pages summarise the significant infrastructure issues facing Council, the proposed response to those issues, and the implications of taking or not taking the action proposed by the response. In many instances, the same principal response option can address several infrastructure issues. The proposed responses are then developed into projects to be actioned.

Tokoroa and Tīrau Townships

Population Growth

Population growth is expected to increase for Tokoroa by 5,188 in the medium term and 12,401 in the longer term which will require an additional 2161 residential units based on the medium population

growth. Sixty percent is anticipated to be family homes, 15% for couples and 25% for single occupied residential units (Natalie Jackson Demographics Limited, 2019 - ECM 485660).

Within Tokoroa there are several greenfield and infill sites, plus infill redevelopment opportunities which are planned for, and infrastructure ready and/or reasonably expected to be realised through Councils Asset Management Plans to cater for the short term.

However, using the lower occupancy rate of residential units there is a shortage of opportunities for development in the medium term and Council needs to provide for approximately 275 residential units for the medium term (3-10 years) and another 1400 for the longer term (10-30 years) (Tīrau Growth and Tokoroa Housing and Business Assessment, 2022 – ECM 586469). Within Tokoroa there is a shortfall of 42.24 hectares of industrial zoned land in the long term whereby 33 hectares needs to be zoned today to provide for the short term.

Population projections from Natalie Jackson Demographics Limited were used to identify the growth anticipated for Tīrau. It is anticipated that over the next 30 years, another 280 dwellings and 10 hectares of industrial land will be needed.

Growth Plan

A growth plan has been developed to plan for future land uses that supports growth in housing and other economic activities. The growth plan ensures there is enough land and infrastructure available to meet projected growth. The growth plan will allow land use to change and evolve in a staged manner, balancing residential and economic growth in appropriate areas, ensuring efficient and co-ordinated infrastructure delivery, while protecting other areas for rural production and environmental enhancement.

Future growth cells in Tokoroa and Tīrau have been identified. Modelling of existing infrastructure has identified any upgrades required to service the new growth areas.

Plan Change - Growth Cells

South Waikato District Council is a Tier 3 local authority. The National Policy Statement for Urban Development (NPS-UD) encourages Tier 3 authorities to adopt modifications necessary to enable authorities to be infrastructure ready.

This means:

In relation to short term, there is adequate existing infrastructure to support development.

In relation to medium term, the above applies, or funding for adequate infrastructure to support development is identified in the LTP.

In relation to long term, the above applies where it is identified in the LTP, or the infrastructure is identified in the infrastructure strategy (as required as part of the LTP).

Council has identified that infill housing and development of existing zoned land will provide for the first 3 years of demand. Catering for demand for years 4 to 30 requires additional land to be available for development. Council has initiated the plan change process to rezone land to cater for residential and industrial demand over the next 30 years.

The water supply and wastewater infrastructure required to support development of additional land in Tokoroa and Tīrau has been modelled and costed.

Major projects are listed below which address compliance with resources consent conditions, addressing levels of service, renewals and providing capacity for growth.

Stormwater

Community	Most likely scenario	Strategic issue	Alternative Option	Forecast delivery	Cost $	Funding
Putāruru	Develop infrastructure capacity to address identified capacity issues.	Level of Service	Do nothing - Existing infrastructure not providing required level of service.	2024 - 2028	365,000	Rates
Putāruru	Plan for climate change effects and resilience (LOS), reduce flooding of existing section (LOS), supporting infill development	Level of Service, Growth	Do nothing - Existing infrastructure not providing required level of service.	2024 - 2027	7,000,000	Rates
Putāruru	Stormwater improvements - Philip Street	Level of Service	Do nothing - Existing infrastructure not providing required level of service.	2024 - 2026	700,000	Rates
Tokoroa	Stormwater Rehabilitation Design - Ashworth Street and Sloth Road	Level of Service	Do nothing - Existing infrastructure not providing required level of service.	2025 - 2027	1,650,000	Rates
Tokoroa	Stormwater Upgrade - Stafford Place	Level of Service	Do nothing - Existing infrastructure not providing required level of service.	2024 - 2026	350,000	Rates
Districtwide	Aging Infrastructure – Implement stormwater pipe condition assessment program. Implement prioritised renewal program.	Renewals	Do nothing – Increased risk of network failures resulting in flooding of property.	Annually	150,000	Depreciation Reserves
Districtwide	District Wide Stormwater Treatment Devices to reduce contaminants in stormwater runoff.	Level of Service	Do nothing - Existing infrastructure not providing required level of service.	Annually	200,000	Rates

Wastewater

Community	Most likely scenario	Strategic issue	Alternative Option	Forecast delivery	Cost $	Funding

Arapuni	Arapuni WWTP Equipment Replacements	Renewals	Do nothing - No renewals resulting in potential for levels of service not met. Potential for non-compliance.	2025-2026	15,000	Depreciation Reserves
Arapuni	New Pump Station at 53 - 55 Arapuni Rd	Growth	Do nothing - No allowance for growth	2027-2029	770,000	Depreciation Reserves
Districtwide	District Wide Wastewater Renewals	Renewals	Do nothing - No renewals resulting in potential for levels of service not met. Potential for non-compliance.	Annually	1,500,000	Depreciation Reserves
Putāruru	Buckland Street WW Pump Station Upgrade	Growth	Do nothing - No allowance for growth.	2029-2030	506,000	Development Contributions
Putāruru	Galway Crescent WWPS - Flood Protection	Level of Service	Do nothing - Existing infrastructure not providing required level of service.	2027-2028	100,000	Rates
Putāruru	Grey Street Pump Station Rising Main	Growth	Do nothing - No allowance for growth.	2030-2031	3,114,000	Development Contributions
Putāruru	Grey Street Pump Station Upgrade	Growth	Do nothing - No allowance for growth.	2030-2031	133,000	Development Contributions
Putāruru	Lower Tīrau Street Main Upgrade	Growth	Do nothing - No allowance for growth.	2030-2031	1,859,000	Development Contributions
Putāruru	Putāruru Wastewater Plant & Equipment Replacement	Renewals	Do nothing - No renewals resulting in potential for levels of service not met. Potential for non-compliance	Annually	150,000	Depreciation Reserves
Putāruru	WWTP - Reduce nitrogen levels in effluent, to comply with consent conditions	Level of Service	Do nothing - Levels of service not met, non-compliance with resource consent	2024-2027	10,000,000	Rates

Putāruru	WWTP - Reduce phosphorus levels in effluent, to comply with consent conditions	Level of Service	Do nothing - Levels of service not met, non-compliance with resource consent	2040-2041	222,000	Rates
Putāruru	Putāruru WWTP Standby Generator	Level of Service	Do nothing - Levels of service not met.	2026-2027	250,000	Rates
Putāruru	WWTP – Wetlands to be constructed to comply with consent conditions	Level of Service	Do nothing - Levels of service not met, non-compliance with resource consent	2024-2025	750,000	Rates
Tokoroa	Baird Road & Tasman Drive WW Pump Station - Seismic Upgrades	Level of Service	Do nothing - Levels of service not met.	2025-2027	400,000	Rates
Tokoroa	Baird Road WW Pumpstation Upgrade	Growth	Do nothing - No allowance for growth.	20225-2027	1,200,000	Development Contributions
Tokoroa	Buckland Street WW Pump Station Upgrade	Growth	Do nothing - No allowance for growth.	2029-2030	65,000	Development Contributions
Tokoroa	Harris Block WW Pumpstation Upgrade	Growth	Do nothing - No allowance for growth.	2024-2026	550,000	Development Contributions
Tokoroa	Tasman Ave WW Pumpstation Upgrade	Growth	Do nothing - No allowance for growth.	2024-2026	120,000	Development Contributions
Tokoroa	Tokoroa Wastewater Plant & Equipment Replacement	Renewals	Do nothing - No renewals resulting in potential for levels of service not met. Potential for non-compliance	Annually	230,000	Depreciation Reserves
Tokoroa	Tokoroa WWTP - FAST Filter Media Replacement	Level of Service	Do nothing - Levels of service not met, non-compliance with resource consent	2024-2026	2,000,000	Rates
Tokoroa	WWTP - Reduce nitrogen levels in effluent, to comply with consent conditions	Level of Service	Do nothing - Levels of service not met, non-compliance with resource consent	2024-2025	1,000,000	Rates

Tokoroa	WWTP - Reduce phosphorus levels in effluent, to comply with consent conditions	Level of Service	Do nothing - Levels of service not met, non-compliance with resource consent			
Tokoroa	Tokoroa WWTP Hydraulic Improvements	Level of Service	Do nothing - Levels of service not met, non-compliance with resource consent.	2024-2025	500,000	Rates
Tokoroa	Tokoroa WWTP Portable Generator	Level of Service	Do nothing - Levels of service not met.	2026-2027	150,000	Rates
Tokoroa	Tokoroa WWTP Standby Generator	Level of Service	Do nothing - Levels of service not met.	2025-2026	250,000	Rates
Tokoroa	Tokoroa WWTP Wetland	Level of Service	Do nothing - Levels of service not met, non-compliance with resource consent.	2024-2026	3,300,000	Rates
Tīrau	Bear Street WW Pumpstation Upgrade	Growth	Do nothing - No allowance for growth.	2025-2027	330,000	Development Contributions
Tīrau	Parapara WWPS Upgrade	Growth	Do nothing - No allowance for growth.	2025-2027	110,000	Development Contributions
Tīrau	Tīrau wastewater - Growth Cell B Pumpstation and rising main	Growth	Do nothing - No allowance for growth.	2025-2027	1,650,000	Development Contributions
Tīrau	Tīrau wastewater - Growth Cell C Pumpstation and rising main	Growth	Do nothing - No allowance for growth.	2025-2027	1,650,000	Development Contributions
Tīrau	Tīrau Wastewater Plant & Equipment Replacement	Renewals	Do nothing - No renewals resulting in potential for levels of service not met. Potential for non-compliance.	Annually	75,000	Depreciation Reserves
Tīrau	Tīrau WWTP Inlet Screen Upgrade	Level of Service	Do nothing - Levels of service not met.	2024-2025	1,300,000	Rates
Tīrau	Tīrau WWTP MBR Improvements & Alum Dosing	Level of Service	Do nothing - Levels of service not met.	2027-2029	2,191,000	Rates

Water Supply

Community	Most likely scenario	Strategic issue	Alternative Option	Forecast delivery	Cost $	Funding
Arapuni	Arapuni Water Supply Plant & Equipment Replacement	Renewals	Do nothing - No renewals resulting in potential for levels of service not met. Potential for non-compliance.	Annually	15,000	Depreciation Reserves
Districtwide	District Wide Water Supply Renewals	Renewals	Do nothing - Levels of service not met.	Annually	3,350,000	Depreciation Reserves
Districtwide	District Wide Water Supply Resource Consents	Level of Service	Do nothing - Existing infrastructure not providing required level of service.	2028-2030	600,000	Rates
Districtwide	Water Meters	Level of Service	Do nothing - Existing infrastructure not providing required level of service.	2026-2030	5,200,000	Rates
Districtwide	Water Supply Reservoirs - Seismic Assessments	Level of Service	Do nothing - Existing infrastructure not providing required level of service.	2024-2026	310,000	Rates
Putāruru	Arapuni Street Watermain Upgrade	Growth	Do nothing - No allowance for growth.	2028-2030	975,000	Development Contributions
Putāruru	Duplicate Pinedale Reservoir Outlet	Growth	Do nothing - No allowance for growth.	2030-2031	1,696,000	Development Contributions
Putāruru	Glenshea Booster Pump station Upgrade	Growth	Do nothing - No allowance for growth.	2028-2029	1,019,000	Development Contributions
Putāruru	Glenshea Water Supply - Reservoir Repairs	Level of Service	Do nothing - Existing infrastructure not providing required level of service.	2024-2026	900,000	Rates
Putāruru	Glenshea Water Supply - Standby Generator	Level of Service	Do nothing - Existing infrastructure not providing required level of service.	2025-2026	150,000	Rates

Putāruru	Pinedale Reservoirs Upgrade	Level of Service	Do nothing - Existing infrastructure not providing required level of service.	2026-2029	3,150,000	Rates
Putāruru	Putāruru Water Supply - pH Correction Plant	Level of Service	Do nothing - Existing infrastructure not providing required level of service.	2024-2026	1,100,000	Rates
Putāruru	Reservoir Street Watermain Upgrade	Growth	Do nothing - No allowance for growth.	2025-2026	2,078,000	Development Contributions
Putāruru	Sholson Street Watermain Upgrade	Growth	Do nothing - No allowance for growth.	2025-2026	950,000	Development Contributions
Putāruru	Waihou Pump Station Resource Consent	Growth	Do nothing - No allowance for growth.	2030-2031	121,000	Development Contributions
Putāruru	Waihou Pump Station Upgrade	Growth	Do nothing - No allowance for growth.	2030-2031	1,129,000	Development Contributions
Tokoroa	Billah Street Filtration	Level of Service	Do nothing - Existing infrastructure not providing required level of service.	2024-2025	500,000	Rates
Tokoroa	Colson Hill Reservoirs - Repairs and Seismic Reinforcement	Level of Service	Do nothing - Existing infrastructure not providing required level of service.	2024-2026	500,000	Rates
Tokoroa	Tokoroa Water Supply - Growth Upgrades	Growth	Do nothing - No allowance for growth.	2026-2028	3,800,000	Development Contributions
Tokoroa	Tokoroa Water Supply Plant & Equipment Replacement	Renewals	Do nothing - No renewals resulting in potential for levels of service not met. Potential for non-compliance.	Annually	85,000	Depreciation Reserves
Tīrau	Tīrau Headworks Pump upgrade	Growth	Do nothing - No allowance for growth.	2025-2027	880,000	Development Contributions
Tīrau	Tīrau Water Supply rising main and pipelines upgrade	Growth	Do nothing - No allowance for growth.	2026-2028	4,333,000	Development Contributions
Tīrau	Tīrau - New Rising Main and Distribution Network Upgrades	Growth	Do nothing - No allowance for growth.	2025-2027	550,000	Development Contributions

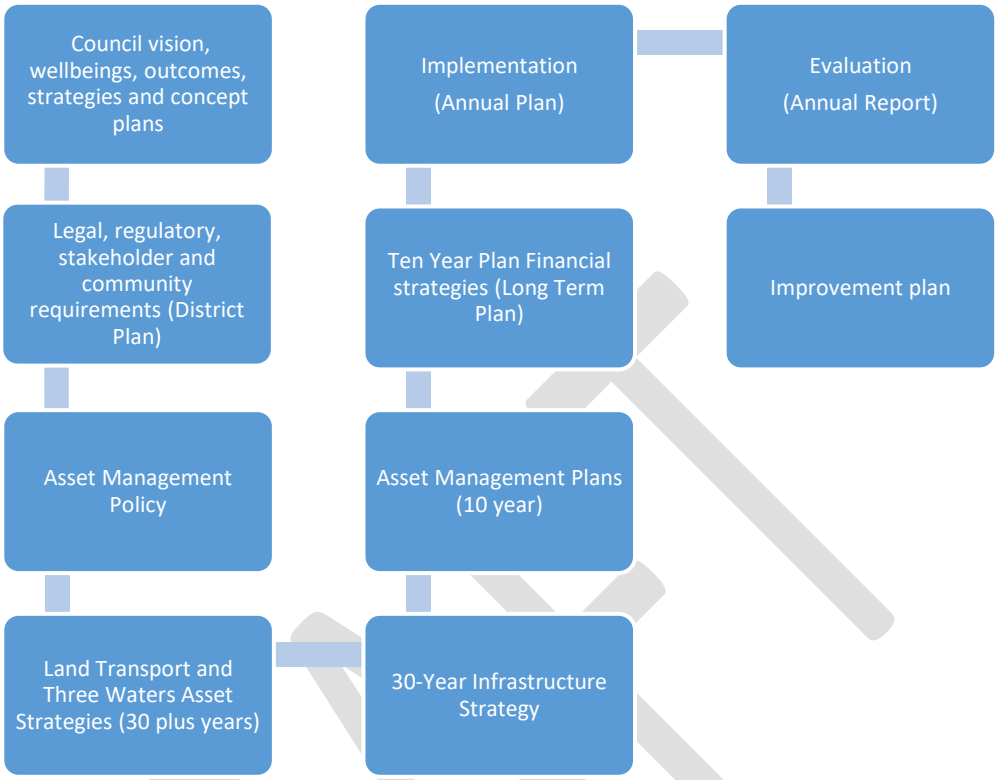
Tīrau	Tīrau - New Reservoir for growth and level of service. Relocation of headworks.	Growth, Level of service	Do nothing - No allowance for growth. Level of service not met.	2024-2027	6,772,000	Development Contributions and Rates
Tīrau	Tīrau - Investigation into New Water Source	Level of Service	Do nothing - Existing infrastructure not providing required level of service.	2024-2025	500,000	Rates
Tīrau	Tīrau Water Supply Plant & Equipment Replacement	Renewals	Do nothing - No renewals resulting in potential for levels of service not met. Potential for non-compliance.	Annually	85,000	Depreciation Reserves

Land Transport

Community	Most likely scenario	Strategic issue	Alternative option	Probable year of action	Cost	Funding
Putāruru	Access road from Princes Street	Growth	Do nothing – Site Development cannot proceed	2024-2029	1,200,000	Development Contributions
Districtwide	Road network renewals. Pavement renewal and resurfacing	Renewal	Do nothing - No renewal resulting in no allowance for growth and potential for levels of service not met.	Annually 2024 - 2054	3,760,000	Rates
	Safety Improvements	Compliance	Do nothing - No improvement to safety of users using road network	Annually 2024 - 2054	415,000	Rates
	Cycling/ walking strategy	Relationship	Do nothing – No improvement of transport mode choice	2024-2029	20,000	Rates

2. Asset Management Objectives / Framework

The framework below outlines the asset management objectives of Council and how the asset management system will enable those objectives to be achieved.



This approach meets legislative requirements and supports good asset management practice.

Council's vision for the district along with community, stakeholder and legislative requirements, and the asset management policy informs the Land Transport Strategy and the Three Waters Strategy. The outcomes, strategies and objectives within the asset strategies are compiled into the 30-year Infrastructure Strategy.

The 30-year Infrastructure Strategy identifies the issues that will arise, or are likely to arise, over the next 30 years in terms of delivery of services. The strategic issues identified in the 30-year Infrastructure Strategy are analysed and scoped before being added to the Asset Management Plans.

The first ten years of the expenditure programme are consulted on with the community as part of the Long-Term Plan (LTP) process. The LTP sets out how Council will balance competing demands from the community while delivering agreed levels of service.

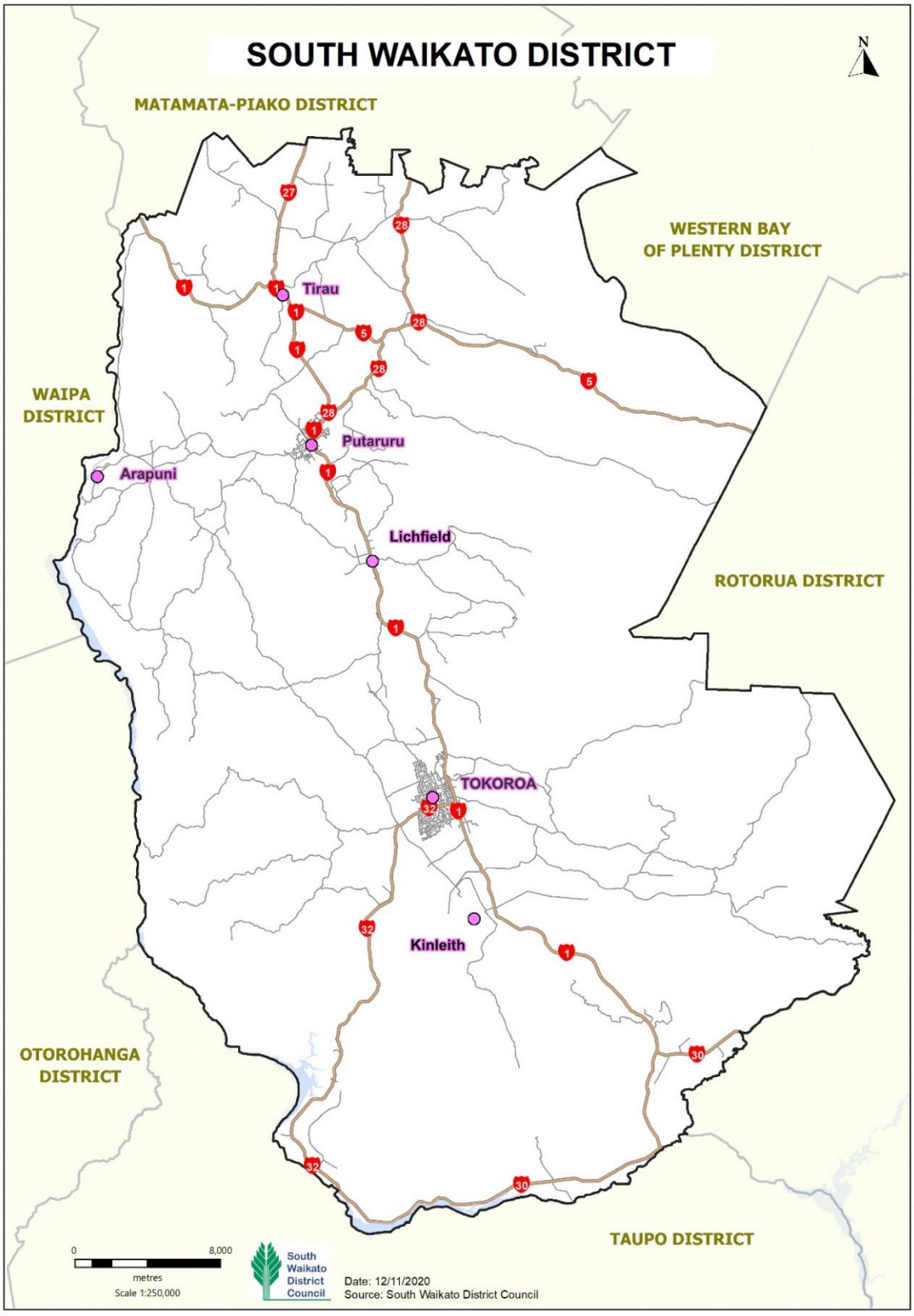
For each year of the LTP an Annual Plan is prepared that includes any issues that have arisen since the preparation of the LTP. Any significant changes from the LTP are consulted on with the community.

At the completion of each year an Annual Report is prepared which details Council's delivery of services. Opportunities to improve our performance in the delivery of services to the community are detailed in the improvement plan.

3. Strategic Context

3.1 Location

The district is wholly within the Waikato Region.



Tokoroa is the largest township in the South Waikato District. Putāruru is located 20km to the north of Tokoroa, with Tīrau at the northern end of the district. Smaller settlements include Arapuni, and Lichfield. Kinleith is a large wood processing complex.

3.2 Physical Context

The geology of the South Waikato District reflects major historic volcanic events in the Taupo, Rotorua and Tīrau zones. The geology is influenced by the action of the Waikato River and other waterways.

The temperate climate provides an annual rainfall of approximately 1,500mm and the prevailing wind is from the south west. The Kaimai and Mamaku ranges to the east south east and the significant area of forestry around Tokoroa and in the southern part of the district have an influence on weather patterns and air temperature.

Land Transport

The total roading network consists of local roads, state highways, private (mainly forestry) roads and unformed (paper) roads. In addition to the carriageway, the roading infrastructure also includes bridges and large culverts, signs and road marking, footpaths, street lighting, drainage, railings and carparks.

The district is traversed by State Highways 1, 5, 27, 28, 30 and 32 that have a significant bearing on the traffic that travels through the district and the use made of local roads. Council exercises its interest in the operation and management of state highways directly through close liaison with Waka Kotahi - NZTA and indirectly through input to the Regional Land Transport Programme through the Regional Land Transport Committee.

Three Waters

Stormwater collection and disposal, wastewater collection and treatment, water supply networks and treatment service the communities located in Tokoroa, Putāruru, Tīrau and Arapuni.

3.3 Hazards

3.3.1 Industrial and Road Hazards

Our district has two registered major hazard facilities. The first being the Oji Fibre Solutions (NZ) Limited operated Kinleith Mill which, during its manufacturing processes uses a large amount of chemicals and is the only chlorine manufacturing facility in New Zealand. The second is the Fonterra Limited dairy factory at Tīrau, which manufactures ethanol for commercial use.

Forestry is another major industry within our district that presents as a significant hazard with the potential for rural and forest fires, especially with the change in climate. This has been evident in other areas of New Zealand and around the world. It is not only the forestry industries that are at risk of fires but also our native bush and biodiversity.

Our district is serviced by several state highways and our local road network. Unfortunately, traffic accidents do occur. Following is a table of the number of accidents causing fatalities or serious harm, on SWDC owned roads from 2017/18 to 2022/23.

Accident Result	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
Fatal	0	0	1	0	0	1
Serious harm	10	6	5	17	13	7

3.3.2. Natural Hazards

The South Waikato is located between 100m and 350m above sea level and is contoured to form a gully through the middle of the district. This encourages a progressive flow of water from *maunga* (mountain) to *moana* (sea). Although increased sporadic rainfall is predicted and increased westerly winds, the natural contour of the land positions the district in a favourable location to build resilience for a natural weather disaster.

The district does have to consider the secondary impact of natural disasters as our perceived safe haven can become an ideal location for resettlement of communities from surrounding districts that may be impacted by coastal erosion, volcanic activity, geothermal activity or flooding. Our district does have to be aware of the effect that our decision-making has on surrounding districts.

3.3.3. Floods

Flood modelling has been carried out within the Tokoroa, Putāruru and Tīrau townships. The extent of flooding during a 1 in 100 year rainfall event has been mapped. Council is limiting new development in areas identified to be at risk of flooding in a 1 in 100year event.

3.3.4. Tsunami

Our district is fortunate to be located inland and is unlikely to incur the physical impacts caused by a tsunami. However, our district is a suitable place for recovery or resettlement for communities that have been impacted by a tsunami. This scenario could put added pressure on our infrastructure, housing stock and social services. It is important that our district plans for such an event and that we are aware of recovery plans to accommodate coastal communities following a tsunami.

3.3.5. Earthquakes

Our district has one known fault line within it, the Kerepehi Fault, located at the northern end of the district. The Taupo Volcanic Zone is located immediately east of the district and is an area of active faulting and geothermal activity. We are likely to experience some level of earth shaking in our district due to movements on fault lines within and outside our district.

Council will continue to suvey buildings within the district to monitor building earthquake resilience and ensure compliance with the Building Act 2004.

3.4 Population Projections

Census results show that the population in the South Waikato declined since it was created in 1989 through to 2013. Since the 2013 census the district has experienced growth in population with annual population growth recorded.

The population trends show that there is a demand for growth related infrastructure at the present time. The other trend that has emerged is that the average age of our residents is increasing with the proportion over 60 years of age increasing significantly. This will have infrastructure implications as the needs and requirements change for the community. Ultimately this could lead to a change in the community's level of service expectations that will be delivered by Council.

Population projections have been researched by Natalie Jackson Demographics Ltd for low, medium and high growth projections. Council has adopted the medium growth projection for its forward planning. Under this scenario, it is assumed that the "urban areas" will experience the following annual population growth:

- Tokoroa 0.9%
- Putāruru 1.0%
- Tīrau 1.0%
- Arapuni 1.0%

3.5 Infrastructure context

Over the last ten years, Council's strategy focussed on improving the condition of core infrastructure assets. In the water supply and wastewater activity areas, improvements to the infrastructure have been undertaken in order to meet resource consent conditions, drinking water standards and other legislative requirements. These infrastructure improvements support public health outcomes and achieve improved environmental outcomes.

While these improvements have been carried out, Council has also taken a prudent approach to financial management.

The demographic trend supports Council's decision to adopt an approach which involves ongoing improvements to meet changing regulatory requirements and maintaining the infrastructure to meet service delivery expectations.

In the last ten years Council has invested in capital projects in the four activities covered by this Strategy.

Some of the key projects completed in this period were:

- Refurbishment of the Lake Moananui dam.
- Disinfection upgrades to drinking water supplies.
- Tokoroa Wastewater Treatment Plant upgrades (drum filter, centrifuge, gas flare and digester).
- Road safety improvements (realignments, speed reduction and intersection improvement).
- Footpath and mobility crossing improvements.
- Establishment of public transport services.
- LED street lighting installed.
- Modelling of three waters infrastructure for capacity to support growth.
- Flood modelling for 1 in 100 year rainfall event in urban areas.

This Council and its predecessors have been involved in the provision of core infrastructure since the mid-twentieth century, providing services to residents in the district. These services have been historically provided by Council and future investment projections are made on the assumption that Council will continue to provide these services. Therefore, future investment is assessed to meet environmental requirements of resource consents, health standards, directives from Central Government on land transport and other legislative requirements.

Growth is forecast at higher levels in Putāruru, Tīrau and Arapuni but there is still growth forecasted in Tokoroa. The ability for Putāruru's infrastructure to support growth has been assessed. Areas where capacity needs to be increased to support greater demand for services have been identified and projects scoped to provide for the forecasted demand. These projects are detailed in Section 8.

The potential to service growth in Tīrau and Tokoroa is currently being reassessed. Areas where capacity needs to be increased will be revised and identified projects will be scoped and costed.

4. National and Regional Context

4.1 Three Waters

Council is required to give effect to legislation and other guidance for drinking water supplies, wastewater and stormwater infrastructure:

4.1.1 Settlement Acts

Settlement Acts with iwi are relevant to the management of the three waters within the South Waikato. These include:

- Affiliate Te Arawa Iwi and Hapu Claim Settlement Act 2008.
- Raukawa Claims Settlement Act 2014.
- Ngāti Koroki Kahukura Claims Settlement Act 2014.
- Ngāti Hauā Claims Settlement Act 2014.

Due to the Waikato River traversing the district, these Acts are also relevant:

- Waikato-Tainui Raupatu Claims (Waikato River) Settlement Act 2010.
- Ngāti Tūwharetoa, Raukawa, and Te Arawa River Iwi Waikato River Act 2010.

In addition to the above, the following has relevance to Te Waihou River:

- Ngāti Hinerangi Deed of Settlement.

Each of these have specific purposes, however, common themes include the importance of the Waikato River for iwi and to restore and protect the health and wellbeing of the rivers within the region for future generations.

4.1.2 Vision and Strategy Waikato River Te Ture Whaimana o Te Awa o Waikato

The Vision for the Waikato River is:
Our vision is for a future where a healthy Waikato river sustains abundant life and prosperous communities who, in turn, are all responsible for restoring and protecting the health and wellbeing of the Waikato river, and all it embraces, for generations to come.
The Waikato River Authority was established in 2010 as the custodian of the Vision and Strategy for the Waikato River. The Authority is also the body responsible for overseeing the implementation of the clean-up of the Waikato River. Regional and district plans are required to give effect to the Vision and Strategy for the Waikato River.

4.1.3 Resource Management Act 1991 (RMA)

The purpose of the RMA is to promote the sustainable management of natural and physical resources. The RMA governs water takes from both ground and surface water sources (water supply) and discharges (wastewater and stormwater).

4.1.4 National Policy Statement for Fresh Water (NPS)

The Freshwater NPS was introduced in 2011, updated and replaced in 2014, and amended in 2017 and 2020. The NPS directs regional councils, in consultation with their communities, to set objectives for the state of freshwater bodies in their regions and to set limits on resource use to meet these objectives. There are requirements for regional councils to improve water quality and report on the achievement towards the targets every five years. The NPS is going to have a significant influence on the rules and requirements of regional plans in the future.

4.1.5 Waikato Regional Policy Statement (RPS)

Regional councils are required to produce a RPS every ten years. The RPS sets the framework for how freshwater resources throughout the region are to be managed.

4.1.6 Waikato Regional Plan

The Waikato Regional Plan (WRP) sets the rules to achieve the outcomes set in the RPS. There are rules that govern issues such as water allocation, water quality and discharges to the environment. The WRP is reviewed every ten years.

The Healthy Rivers Wai Ora Plan Change 1 (PC1) will influence how the three waters are managed with requirements to review and mitigate nutrient discharge from wastewater. The hearing for PC1 has been held and a decision made. Council has appealed the decision. At the time of writing, Council is awaiting the outcome of our appeal.

4.1.7 Waikato Freshwater Strategy

This strategy has been prepared by the Waikato Regional Council and recognises that the way that water is managed throughout the Waikato is not appropriate. It recognises that there is simply not enough water to go around for everyone who wants to use it and identifies new approaches for how water will be managed in the future.

4.1.8 Health Act 1956 and Health (Drinking Water) Amendment Act 2007

The Health Act 1956 and subsequent Amendment Act are applicable to water supply in the region. These set out the requirements for the Drinking-Water Standards of New Zealand and also the duties that drinking water suppliers are required to adhere to.

4.1.9 Health and Safety at Work Act 2015

The Health and Safety at Work Act 2015 and related regulations require that workers and others are given the highest level of protection from workplace health and safety risks, so far as is reasonably practicable. This includes risks to both physical and mental health.

4.1.10 Water Services reforms

Recent legislation, Taumata Arowai – the Water Services Regulator Act 2020 establishes Taumata Arowai, the water services regulator and sets out Taumata Arowai's objectives, general functions, and operating principles.

The new water regulatory framework is to ensure compliance with the drinking water standards of New Zealand.

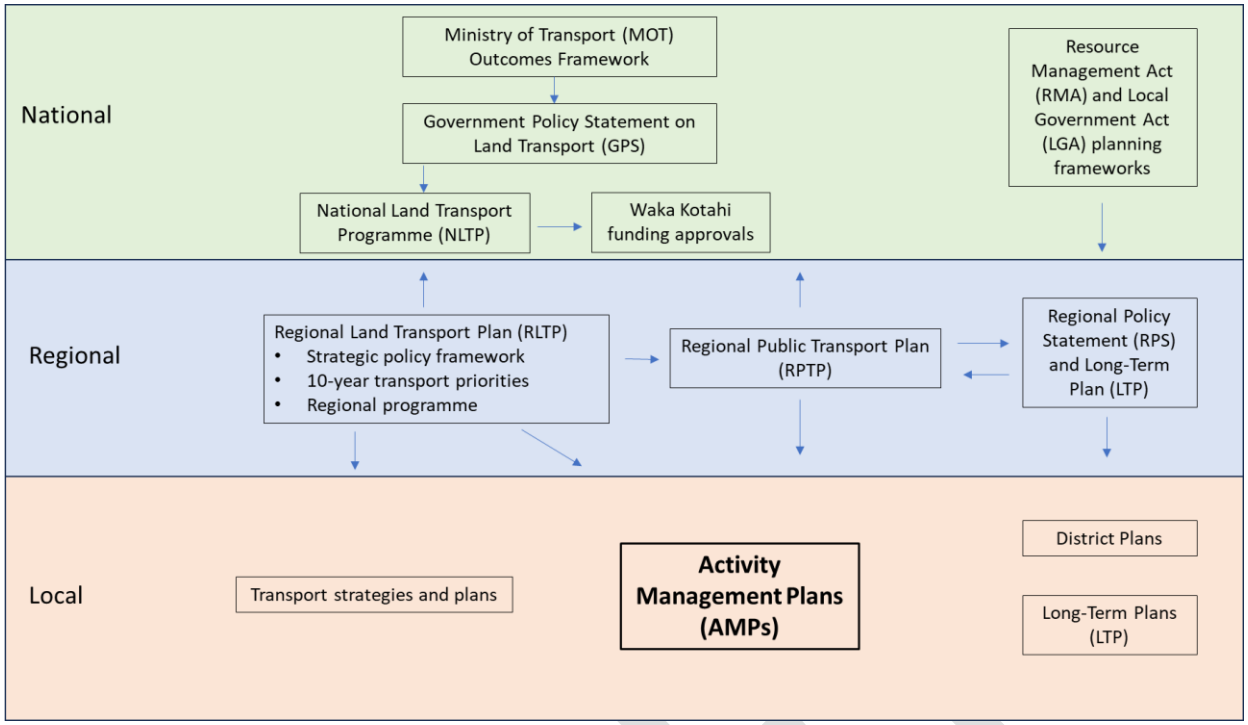
4.2 Land Transport

When working with land transport infrastructure, Council is required to give effect to the following:

- National Transport Outcome Framework
- Government Policy Statement (GPS) on Land transportation 2024-34
- Waikato Regional Land Transport Plan
- SWDC Strategic plan and policy process
- SWDC Long Term Plan.

4.2.1 Transport Documentation Hierarchy

The figure below provides an overview of how the different key national, regional and local documents interrelate with each other. The Activity Management Plan (AMP) has been highlighted.



Relationship between National, Regional and Local Contexts

Details of the national, regional and local contexts related to the Activity Management Plan are provided in Appendix Six.

5. Vision and Outcomes

The vision for LTP 2024-34 is ***'A thriving community and robust economy that outpaces the rest of NZ.'***

Outcomes

The outcomes are what Council aims to achieve in meeting the current and future needs of communities for good quality local infrastructure, local public services, and performance of regulatory functions.

The outcomes have a role to play in strategic direction setting and help in prioritising improvements to activities and services provided by Council.

Council has identified three outcomes, and each have implications for the provision and maintenance of infrastructure for the district.

The Outcomes are:

Thriving communities: Our diverse people of South Waikato are healthy and well, with ample opportunities to support their quality of life.

A sustainable environment: The District is a national leader in benefiting economically from a circular economy.

A robust economy: Leveraging our location and rich soils, we rebuilt a strong foundation for our grandchildren.

In order to achieve these outcomes, Council has set the following goals:

- More people in the South Waikato own their own home than anywhere else in the country
- More people participate in community activities and events in the South Waikato than anywhere else in the country
- Our economy grows faster than anywhere else in the country.
- All our young people are in either education or employment
- No waste or rubbish leaves the district.

6. Infrastructure Challenges

To deliver Council outcomes and implement the strategies Council needs to focus its infrastructure investments.

The following challenges are the most important infrastructure matters for Council to address:

- Renewals – managing the replacement of existing assets by improving the information available to better inform decision making.
- Population change – responding to an increase (or decline) in demand for services.
- Resilience – assessing and reducing the risks of natural hazards.
- Compliance – maintaining or improving public health outcomes, improving environmental outcomes and providing a safe transport system.
- Levels of service – maintaining sustainable delivery of existing levels of service and managing expectations for improved levels of service.
- Recovery – planning for service disruptions.
- Climate Change – planning for climate change.
- Critical Assets – proactive maintenance and renewal programme for critical assets.
- Asset information improvements to assist in informed decision making.

6.1 Renewals

Infrastructure assets have a finite life. They require replacement when they get to the point where they no longer provide the required level of service, or the risk and consequences of them failing is unacceptable. Council plans for the renewal and replacement of assets. Accurate information on asset condition and the performance of those assets is essential for Council to make informed decisions about how the infrastructure assets in the district should be managed. Council has a mandate to maximise benefits from investments utilising ratepayer money and to be financially prudent.

Our Strategic Outcome	***Our Goals***	***Our Response***
Sufficient and accurate information to make informed decisions.	We will plan for and manage the maintenance and upgrading of Council's land transport and three waters infrastructure through effective monitoring of assets.	We will collect, store and manage three waters asset data (asset condition, age etc) in accordance with best practice. We will collect and manage land transport asset data.
	We will have a high level of knowledge of discharges from wastewater and stormwater sources.	We will monitor the discharges from Council's three waters infrastructure, in particular those from WWTPs.
	We will maintain existing assets, improving resilience through sound asset management.	We will utilise asset condition and monitoring data to make informed decisions that are financially prudent and ensure sound stewardship of public assets.

6.2 Population Change

The South Waikato District is experiencing a period of population and commercial/industrial growth, following a long period of slow decline. Council needs to understand these changing growth patterns and plan for effective and efficient provision of three waters infrastructure to meet both current and future demands. This will be undertaken through clear planning of how and where development should occur within the district. Growth in the district is likely to involve both areas for residential development and commercial/industrial purposes.

A growth plan has been developed and future growth planning undertaken for Tokoroa, Putāruru and Tīrau. This growth planning is important to be able to make informed decisions and to ensure that demand is met while maintaining financial prudence of investment in three waters infrastructure.

It is important that Council comprehensively plans for the location of growth to ensure infrastructure is provided in an efficient and effective way over the long term. One of Council's main roles is to determine the optimal timing and location of infrastructure to enable the district to grow. This means investing in efficient and effective infrastructure solutions at the right time and the right place.

Fragmented growth on multiple fronts leads to inefficiencies in infrastructure provision. Land is unable to be developed due to constraints by infrastructure sized only for previous individual developments resulting in Council needing to retrofit infrastructure to allow greater capacity. Infrastructure investments would also need to be duplicated across the district to allow for growth on multiple fronts.

The 2024-34 Long Term Plan and this Strategy proposes investment in strategic infrastructure to unlock the Tokoroa, Putāruru, and Tīrau growth cells. This investment in infrastructure is forecast in the next five years to create the necessary strategic infrastructure to enable residential development.

Our Strategic Outcome	***Our Goals***	***Our Response***
Understand and plan to meet current and future demands.	We will understand and plan for the District's growth trends and dynamics.	We will understand future industrial and residential growth aspirations and ensure future three water demand can be met, where appropriate and land transport needs are met.
	We will provide sufficient water supply, wastewater treatment, stormwater and transport infrastructure to support future growth aspirations.	We will develop a water demand profile using future growth projections that determines the 30 year water supply requirements for the district.
		We will ensure our infrastructure is capable of meeting the district's current and future water supply requirements.
		We will appropriately scale wastewater treatment upgrades and investments in the district to meet growth projections.
		We will ensure that stormwater management is undertaken in accordance with current good practice and required regulatory requirements.

Enable district economic growth and prosperity.	We will maximise economic development opportunities.	We will provide transport links at the appropriate levels of service to support economic growth and productivity.
		We will work with partners to monitor infrastructure, identify upgrades and determine funding mechanisms.
		We will provide better access to markets.
		We will promote the district for industrial and commercial development opportunities.
Provide infrastructure to support and promote land use change and ongoing population growth.	We will protect key freight and tourism corridors.	We will maintain and improve existing parts of the transport system to standards appropriate for their current and planned future use.
		We will plan for and provide better access to markets, employment and business areas.

6.3 Resilience

In general, a pragmatic approach is taken to risk management in individual Asset Management Plans. Identified risk events are grouped into:

- Natural events, where there is no real control over the timing or extent of the event, although probabilities may be understood, eg floods, lightning strikes, earthquakes.
- External impacts, where other service providers are not providing services which impact on the organisation or individuals, eg power supply failures, material supply failures and pandemics.
- Physical failure risks, where condition and/ or performance of the asset or third party damage could lead to failure.
- Operational risks, where maintenance and or management of the asset or asset management activities may impact adversely on the asset.

The main natural hazards potentially impacting on Council's infrastructure assets are volcanic eruption, earthquake and flooding. Resilience is imperative to ensure that the provision of three waters infrastructure will appropriately be able to respond to demands placed on it, both in terms of growth and the ability of the District to be able to respond to natural disasters.

Our Strategic Outcome	***Our Goals***	***Our Response***
Minimise disruption to services.	We will take resilience into account when planning for three waters infrastructure and transport.	We will plan for and implement resilience considerations when considering three waters and land transport infrastructure works.
		We will protect the function of key freight and tourism and transport corridors.

		We will determine the level of service required during incidents and major event, including diversion routes.
Route safety, resilience reliability and accessibility are enhanced	We will enable transport choice and access	We will support different modes of transport in urban areas.
Provide and plan for sustainability	We will protect or enhance the environment	We will work with other key industry partners to capture opportunities that emerging technologies provide for improving the transport system.

6.4 Compliance

Three Waters

We recognise that regulatory and legislative requirements are ever changing, and that Council needs to be able to respond to these changes with regard to the provision of three waters infrastructure.

Public health protection is, first and foremost, a fundamental requirement of Council for water supply. Council is a drinking-water supplier and under the Health Act 1956, councils are required to ensure that they: "…improve, promote and protect public health within its district." (Health Act, Section 23)

Council operates four urban and two rural water supplies. This includes ten reservoirs, ten bore water pumps and 228 km of pipes. In order to ensure regulatory compliance, Council must have adequate and sufficient monitoring information and asset data.

In regard to drinking water, significant changes (including those resulting from the Havelock North inquiry) have changed the regulatory environment. This has influenced the level of treatment and monitoring required for reticulated water supplies to residents within South Waikato District.

Further, Council must be aware of and responsive to regulatory change and the implications that this may have for the provision and management of the three waters in the District. Changes such as Healthy Rivers/Wai Ora (Waikato Regional Council Plan Change 1) will have implications for the way in which discharges from both wastewater and stormwater sources are required to be managed. Council needs to be able to plan for and implement changes to manage discharges from wastewater and stormwater sources to the environment. It is acknowledged that more stringent guidelines and requirements are likely to be implemented in the future, so Council needs to be able to adapt and respond to these changes.

As with service levels, public health and environmental outcomes are largely dominated by national and regional regulatory considerations. Recent upgrades of infrastructure assets have been to address issues regarding public health and environmental protection. Council's long term approach is to maintain and improve its infrastructural assets as required to gain compliance with national and regional standards.

Land Transport

We are committed to enhancing the safety, reliability and accessibility of our transport system. As a priority we will be progressing road safety initiatives, working collaboratively with key stakeholders. Council will work with regional and national partners to implement speed management that is safe, legible and appropriately consistent with adjacent district's networks and national speed management initiatives.

The Speed Management Plan is being developed by South Waikato District Council to support their short-term and long-term road safety goals. To achieve the desired goals a range of initiatives are required to be implemented such as speed limit changes and future improvements to roads to support

either existing or changes in speed limits if and when required. These physical works will be undertaken in conjunction with education programmes and enforcement as required.

The speed limit around schools must be reviewed and the road controlling authority must have made all reasonable efforts to reduce the speed limits in the vicinity of 40% of the schools directly accessed from their roading network by the 30th of June 2024 and all schools compliant by the 31st December 2027. Therefore, by 2027 South Waikato District Council will be required to have reduced the speed limits in the vicinity of all twenty-one schools within its District to either 30 km/hr for urban schools or a maximum of 60km/hr for rural schools. These speed limits can be either variable or permanent.

Our Strategic Outcome	***Our Goals***	***Our Response***
Fully compliant with relevant legislative requirements.	We are committed to minimising the health risk posed by Council water supply.	We will comply with Drinking Water Standards of New Zealand and Health (Drinking Water) Amendment Act 2007 and any subsequent amendments.
		We endorse and will implement the six key principles of drinking water safety recommended by the Havelock North inquiry.
	We will seek to ensure discharges from wastewater treatment plants and stormwater sources are appropriately managed.	We will plan for and implement required upgrades to meet increased expectations in the quality of final systems discharges as agreed through resource consent processes.
	We will be aware of the development of regulatory and legislative change.	We will be actively involved and provide feedback on the development of regulatory and legislative change that affects three waters in our district.
		We will comply with and implement requirements from legislative change.
Route safety, Resilience reliability and accessibility are enhanced.	We will provide a safe transport system	We will provide safe, consistent road environments throughout the district.
		We will work with partners to deliver intersection rationalisation and safety improvements.
		We will participate and provide leadership in safety, including speed management, education and enforcement.
		We will determine the level of service required during

	incidents and major events, including diversion routes.
	We will work with partners to provide a resilient land transport system.
	We will provide for changes in traffic volumes along local roads as a result of tourism and provide safe and appropriate parking facilities.
	We will create a safe town centre environment in collaboration with Waka Kotahi.

6.5 Levels of Service

Three Waters

Council seeks to ensure that the community is informed, with an understanding of what needs to be done, where growth is planned and how the provision of infrastructure is planned to meet that growth. Three waters infrastructure can be expensive, and it is important that communities understand the requirement and reasons for investment, given that ratepayers will be using it and contributing to funding it. Communities will have the chance to input into the plans for infrastructure in the district through the Long Term Plan and Annual Plan processes.

Levels of service for three waters are primarily driven by regulatory and technical considerations. Generally, service levels have been improved in recent times in alignment with those considerations and are expected to be maintained over the Strategy period.

Land Transport

Council needs to provide a transport system that enhances economic growth, social and environmental wellbeing while promoting safety, resilience and flexibility. Our focus will be on mode neutrality, growing public transport and active mode share, particularly for the transport disadvantaged.

In August 2023, SWDC submitted the Draft Activity Management Plan (AMP) 2024-34 and the initial bid for the 3-year period (2024-27) to the Waka Kotahi. AMP describes in detail how the South Waikato District's network will support the Council's Vision, Outcomes and Strategies, particularly over the next 10 years as encapsulated in the Long-Term Plan 2024-2034. The outcomes and strategies include reference to National and Regional Land Transport strategies such as the National and Regional Land Transport programmes, the Ministry of Transport's Transport Outcomes Framework, and Government Policy Statement (GPS).

The initial bid of maintenance and renewal work programme for the subsidies work is for the 2024-27 period is $30,556,000. This is for maintaining our current level of service without further deterioration. This essentially is an approach to "maintain what we have" with the lowest level of risk to the network.

Our Strategic Outcome	*Our Goals*	*Our Response*
Have access to adequate (capability/capacity) resources to deliver service	We will ensure that the right people are tasked with delivering the three waters.	We will ensure that appropriate resources are in place to deliver three waters and transport services in the District, noting that at times the volume and type of work may require expertise and capacity that is beyond that held in-house.
		We will look to grow local resources to fill requirements for delivering three waters services where appropriate.
		We will look into opportunities to collaborate and partner with other local authorities.
Enhance travel through appropriate transport mode choice and better connectivity	We will enable transport choice and improved access.	We will develop a holistic district approach in conjunction with Waikato Regional Council and other partners for enhanced public transport and active transport mode share.
		We will explore opportunities to improve the mobility of socially disadvantaged communities, including implementation of technology solutions to support transport needs.
Contribute to improved health and wellbeing for local communities	We will provide increased access to economic and social opportunities.	We will grow public transport and active transport mode share.

6.6 Recovery

Council, in conjunction with the South Waikato Investment Fund Trust (SWIFT) and other key stakeholders lobbied Government for co-investment into the local economy, accelerated Provincial Growth Fund (PGF) applications and identified shovel ready infrastructure projects for consideration by Crown Infrastructure Partners (CIP).

- SWDC submitted four projects to the CIP in response to the Shovel Ready Infrastructure Initiative from Government
- SWDC identified a project for consideration by the PGF/Provincial Development Unit for infrastructure investment funding. SWIFT also made applications for a number of projects to CIP/PGF.
- In total Council and SWIFT submitted six projects ready for co-investment with Government totalling $88m.

South Waikato Crown Infrastructure Partners (CIP) Funding - Potential Project												
Project Details			Impact (H/M/L)			Readiness			Project Value			
Name	Location	Project Owner	Economic	Community	Employment	Spade Ready (Date)	Key Constraints	Fast Track - When	Total $/m	Already Funded $/m	Funding Gap - Govt Ask $/m	Other Project Links
Infrastructure development to support residential and business development in Putāruru	South Waikato	SWDC	H	H	H	1/07/2020	1. Contractor capacity - Labour / plant. 2. Materials availabiliy. 3. Current Procurement Process/Timescale	Jul-20	16.5	3.8	12.7	
Tīrau Domain Accessibility Enablement Project	South Waikato	SWDC	L	H	M	1/10/2020	1. Contractor Capacity - Labour / plant	Sep-20	3.6	1	2.6	
Tokoroa Indoor Heated Swimming Pool safety project	South Waikato	SWDC	M	H	L	1/10/2020	1. Specialist Contractor Availability. 2. Current Procurement Proces/Timescale. 3 Building Consent timescales	Sep-20	7	0.8	6.2	
Wastewater Treatment, Digestor & Wetlands creation for Healthy Rivers	South Waikato	SWDC	H	H	H	1/07/2020	1. Accelerate Resource Consents through Waikato Regional Council under RMA. 2. Major earthworks weather dependent (Spring start). 3. Engineering capacity	Jul-20	38.1	12.6	25.5	
Trades Training Centre & Digital Hub ** (Note PGF & CIP applications)	South Waikato	SWIFT	H	H	M	1/11/2020	1. Contractor capacity - Labour / plant. 2. Materials availabiliy.	Oct-20	13.9	3.1	10.8	Maraetai Road Intermodal Business Park (MRIBP)
Maraetai Road Intermodal Business Park (MRIBP) *** (Note PGF Application)	South Waikato	SWDC	H	M	M	1/08/2020	1. Contractor capacity - Labour / plant	Jul-20	9.1	5.27	3.83	Trades Training Centre & Digital Hub
Total Projects 6									**$88.20**	**$26.57**	**$61.63**	

Note: The programming of the above projects is over the next 10 years which will be altered if their CIP funding application is successful.

Council and SWIFT were successful with one application. The tertiary training project, “Trades Training Centre and Digital Hub was successful and will receive $10.8 million funding from central government.

The application for Maraetai Road Intermodal Business Park (MRIBP) was not successful. This application has been resubmitted for further consideration in the next funding round.

6.7 Climate change

The Ministry for the Environment has identified the three major impacts associated with climate change are floods, coastal hazards and droughts. The effects of climate change can be felt by changes in long term averages and in the frequency and intensity of extreme events.

Increased frequency and intensity of extreme rainfall events will result in the drainage systems being at capacity more often, resulting in secondary flow paths been utilised more often. Flooding that may occur during an extreme event is projected to extend to more properties.

A complete catchment assessment has been carried out for Tokoroa, Putāruru and Tīrau. These catchment assessments allow for climate change projections and inform Council of the potential flooding hazards in the existing urban areas and in future areas of urban development. The information obtained is being used to limit development in flood prone areas.

Our Strategic Outcome	***Our Goals***	***Our Response***
Provide and plan for climate change	We will protect our community.	We will work with other key industry partners to capture opportunities that emerging technologies provide for to improve the transport system.
		We will take into account the effects of climate change in the planning and design of new infrastructure.

6.8 Critical assets

Critical assets are those that have the highest consequence of failure. Assessing the criticality of our assets allows the programmes for conditions assessments, maintenance and replacement to be prioritised based on that criticality. In an emergency the information will also assist in re-establishing services.

Council's critical assets are those that provide drinking water, wastewater disposal and allow access for emergency services and lifelines.

The criticality of infrastructure is considered when planning the renewal of assets. As part of the 2024- 2034 LTP the strategy for the renewals, planning and budgeting of our wastewater and water supply has taken into consideration the criticality as well as age, performance, maintenance history, hydraulic modelling results and growth projections.

The criticality of our assets has also been assessed taking into consideration cultural, economic environmental, and health impacts. The criticality of our pipe networks has been assessed and are reported in our AMPs and in our asset management system.

All of our water supply treatment plant and wastewater treatment plant assets are considered critical as failure of these components could result in significant impacts to our community health or the environment.

Council has installed systems to mitigate the risk, such as alarms at pumping stations, wastewater treatment plant and water supply headworks, treatment plants and reservoirs.

The existing criticality framework was developed and implemented in 2009. A review of the current criticality framework has been identified as an asset management improvement. When completed, the list of critical assets will be updated.

Our Strategic Outcome	***Our Goals***	***Our Response***
Critical assets remain operational	We will protect our community health and the environment.	We will identify and proactively maintain our critical assets.

6.9 Levels of Service

Council has defined specific levels of service that describe what the customer will receive from a particular activity.

Key Performance Indicators (KPIs) have been developed for the purpose of monitoring and reporting by the service provider, to ensure that the service is being delivered to the defined performance level.

A service level gap exists when the reported results of service level monitoring are lower than the service level target. From this point, improvements can be developed that may involve altering the parameters of fixed assets, altering process features or reviewing the level of service.

Asset management plans document the long-term approach to managing the assets to provide the agreed level of service to the community while also meeting any resource consent condition and legislative requirements. The key challenge is to provide the level of service in an efficient and effective manner that is sustainable for current and future rate payers.

Key issues that Council has to consider to achieve this objective are:

- Backlog - modelling of our networks has indicated that some parts of our three waters networks are not providing the level of service that is considered current best practice.
- Population growth – increasing demand on our services will trigger a need to upgrade the infrastructure when the existing assets can no longer provide a satisfactory level of service.
- Aging population - changes in the population can lead to changes in the levels of service desired by the community. Meeting some of those changes may require investment in new infrastructure or modification of existing infrastructure.
- Legislative compliance - changes in legislation can lead to unplanned increases in infrastructure investment to meet more stringent health or environmental standards. These will need to be met to continue to operate and provide the service.
- Consent compliance - future consent conditions are expected to have lower levels of contaminants allowed to be discharged necessitating new infrastructure to achieve compliance. These will need to be met to continue to provide the service.
- Climate change - climate change is projected to affect the provision of stormwater drainage during events and water supply during summer.

6.9.1 Current levels of service

Roading and Footpaths

Activity	Level of Service
Resealing of road and cycleways	Council maintains its sealed road surface as part of its renewal targets set by the Asset Management Plan.
Pavement (road) rehabilitation	Council's roading network allows its users to travel efficiently to their desired destinations.
General maintenance	Users of our roading network can expect their enquiries and service requests relating to the roading network to be responded to in a timely manner.
Road safety programme	Council continues to provide a safer roading network.
Footpaths	Council has a footpath network that allows its users to travel safely and easily to their desired destination.

Water Supply

Activity	Level of Service
Drinking water treatment and distribution	Council operates and maintains four urban and two rural water supplies. This includes ten reservoirs, ten bore water pumps and about 228 km of pipes. We ensure that residents who are serviced by Council's water supply have high quality water available at all times, for drinking and to meet other household and business needs. Council is responsible for looking after the network and making sure all statutory requirements and environmental standards are met.

Wastewater

Activity	Level of Service
Wastewater collection and treatment	Council maintains about 167km of sewer pipes and 18 pumping stations that make up the district's wastewater network. Each year the wastewater network carries about 55,000 cubic metres of sewage to Council's treatment plants, ensuring that sewage is treated and disposed of to comply with environmental standards.
	Residents can expect timely responses to interruptions to the wastewater reticulation system.
	Residents can expect a reticulated wastewater treatment system that is reliable and does not fail unnecessarily.
	Council operates its wastewater treatment system in an environmentally responsible manner and ensures that it complies with the conditions of the resource consents it holds with the Waikato Regional Council.

Stormwater

Activity	Level of Service
Stormwater collection	Council manages and maintains about 123 km of stormwater network in the urban areas.
	The network complies with all statutory requirements and that public health and safety risks are minimised. This work includes maintaining the network and monitoring stormwater for contaminants to ensure harmful contaminants do not enter waterways.
	Residents who experience flooding can expect to have the flooding issues investigated by Council in a timely manner.
	The stormwater network is reliable.

6.9.2 Customer Satisfaction

The overall results are presented below. In previous Annual Reports, Council has compared the results from surveys taken over the years. For some of our results, a significant amount of people answered, 'don't know', for example the Croad Place Recycling Centre, because the facility isn't used by Putāruru and Tīrau residents. For this reason, 'don't knows' are excluded from the data. A number of activities have a (UoS) associated; this indicates where Users of Services have been targeted.

The table below shows customer satisfaction levels for the 2017/18, 2018/19 and 2019/20 financial years per Council activity.

Council Activity	2018 Satisfaction Level	2019 Satisfaction Level	2020 Satisfaction Level	2020 Sample size
Overall satisfaction with Council's **Water Management**	85%	84%	80%	361
How well the stormwater network is maintained	75%	73%	72%	331
Ability of stormwater network to keep roads and footpaths free from flooding	71%	71%	68%	377
Ability of stormwater network to protect your property from flooding	82%	83%	79%	350
Wastewater system reliability	95%	97%	98%	275
How Council treats and disposes of wastewater	94%	96%	94%	186
Odour of the water	84%	88%	86%	314
Reliability of the water supply	98%	95%	96%	324
Taste of the water	83%	84%	81%	318
Clarity of the water	84%	88%	86%	314
Pressure of the water	90%	90%	87%	321
Overall satisfaction with Councils **Waste Management**	82%	85%	81%	368
Putāruru, Tīrau, Waotu and Okoroire recycling points	82%	82%	79%	156
The Croad Place Recycling Centre	93%	87%	87%	169
Management of loose litter and bins in and around the town	76%	78%	79%	370
The services for managing general waste	85%	82%	77%	316
Kerbside recycling services	84%	85%	78%	310
The services for managing green waste	84%	74%	76%	214
Kerbside rubbish collection	94%	93%	88%	271
Overall satisfaction with Councils **Road and footpaths**	75%	77%	71%	386
Provision of dedicated walkways/other cycleways around the South Waikato	82%	79%	74%	344
How well the urban roads are maintained	73%	76%	71%	395
Availability of footpaths/crossing points for mobility scooters/wheel chairs	79%	76%	70%	316
Adequacy of cycleways on our roads	43%	54%	43%	305
How well footpaths are maintained	76%	75%	71%	367
The safety of roads	76%	72%	70%	390
How well rural roads are maintained	66%	66%	65%	366

Council Activity	2018 Satisfaction Level	2019 Satisfaction Level	2020 Satisfaction Level	2020 Sample size
Overall satisfaction with Councils **Parks, Reserves and Open Spaces**	91%	93%	93%	354
Satisfaction with other parks and reserves	92%	92%	91%	345
Satisfaction with playgrounds	93%	93%	91%	275
Satisfaction with cemeteries	93%	96%	92%	251
Satisfaction with sports grounds	93%	95%	92%	301
Overall Satisfaction with Councils **Public Facilities**	91%	94%	90%	344
Satisfaction with swimming pools (UoS)	94%	93%	88%	170
Satisfaction with public toilets (UoS)	62%	69%	64%	183
Satisfaction with South Waikato Sport and Events Centre (UoS)	96%	98%	98%	203
Satisfaction with community halls (UoS)	91%	91%	94%	103
Satisfaction with libraries (UoS)	97%	96%	97%	219
Library opening hours (UoS)	96%	96%	95%	219
Range of books and materials available at the libraries (UoS)	94%	97%	97%	219
The library charges (UoS)	94%	90%	95%	219
The overall service delivered by the library (UoS)	99%	98%	97%	219
The way that the libraries connect with local groups (UoS)	93%	95%	96%	219
Overall Satisfaction with Councils Rates and Values (**Value for money**)	77%	75%	69%	344
Rates being fair and reasonable	71%	64%	59%	316
Fees for other services (like pool entry fees, dog registration fee, taking out a library book) being fair and reasonable	82%	82%	79%	306
The ease of making payments	94%	93%	92%	316
Overall Satisfaction with Councils **Regulatory Services**	86%	83%	80%	241
Satisfaction with animal control (UoS)	78%	81%	83%	84
Satisfaction with managing and issuing building consents (UoS)	80%	68%	69%	30
Satisfaction with managing and issuing resource consents (UoS)	71%	67%	56%	14
Satisfaction with managing liquor licensing (UoS)	66%	70%	81%	13
Satisfaction with licensing premises such as cafes, restaurants and hairdressers (UoS)	63%	78%	61%	8
Overall Satisfaction with Councils **Communication**	80%	74%	77%	377
Participation in decision making	69%	69%	68%	335
Overall Satisfaction with Councils **Reputation**	80%	78%	77%	379
Quality of services and facilities	84%	78%	76%	389
Leadership	79%	75%	74%	375
Trust	72%	67%	71%	380

Council Activity	2018 Satisfaction Level	2019 Satisfaction Level	2020 Satisfaction Level	2020 Sample size
Financial Management	68%	59%	62%	325
Satisfaction with making a complaint or a request for service				
How easy it was to make your enquiry or requests (UoS)	79%	83%	84%	148
How long it took to resolve the matter (UoS)	51%	50%	53%	148
The information provided being accurate (UoS)	71%	71%	65%	148
How well Council staff understood your request and how well they communicated with you (UoS)	67%	76%	73%	148
The resolution or outcome achieved (UoS)	56%	55%	55%	148
How would you rate Council overall for how well they handled your enquiry (UoS)	56%	60%	65%	148

7. Asset management improvement

Providing and maintaining Council's infrastructure requires good asset management practices and strategic thinking. Understanding what assets we own and what key information is required is fundamental to asset management.

Gaps in our asset knowledge of Council's infrastructure have been identified. A range of options have been considered to fill those gaps in order to allow Council to make good decisions that are fit for purpose.

7.1 Performance Gaps

Performance can be measured in terms of levels of service and performance measures, outages, demand vs capacity and cost of maintenance. Information on how well assets are performing is missing in some areas.

Collection of additional information will allow a better understanding of how our existing assets are currently performing. The information can also be used to assess how much capacity is available in our existing infrastructure to support growth.

7.2 Infrastructure requirements

A key requirement is to understand what asset data is required to effectively and efficiently manage the assets to provide the agreed levels of service to our customers. Key data required for forecasting and planning has been identified and a gap analysis of the existing data sets carried out.

The primary issues are:

- Availability of resources to collect and maintain data.
- Accessibility of assets to obtain the data.
- Availability and cost of different data collection methods.
- Collecting the data required to make informed decisions.
- Funding and prioritisation of data collection.
- Confidence in the accuracy of the data for decision making.
- Understanding the risk that we are managing.
- Understanding the needs of the organisation.

- Assess if the additional information will make a material difference to the management of the assets and outcomes.

Gaps in the management of our infrastructure assets have been identified as follows:

- Missing attribute data in our asset management system.
- Framework for deciding which assets are critical needs reviewing.
- Asset condition data to be collected on assets near end of life or have performance issues.
- Data on asset maintenance is not being captured in asset management system.
- Process of asset data capture needs review.
- Auditing of asset data.

7.3 Forward works

A detailed forward works programme for asset management improvements have been identified and are attached in Appendix 1.

7.3.1 Stormwater and wastewater data

A survey of manhole lid levels, invert depths, pipe size, bearing and direction of pipes has been undertaken during network modelling in 2019. The survey was limited to manholes where information was required to fine tune reticulation network models. The survey data has been processed and compared to the data in our GIS and asset information system. A forward works programme has been formulated to investigate and address identified inconsistencies. Additional investigations will be prioritised in asset catchment areas where level of service issues have been identified, ie flood hazard.

7.3.2 Water Supply data

Hydraulic modelling of the water supply in Tokoroa, Putāruru and Tīrau identified issues for further investigation:

- Structural checking of reservoirs.
- Recording water flows at reservoirs.
- Areas of low pressure or flow.

7.3.3 Flood Hazard Mapping

Flood hazard modelling for a 100-year event includes all existing urban development and identified growth planned for the next 30 years.

The following issues have been identified as requiring further investigation:

- Audit stormwater assets for missing data, accuracy and confirm locations, manhole depths and pipe diameters.
- Survey of manholes and inlets/outlets (where deemed required).

7.3.4 Stormwater, Wastewater and Water supply modelling

Modelling of the three waters networks established the following:

Identification of critical manholes, inlets and outlets, stormwater pipe network capacities and backflow effects.

The priority of the individual projects is based on the district development strategy goals. Specifically, the mitigation works are prioritised to allow more infill housing to occur in existing urban areas.

7.4 Three waters maintenance

- Investigate and implement process for capturing maintenance of three waters assets in AssetFinda.

- Investigate and implement process for capturing cost of maintenance of three waters assets in AssetFinda.

7.5 Land Transport

Gaps identified in the land transport area are:

- Review monitoring and reporting procedures.
- Complete asset risk assessment.
- Undertake condition inspections of critical assets.
- Develop and implement contingency plans.
- Optimise renewals, maintenance, new work and operations.
- Undertake financial sensitivity analysis.
- Improve knowledge of assets.
- Improve demand planning.
- Review and implement new Standard Operating Procedures (SOPs) and Quality Assurance (QA) procedures.
- Review asset management resource.
- Assess the extension of the roading modelling tool.
- Update transportation strategy.
- Update utilities strategy.
- Review grant application procedures.
- Analyse effects of demographic change.
- Revaluation of land transport assets.
- Update asset plan.
- Review procurement approach.
- Review communication plan.

8. Resource consents

Council has invested in wastewater, stormwater and water supply infrastructure to improve the health and wellbeing of the community. Resource consents are required to operate these systems. The purpose of these consents is to address the impacts on the environment from the operation of the systems that have been created. The resource consents are strategically important to the continued operation of the various systems. The consents are listed in the tables below.

8.1 SWDC Wastewater Schemes

SWDC owns and operates four wastewater schemes within the district at Tokoroa, Putāruru, Tīrau and Arapuni. The largest scheme is at Tokoroa. The discharge consents for the all four wastewater treatment plants have recently been renewed.

Wastewater Discharge	**Scheme**	**Activity**	**Date Granted**	**Expiry**
Consent Number				
AUTH140049.01.01	Arapuni	Discharge to Land		1 Sep 2056
AUTH140126.01.01	Putāruru	Discharge to Oraka Stream	29 Jun 2020	30 Apr 2055
AUTH140124.01.01	Tīrau	Discharge to Oraka Stream	13 Aug 2020	10 Aug 2055
AUTH140055.01.01	Tokoroa	Discharge to Whakauru Stream		1 Sep 2056

8.2 SWDC Water Supply Schemes

Council owns and operates six water supply schemes at Tokoroa, Putāruru, Tīrau, Arapuni, Lichfield and Athol. Higher levels of service driven by the Public Health (Drinking Water) Amendment Act 2007 and security of supply are two key issues impacting on all schemes. Consents to take water are critical to maintaining adequate, all year, water supply quantities for domestic and commercial/industrial use.

The following table summarises water supply consent expiry dates:

Water Take				
131427.01.01	Putāruru	Take from Blue Spring - Waihou	31 Jul 2014	31 Mar 2048
130334.01.01	Tokoroa	Take from two bores - Elizabeth Park	1 Dec 2013	31 Dec 2031
AUTH144316.01.01	Tīrau	Take from Oraka Spring		31 May 2058
125251	Arapuni	Take from underground near Johnsons Rd	1 Apr 2013	31 Dec 2031
940284	Lichfield	Take from underground near Ngātira Rd	16 Aug 1994	1 Aug 2029
122363	Putāruru	Take from Glenshea Park	10 Jan 2013	31 Dec 2031

8.3 Stormwater discharge consents

Council has discharge consents for its stormwater networks which service the urban areas of Tokoroa, Putāruru, Tīrau and Arapuni. These all expire in 2025. We have initiated the renewal process for these consents.

Recent changes to the Regional Water Quality Plan mean there will be significant changes to the way stormwater is managed in the future. There will be an expectation that councils will design, monitor and maintain stormwater systems to a high level with the aim of improving water quality before it enters the receiving waters.

The following table summarises the stormwater consent expiry dates:

Stormwater				
105044	Tokoroa	Comprehensive discharge from urban area	18 Feb 2005	14 Feb 2025
105045	Putāruru	Comprehensive discharge from urban area	18 Feb 2005	14 Feb 2025
105047	Tīrau	Comprehensive discharge from urban area	11 Oct 2005	25 Jan 2025
125257	Arapuni	Discharge	19 Dec 2012	14 Feb 2025

8.4 Other consents

There are consents for the landfills, dams, bridges and culverts. The Tokoroa landfill closed at the end of the consented period in October 2020. The remaining landfill consents covering discharges from the closed landfills will not expire until 2034.

Consent Number	**Town**	**Activity**	**Date Granted**	**Expiry**
Landfill				
102446	Tokoroa	Municipal Waste	27 Feb 2001	31 Oct 2020
102447	Tokoroa	Landfill stormwater to tributary of Pokaiwhenua	27 Feb 2001	31 Oct 2035
102448	Tokoroa	Landfill gas to air	27 Feb 2001	31 Oct 2035
102480	Tīrau	Leachate	7 Feb 2000	15 Dec 2034
102481	Tīrau	Landfill stormwater onto land	7 Feb 2000	15 Dec 2034
102482	Tīrau	Landfill gas to air	7 Feb 2000	15 Dec 2034
102536	Tokoroa	Landfill stormwater onto land	27 Feb 2001	31 Oct 2035
102537	Tokoroa	Leachate	27 Feb 2001	31 Oct 2035
102588	Putāruru	Landfill stormwater onto land	24 May 2000	20 Apr 2035
102589	Putāruru	Landfill gas	24 May 2000	20 Apr 2035
102747	Putāruru	Leachate	24 May2000	20 Apr 2035

Dams				
123518	Tokoroa	Dam Matawara stream to create Lake Moana-Nui	30 Sep 2012	30 Sep 2045
132908.01.01	Tokoroa	Dam - Grampion St	13 Aug 2014	13 Aug 2049
132908.02.01	Putāruru	Dam A near Putāruru Intermediate School	13 Aug 2014	13 Aug 2049
Culverts				
Consent Number	**Town**	**Activity**	**Date Granted**	**Expiry**
104227	Okoroire	Replace two culverts in Tukutupere Stream and tributary - Kakahu Rd		30 Jun 2035
109838	Waotu	Replace culvert in bed of Waipa stream - Wiltsdown Rd		31 Oct 2038
109839	Waotu	Replace culvert in bed of Raparahi stream - Wiltsdown Rd		31 Oct 2038
110562	Putāruru	Install culvert and rock ramp in bed of Pokaiwhenua - Waotu Rd		10 Mar 2039
112477	Putāruru	Install twin culverts adjacent to narrow bridge over Mangakaretu Stream - Arapuni Rd		19 Apr 2040
113943	Putāruru	Install culvert in bed of Pokaiwhenua - Arapuni Rd		17 Mar 2041
Bridge				
105872	Putāruru	Construct a bridge over Waihou Stream for walkway		15 Oct 2036
107293	Putāruru	Construct 11m span bridge over Waihou Stream for walkway		26 Apr 2037
Others				
125252	Arapuni	Discharge from Water Take	1 Apr 2013	31 Mar 2031

9. Significant Infrastructure Issues

This Strategy relates to Council's wastewater, water supply, stormwater drainage and transport infrastructure assets. The tables on the following pages summarise the significant infrastructure issues facing Council, the proposed response to those issues, and the implications of taking or not taking the action proposed by the response. In many instances, the same principal response option is capable of addressing several infrastructure issues. The proposed responses are then developed into projects to be actioned.

9.1 Infrastructure Strategic Issues and Decisions

Stormwater

Community	Most likely scenario	Strategic issue	Alternative Option	Forecast delivery	Cost $	Funding
Putāruru	Develop infrastructure capacity to address identified capacity issues.	Level of Service	Do nothing - Existing infrastructure not providing required level of service.	2024 - 2028	365,000	Rates
Putāruru	Plan for climate change effects and resilience (LOS), reduce flooding of existing section (LOS), supporting infill development	Level of Service, Growth	Do nothing - Existing infrastructure not providing required level of service.	2024 - 2027	7,000,000	Rates
Putāruru	Stormwater improvements - Philip Street	Level of Service	Do nothing - Existing infrastructure not providing required level of service.	2024 - 2026	700,000	Rates
Tokoroa	Stormwater Rehabilitation Design - Ashworth Street and Sloth Road	Level of Service	Do nothing - Existing infrastructure not providing required level of service.	2025 - 2027	1,650,000	Rates
Tokoroa	Stormwater Upgrade - Stafford Place	Level of Service	Do nothing - Existing infrastructure not providing required level of service.	2024 - 2026	350,000	Rates
Districtwide	Aging Infrastructure – Implement stormwater pipe condition assessment program. Implement prioritised renewal program.	Renewals	Do nothing – Increased risk of network failures resulting in flooding of property.	Annually	150,000	Depreciation Reserves
Districtwide	District Wide Stormwater Treatment Devices to	Level of Service	Do nothing - Existing infrastructure not	Annually	200,000	Rates

	reduce contaminants in stormwater runoff.		providing required level of service.			

Wastewater

Community	Most likely scenario	Strategic issue	Alternative Option	Forecast delivery	Cost $	Funding
Arapuni	Arapuni WWTP Equipment Replacements	Renewals	Do nothing - No renewals resulting in potential for levels of service not met. Potential for non-compliance.	2025-2026	15,000	Depreciation Reserves
Arapuni	New Pump Station at 53 - 55 Arapuni Rd	Growth	Do nothing - No allowance for growth	2027-2029	770,000	Depreciation Reserves
Districtwide	District Wide Wastewater Renewals	Renewals	Do nothing - No renewals resulting in potential for levels of service not met. Potential for non-compliance.	Annually	1,500,000	Depreciation Reserves
Putāruru	Buckland Street WW Pump Station Upgrade	Growth	Do nothing - No allowance for growth.	2029-2030	506,000	Development Contributions
Putāruru	Galway Crescent WWPS - Flood Protection	Level of Service	Do nothing - Existing infrastructure not providing required level of service.	2027-2028	100,000	Rates
Putāruru	Grey Street Pump Station Rising Main	Growth	Do nothing - No allowance for growth.	2030-2031	3,114,000	Development Contributions
Putāruru	Grey Street Pump Station Upgrade	Growth	Do nothing - No allowance for growth.	2030-2031	133,000	Development Contributions
Putāruru	Lower Tīrau Street Main Upgrade	Growth	Do nothing - No allowance for growth.	2030-2031	1,859,000	Development Contributions

Putāruru	Putāruru Wastewater Plant & Equipment Replacement	Renewals	Do nothing - No renewals resulting in potential for levels of service not met. Potential for non-compliance	Annually	150,000	Depreciation Reserves
Putāruru	WWTP - Reduce nitrogen levels in effluent, to comply with consent conditions	Level of Service	Do nothing - Levels of service not met, non-compliance with resource consent	2024-2027	10,000,000	Rates
Putāruru	WWTP - Reduce phosphorus levels in effluent, to comply with consent conditions	Level of Service	Do nothing - Levels of service not met, non-compliance with resource consent	2040-2041	222,000	Rates
Putāruru	Putāruru WWTP Standby Generator	Level of Service	Do nothing - Levels of service not met.	2026-2027	250,000	Rates
Putāruru	WWTP – Wetlands to be constructed to comply with consent conditions	Level of Service	Do nothing - Levels of service not met, non-compliance with resource consent	2024-2025	750,000	Rates
Tokoroa	Baird Road & Tasman Drive WW Pump Station - Seismic Upgrades	Level of Service	Do nothing - Levels of service not met.	2025-2027	400,000	Rates
Tokoroa	Baird Road WW Pumpstation Upgrade	Growth	Do nothing - No allowance for growth.	20225-2027	1,200,000	Development Contributions
Tokoroa	Buckland Street WW Pump Station Upgrade	Growth	Do nothing - No allowance for growth.	2029-2030	65,000	Development Contributions
Tokoroa	Harris Block WW Pumpstation Upgrade	Growth	Do nothing - No allowance for growth.	2024-2026	550,000	Development Contributions
Tokoroa	Tasman Ave WW Pumpstation Upgrade	Growth	Do nothing - No allowance for growth.	2024-2026	120,000	Development Contributions
Tokoroa	Tokoroa Wastewater Plant & Equipment Replacement	Renewals	Do nothing - No renewals resulting in potential for levels of service not met. Potential for non-compliance	Annually	230,000	Depreciation Reserves

Tokoroa	Tokoroa WWTP - FAST Filter Media Replacement	Level of Service	Do nothing - Levels of service not met, non-compliance with resource consent	2024-2026	2,000,000	Rates
Tokoroa	WWTP - Reduce nitrogen levels in effluent, to comply with consent conditions	Level of Service	Do nothing - Levels of service not met, non-compliance with resource consent	2024-2025	1,000,000	Rates
Tokoroa	WWTP - Reduce phosphorus levels in effluent, to comply with consent conditions	Level of Service	Do nothing - Levels of service not met, non-compliance with resource consent			
Tokoroa	Tokoroa WWTP Hydraulic Improvements	Level of Service	Do nothing - Levels of service not met, non-compliance with resource consent.	2024-2025	500,000	Rates
Tokoroa	Tokoroa WWTP Portable Generator	Level of Service	Do nothing - Levels of service not met.	2026-2027	150,000	Rates
Tokoroa	Tokoroa WWTP Standby Generator	Level of Service	Do nothing - Levels of service not met.	2025-2026	250,000	Rates
Tokoroa	Tokoroa WWTP Wetland	Level of Service	Do nothing - Levels of service not met, non-compliance with resource consent.	2024-2026	3,300,000	Rates
Tīrau	Bear Street WW Pumpstation Upgrade	Growth	Do nothing - No allowance for growth.	2025-2027	330,000	Development Contributions
Tīrau	Parapara WWPS Upgrade	Growth	Do nothing - No allowance for growth.	2025-2027	110,000	Development Contributions
Tīrau	Tīrau wastewater - Growth Cell B Pumpstation and rising main	Growth	Do nothing - No allowance for growth.	2025-2027	1,650,000	Development Contributions
Tīrau	Tīrau wastewater - Growth Cell C Pumpstation and rising main	Growth	Do nothing - No allowance for growth.	2025-2027	1,650,000	Development Contributions

Tīrau	Tīrau Wastewater Plant & Equipment Replacement	Renewals	Do nothing - No renewals resulting in potential for levels of service not met. Potential for non-compliance.	Annually	75,000	Depreciation Reserves
Tīrau	Tīrau WWTP Inlet Screen Upgrade	Level of Service	Do nothing - Levels of service not met.	2024-2025	1,300,000	Rates
Tīrau	Tīrau WWTP MBR Improvements & Alum Dosing	Level of Service	Do nothing - Levels of service not met.	2027-2029	2,191,000	Rates

Water Supply

Community	Most likely scenario	Strategic issue	Alternative Option	Forecast delivery	Cost $	Funding
Arapuni	Arapuni Water Supply Plant & Equipment Replacement	Renewals	Do nothing - No renewals resulting in potential for levels of service not met. Potential for non-compliance.	Annually	15,000	Depreciation Reserves
Districtwide	District Wide Water Supply Renewals	Renewals	Do nothing - Levels of service not met.	Annually	3,350,000	Depreciation Reserves
Districtwide	District Wide Water Supply Resource Consents	Level of Service	Do nothing - Existing infrastructure not providing required level of service.	2028-2030	600,000	Rates
Districtwide	Water Meters	Level of Service	Do nothing - Existing infrastructure not providing required level of service.	2026-2030	5,200,000	Rates
Districtwide	Water Supply Reservoirs - Seismic Assessments	Level of Service	Do nothing - Existing infrastructure not providing required level of service.	2024-2026	310,000	Rates

Putāruru	Arapuni Street Watermain Upgrade	Growth	Do nothing - No allowance for growth.	2028-2030	975,000	Development Contributions
Putāruru	Duplicate Pinedale Reservoir Outlet	Growth	Do nothing - No allowance for growth.	2030-2031	1,696,000	Development Contributions
Putāruru	Glenshea Booster Pump station Upgrade	Growth	Do nothing - No allowance for growth.	2028-2029	1,019,000	Development Contributions
Putāruru	Glenshea Water Supply - Reservoir Repairs	Level of Service	Do nothing - Existing infrastructure not providing required level of service.	2024-2026	900,000	Rates
Putāruru	Glenshea Water Supply - Standby Generator	Level of Service	Do nothing - Existing infrastructure not providing required level of service.	2025-2026	150,000	Rates
Putāruru	Pinedale Reservoirs Upgrade	Level of Service	Do nothing - Existing infrastructure not providing required level of service.	2026-2029	3,150,000	Rates
Putāruru	Putāruru Water Supply - pH Correction Plant	Level of Service	Do nothing - Existing infrastructure not providing required level of service.	2024-2026	1,100,000	Rates
Putāruru	Reservoir Street Watermain Upgrade	Growth	Do nothing - No allowance for growth.	2025-2026	2,078,000	Development Contributions
Putāruru	Sholson Street Watermain Upgrade	Growth	Do nothing - No allowance for growth.	2025-2026	950,000	Development Contributions
Putāruru	Waihou Pump Station Resource Consent	Growth	Do nothing - No allowance for growth.	2030-2031	121,000	Development Contributions
Putāruru	Waihou Pump Station Upgrade	Growth	Do nothing - No allowance for growth.	2030-2031	1,129,000	Development Contributions
Tokoroa	Billah Street Filtration	Level of Service	Do nothing - Existing infrastructure not providing required level of service.	2024-2025	500,000	Rates

Tokoroa	Colson Hill Reservoirs - Repairs and Seismic Reinforcement	Level of Service	Do nothing - Existing infrastructure not providing required level of service.	2024-2026	500,000	Rates
Tokoroa	Tokoroa Water Supply - Growth Upgrades	Growth	Do nothing - No allowance for growth.	2026-2028	3,800,000	Development Contributions
Tokoroa	Tokoroa Water Supply Plant & Equipment Replacement	Renewals	Do nothing - No renewals resulting in potential for levels of service not met. Potential for non-compliance.	Annually	85,000	Depreciation Reserves
Tīrau	Tīrau Headworks Pump upgrade	Growth	Do nothing - No allowance for growth.	2025-2027	880,000	Development Contributions
Tīrau	Tīrau Water Supply rising main and pipelines upgrade	Growth	Do nothing - No allowance for growth.	2026-2028	4,333,000	Development Contributions
Tīrau	Tīrau - New Rising Main and Distribution Network Upgrades	Growth	Do nothing - No allowance for growth.	2025-2027	550,000	Development Contributions
Tīrau	Tīrau - New Reservoir for growth and level of service. Relocation of headworks.	Growth, Level of service	Do nothing - No allowance for growth. Level of service not met.	2024-2027	6,772,000	Development Contributions and Rates
Tīrau	Tīrau - Investigation into New Water Source	Level of Service	Do nothing - Existing infrastructure not providing required level of service.	2024-2025	500,000	Rates
Tīrau	Tīrau Water Supply Plant & Equipment Replacement	Renewals	Do nothing - No renewals resulting in potential for levels of service not met. Potential for non-compliance.	Annually	85,000	Depreciation Reserves

Land Transport

Community	Most likely scenario	Strategic issue	Alternative option	Probable year of action	Cost	Funding
Putāruru	Access road from Princes Street	Growth	Do nothing – Site Development cannot proceed	2024-2029	1,200,000	Development Contributions
District wide	Road network renewals. Pavement renewal and resurfacing	Renewal	Do nothing - No renewal resulting in no allowance for growth and potential for levels of service not met.	Annually 2024 - 2054	3,760,000	Rates
	Safety Improvements	Compliance	Do nothing - No improvement to safety of users using road network	Annually 2024 - 2054	415,000	Rates
	Cycling/ walking strategy	Relationship	Do nothing – No improvement of transport mode choice	2024-2029	20,000	Rates

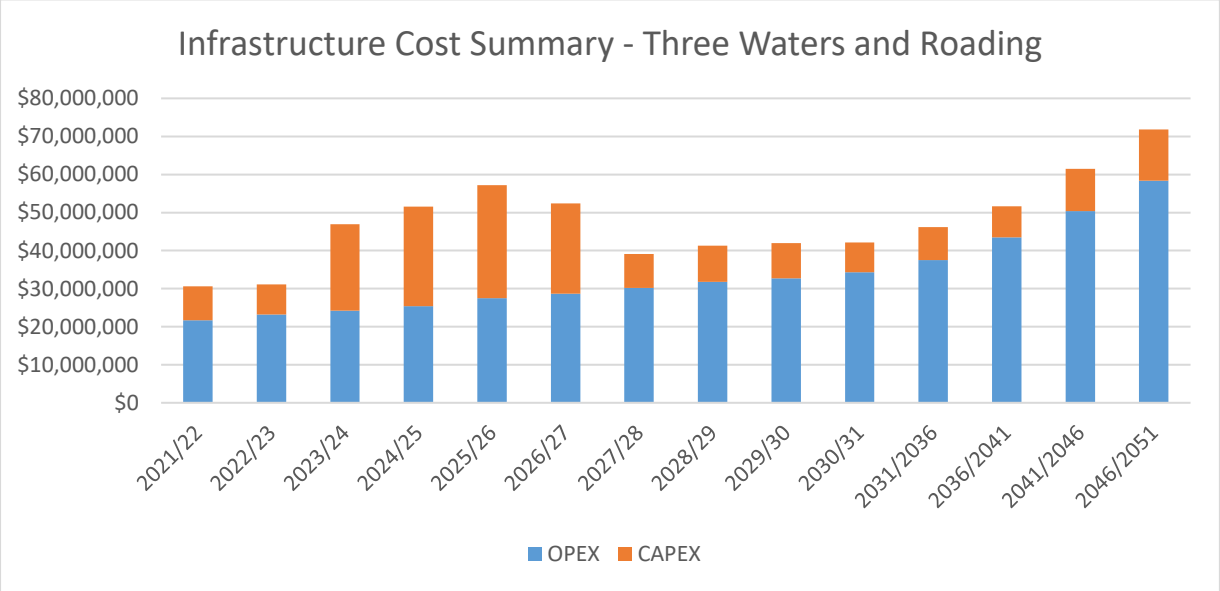
10. Infrastructure Financial Summary

10.1 Thirty-year Cost

In addressing the issues identified in this Strategy the South Waikato District Council expects to spend $346 million on new or replacement infrastructure between 2021 and 2051. Within the same period operating costs are expected to be $1,199 million. The forecasted cost split is shown below:

Infrastructure Activity	Operational Expenditure	Capital Expenditure	TOTAL
	(million $)	(million $)	(million $)
Transport	1,023,542,235	353,316,253	**1,376,858,488**
Stormwater	84,812,244	47,934,832	**132,747,077**
Water Supply	256,531,785	60,857,337	**317,389,122**
Wastewater	374,783,168	76,184,930	**450,968,099**
Total	**1,739,669,432**	**538,293,353**	**2,277,962,786**

The following figure shows the expected overall annual expenditure for the four infrastructure services from 2021 to 2051. From 2031 onward the 5 yearly amounts shown are the annual average.



10.2 Funding

Funding for renewals is from asset replacement reserves.

Funding for achieving acceptable level of service is from rates. Funding for increased capacity to enable growth is from development contributions.

11. Infrastructure Assumptions and Uncertainties

11.1 Reliability of Asset condition data

Reliability of asset condition data is one of several factors affecting the accuracy of Council's forecasts. Other factors relevant to forecasting of maintenance and replacement programmes include asset material, its age, and the environment where it is located. These factors are then used to assess the remaining useful life of an asset and when it should be programmed for replacement. An assessment is made of the accuracy of the data and a confidence grade given as shown below:

Confidence grade	Label	Description
A	Accurate	Data based on reliable documentation
B	Minor inaccuracies	Data based on some supporting documentation
C	Significant data missing	Data based on local knowledge
D	All data estimated	Data based on a best estimate of experienced person

The results of our assessment are summarised below:

Asset Group	Asset Class	Confidence Grade
	Line	A+
Water	Plant	B-
	Point	B-
	Line	A+
Wastewater	Plant	B+
	Point	A-
	Line	A+
Stormwater	Plant	B
	Point	B-
	Pavement surface	A
	Drainage	C
	Stormwater channel	A
Transport	Footpaths	A
	Railings	B
	Signs	A
	Bridge (including large culverts)	A
	Streetlights	B

One of the key future objectives is to improve our asset management practices. Where new data is obtained, our analysis will be reviewed and, where required, the condition of assets and renewal programmes will be adjusted. Any changes will be reflected in the Long Term Plan, reviewed every three years. Our Infrastructure Strategy will also be adjusted to reflect changes in our knowledge of our assets.

11.2 Infrastructure specific assumptions

Global planning assumptions are covered in the LTP. Assumptions specific to the Infrastructure Strategy are outlined below:

Assumption	**Likelihood***	**Risks**
Construction cost No major change to current costs.	Low	During the Annual Plan process there is the opportunity to reassess forecasted budgets. This is an opportunity to mitigate the effects of this risk. Every three years during the LTP the budgets are reassessed and adjusted taking into account prevailing costs and BERL forecasts for inflation.
Operational and maintenance costs No major change from in costs over next 30yrs.	Low	Inflation factors, using BERL indices, have been applied to budgets over the next 30 years.
Asset lives Assumed lives of assets are reasonable	Pipelines - Moderate	Risk that pipeline asset lives are inaccurate. They are based on industry standard design life and are best assessment of life currently available. Life can be modified based on condition assessments and performance. Most of the network has not been condition assessed and risk that some sections may need renewing sooner than forecast.
Natural Disasters That there is no natural disaster that requires additional funding to reinstate assets.	Low	There is a low risk of a natural disaster occurring during the 30 year period which may require additional significant funding to reinstate assets. Further work is needed to determine the level of resilience required.
Climate change The effects of climate change will be minimal over the planning period	Low	The likely effects of climate change have been factored into our forward planning of our infrastructure.
Growth in Demand Population will increase by 0.3% in Tokoroa and 1% in other towns	Low	Potential changes in demand due to population increase have been analysed and factored into our renewals and new assets programmes.
Changes to level of service Expected changes to level of service are expected to be minor	Low	Significant change to the level of service will require a review of the Infrastructure Strategy to assess the impact on infrastructure.

Assumption	Likelihood*	Risks
Council policy No significant policy changes that impact on assets.	Low	Any significant policy change that impacts assets will trigger a review of the Infrastructure Strategy.
Government legislation. The Government has proposed legislation (Water Services Bill) before parliament that changes the operation and provision of water supply, wastewater and stormwater services at local government level.	High	The 30-year Infrastructure Strategy has assumed that ownership of water supply, wastewater services and stormwater services will remain with council for the next 30 years. Government has signalled this is unlikely to be the outcome of the reform process now underway. The exact form of the changes is under development through a consultation process between Government and territorial authorities. Once known, the 30 year Infrastructure Strategy will require review to reflect those changes.

*See Appendix 2 for definition of likelihood.

Appendix One: Asset Management Improvement Projects

Asset Class	What's required	Timing	Gaps	Task	By who	Priority	Estimate
Water supply, wastewater and stormwater	Description of maintenance activity undertaken on the asset.	TBC	Most Maintenance data not been sent to Assetfinda.	Determine what data to collect. Set up process to collect required data. Record maintenance location, details and send to Assetfinda Need to differentiate the extent of repair activities for each of the asset (i.e. collar vs pipe/other fittings)	Water and wastewater services; 3 waters manager, Infrastructure Strategy manager, finance, business innovation	High	Internal Cost $30k
Water supply, wastewater and stormwater	Cost of maintenance	TBC	Maintenance cost not assigned to assets	Set up process to assign cost to assets	Water and wastewater services; 3 waters manager, Infrastructure Strategy manager, finance, business innovation	High	Internal Cost $30k
Water supply, wastewater and stormwater	Hierarchy/ naming	2024-2029	Review naming	Review existing data	Infrastructure Strategy manager, 3 waters manager	High	Internal Cost $20k
Water Supply	Current asset condition based on age and performance	2024-2054	Only testing AC pipes as these have been identified as been an issue -	Confirm process. Review results and review design life of pipes. Update Assetfinda lives. Review modelling to assess performance issues	Water services - Retain AC pipe for testing; 3 waters manager to arrange testing, assess results, adjust life; AIO update pipe life in AF.	Very Low	Lab testing of samples; $20k annually. Should be in 3 waters Budgets not

			performance / breakages				required at this time. Have enough data at present.
	Headworks/ bores	2024-2029	Headworks assets missing or incomplete data	Obtain data and standardise across sites.	Infrastructure Strategy, 3 waters manager, Water services	Moderate	Internal Cost $10k
Wastewater	Diameter Manhole	2024-2054	Some manhole diameters need to be confirmed	Run report on missing manhole diameters. Check in field.	Wastewater services	Low	Internal Cost $10k
	Criticality of pipes	2024-29	Confirm Criticality of pipe correct	Review criticality of individual pipes	Infrastructure Strategy manager, 3 waters manager	Moderate	Internal Cost $10k
	Condition of critical pipes	2024-2054	Condition of critical pipes inferred from age.	Assessment of condition by CCTV.	3 waters manager, Water and wastewater services.	Moderate	$70k in wastewater for condition /CCTV inspection?
	Current asset condition based on age and	2024-2054	Develop condition assessments process; CCTV not	CCTV of pipes; Determine pipe condition grade. External consultants	CCTV pipe condition. Grading done by consultant.	High	$70k in existing ops/ maintenance budget?

	performance.		been entered into AMS				
	Location	2024-2054	When errors are noted in GIS check in field.	AMS team	GPS by Infrastructure Strategy,	Low	Internal Costs $20k
	Depth - General	2024-2029	Data missing - 90% of depths and lid levels	AMS team / surveyor	Survey Consultant - $200/hr or staff cost	Low	$600k
	Performance	2024-2029	Not mapping repairs or recurring maintenance in Assetfinda	Set up system to record spatially where recurring maintenance or breakages and forward to Asset Information Officer	Infrastructure Strategy, 3 waters manager, Water and wastewater services	Moderate	Internal cost $10k
Stormwater	Asset type	2024-2029	Check, point type, connection types	Review existing data; Field check	Infrastructure Strategy	Moderate	Internal Costs $10k
	Current asset condition based on age and performance	2024-2054	Condition based on age.	Determine pipe condition grade. CCTV of pipes	CCTV pipe condition. Grading done by consultant.	Moderate	In existing operations maintenance budget Confirm with part of $70k year?
	Location	2024-2054	Check location of outlets, inlets, MH, Open drains	Audit percentage of location of assets on an annual basis	Infrastructure Strategy	Moderate	Internal Costs $10k

	Depth, invert levels	2024 - 2029	Data missing - 90% of depths and lid levels	Desktop assessment of lid levels. Survey depths annually	Staff / Surveyor	High	$600k
	Critical assets	2024-2029	Confirm Criticality of pipe correct	Review criticality of individual pipes	Infrastructure Strategy manager, 3 waters manager	High	Internal Costs $10k
	Critical assets	2024-2054	Condition based on age.	Condition inspection by CCTV	Infrastructure Strategy manager, 3 waters manager	High	In existing operations and maintenance budget.
	Flood Hazard Mapping	2024-2054	Data validation process beyond that carried out for modelling May require mitigation of the flooding effects.	Field check relevant asset attributes	Watershed, Stormwater engineer, Infrastructure Strategy manager, 3 waters manager	High	Rerun model $30k; survey $20k - once every 3 years
Plant 3 waters	Asset Details	2024-2029	Assess what useful data is missing	Review data, determine what is useful, collect, enter. Audit.	Infrastructure Strategy, Water Operations and Maintenance, Water and wastewater services	High	Internal Costs $10k
	Hierarchy	2024-2029	Assess Structure changes improve reporting ability may be improved	Review hierarchy	Infrastructure Strategy, Water Operations and Maintenance, Water and wastewater services	Moderate	Internal Costs $30k

	Location	2024-2029	Assess what benefits of having site location of assets ie WWTP and head works etc.	Scope if we can capture this data with GIS and AF; Benefit?	Infrastructure Strategy, Water Operations and Maintenance, Water and wastewater services	Low	Internal Costs $10k
	Condition	2024-2029	Condition assessment of WWTP plant	Undertake condition assessment	Water Operations and Maintenance, Water and wastewater services	High	Internal Costs $10k
Transport		2024-2034 2024-2034 2024-2034 2024-2034 2024-2034	Strengthen links between LOS/Demand /Plan Demonstrate Technical/Community Outcomes	Alignment between 2024 AMP and LTP On-going community and targeted stakeholder engagement Realistic growth projections working alongside other Council Departments Ongoing monitoring and reporting confirmed achievements High levels of satisfaction recorded in quarterly community surveys	Operations and Maintenance team/ CoLAB		$160k in Roading budget for data improvement

		2024-2034		Align the LOS with the revised Council Outcomes in the 2024 LTP			
		2024-2034	Review Monitoring and Reporting Procedures	Summary of procedures prepared for review. Generally, effectively carried out. May look at more consistent formatting between different activities.			
		2024-2034		An electronic Register of all SWDC Plans, Bylaws, Strategies and Plans has been prepared to update current status and renewal dates.			
		2024-2034	Complete Asset Risk Assessment	Consideration given to extending to include assessment of failure probability in Land Transport to enable completion of risk profile			
		2024-2034	Condition Inspection of Critical Assets	Implemented of Land Transport for Lifelines			
		2024-2034	Develop and implement Contingency Plans	Ongoing support for, and co-ordination with, Civil Defence and Emergency Management			

		2024-2034		Participation in vulnerability assessment exercise and other activities of the Waikato Engineering Lifelines Group			
		2024-2034	Emergency Response Exercises	Not implemented, apart from working together with CDEM and Lifelines			
		2024-2034	Renewals, maintenance, New work and operations optimisation	Business case approach implementation to assist planning and funding for renewals			
		2024-2034		Benefits and options analysis needs further development			
		2024-2034		Better use of PMRT, particularly for peer group comparisons			
		2024-2034		Consequences of not investing in the network identified			
		2024-2034	Financial Sensitivity Analysis	Business case approach used for all investment decisions			
		2024-2034	Improve Knowledge of Assets	dTIMS modelling			
		2024-2034		Data collection Strategy			
		2024-2034		Better undertaking of Network through continued appropriate, evidence based data collection			
		2024-2034		Continued support by CoLAB Assets Management Forum			

		2024-2034	Improve demand planning	Growth Plans			
		2024-2034		Better data collection			
		2024-2034	Extend asset system to include all significant groups in one database	Land Transport information will remain in RAMM			
		2024-2034		Support of CoLAB			
		2024-2034		Improvement use of RAMM through on-going training Implementation of Asset Management Data Standard (AMDS) Programme			
		2024-2034	Review and implement new Standard Operating Procedures and Quality Assurance procedures	Existing SOPs are kept up to date			
		2024-2034		QA procedures need further development			
		2024-2034		Renewal and maintenance strategy to be developed			
		2024-2034	Asset Management	Review of staff resources completed previously			

			Resource review				
		2024-2034		Budgets for external resource			
		2024-2034	dTIMS modelling tool extension	Implemented for Land Transport (see IP14)			
		2024-2034	Transportation strategy updating	Reviewed and update			
		2024-2034	Utilities strategy; assessment and plan updating	Ongoing liaison with various Utilities providers and work programmes			
		2024-2034	Grant application procedures	Maximise NZTA Waka Kotahi subsidies through smart procurement and good planning			
		2024-2034	Demographic change in demand analysis	Population projections are addressed on a corporate wide basis to ensure consistency in planning and alignment with the LTP process.			
		2024-2034	Revaluation-Land Transport Assets	Completed - 30 June 2023			
		2024-2034	Asset Plan update	2024-34 AMP updated and compliance status review implemented			

		2024-2034	Procurement	Apply the smart buyer principles assessment tool			
		2024-2034		A 'Best for Network' approach with a focus on costs and network ownership by both parties.			
		2024-2034		Working Smarter through better joint planning and decision making.			
		2024-2034		A 'whole of life approach' increase the percentage of planned to reactive works on the network and identifying causes rather than simply 'patching the pothole'.			
		2024-2034					
		2024-2034		Providing avenues for innovative solutions and technological advances in industry to be applied, increased the depth of knowledge and skills for both parties, including greater understanding of the political context of decision-making.			
		2024-2034		Flexibility to deal with future uncertainty.			

		2024-2034		Opportunities to extend learnings for both Council and contractors, particularly with cadets.			
		2024-2034		Potential opportunity to bundle contracts with other road authorities (district councils and NZTA).			
		2024-2034		More engagement with the industry			
		2024-2034	Communication	Review and update communication plan			
		2024-2034					
		2024-2034		Maintain relationships with stakeholders			

Appendix Two: Risk Likelihood Matrix

Rating	Description	Likelihood Percentage	Strategic	Operational	Project
			Probability of the risk occurring	Probability of the risk occurring	Probability of the risk occurring
5	Almost Certain	>80% chance of occurring	It is almost certain to occur in most circumstances in the next five years.	It is almost certain to occur in most circumstances in the next year. In relation to Health and Safety risks, definite probability, very limited or no controls. Has happened in the past and no compensating controls were implemented. Without additional controls the event is expected to occur in most circumstances. Is expected to occur again within a short period of time (likely to occur at least once in the next 3 months).	It is almost certain to occur in most circumstances during the life of the project.
4	Likely	50% - 80% chance of occurring	The event will likely occur sometime in the next five years	The event will likely occur sometime in the next year. In relation to Health and Safety risks, event will probably occur in most circumstances. Weak controls e.g. be careful. No auditing carried out to provide assurances. With existing controls in place this event will probably still occur with some certainty.	The event will likely occur sometime during the life of the project.
3	Moderate (Possible)	20% - 49% chance of occurring.	Possibly occur sometime in the next five years.	Possibly occur sometime in the next year. In relation to Health and Safety risks, event could occur in some circumstances. Minimal controls.	Possibly occur sometime during the life of the project.

				Event has occurred in other Councils or industries with similar levels of controls in place. Is expected to occur within the next 1 - 2 years.	
2	Unlikely	10% - 19% chance of occurring.	Unlikely to occur in the next five years	Unlikely to occur in the next year. In relation to Health and Safety risks, event could occur in some circumstances, however more likely through human error by not following the controls. Event has not occurred in the business, but could in some circumstances in the next 2 - 5 years.	Unlikely to occur during the life of the project.
1	Rare (Highly Unlikely)	<10% chance of occurring	Would occur only in rare circumstances in the next five years	Would occur only in rare circumstances in the next year. In relation to Health and Safety risks, event may occur in some exceptional circumstances e.g. serious assault. Improbably: a very small chance of events occurring that may be caused by events not previously seen or certain conditions. Despite effective controls being used an external event or uncontrollable event could occur.	Would occur only in rare circumstances during the life of the project

Appendix Three: Consequence / Impact Table

** Critical Service include those which directly impact the immediate health & safety of the community.*

Descriptor	Insignificant	Minor	Moderate	Major	Catastrophic
Level	**1**	**2**	**3**	**4**	**5**
Achievement of the Vision and Community Outcomes	No impact on the Vision and Community Outcomes	Inconvenience or delay in achieving the Vision and Community Outcomes	Significant difficulty introduced to achievement of the Vision and Community Outcomes Lost opportunity to contribute positively to one or more of the Vision and Community Outcomes	Failure to achieve a specific Community Outcome Lost opportunity to significantly advance a specific Community Outcome	Failure to achieve multiple Community Outcomes Lost opportunity to significantly advance multiple Community Outcomes
Health & Safety **(People)**	No harm foreseen. First aid injury but no or minimal medical treatment required	Slightly harmful – Medical aid required. Lost time injury < 1 week	Harmful - Serious injury and/or permanent disability. Lost time injury > 1 week	Very harmful - multiple severe injuries/disabilities	Extremely harmful - fatalities
Finance	Negitive financial impact (increased costs, lost revenue or direct loss) SWDC <$5,000 Community <$50,000	Negitive financial impact (increased costs, lost revenue or direct loss) SWDC <$10,000 Community <$100,000	Negitive financial impact (increased costs, lost revenue or direct loss) SWDC <$100,000 Community <$500,000	Negitive financial impact (increased costs, lost revenue or direct loss) SWDC <$500,000 Community <$1,000,000	Negitive financial impact (increased costs, lost revenue or direct loss) SWDC >$1,000,000 Community >$5,000,000
Legal / Regulatory	Contractual, legislative, or regulatory non-compliance but no litigation likely, Internal query	Contractual, legislative, or regulatory non-compliance but litigation unlikely, enquiry by Ombudsman	Contractual, legislative, or regulatory non-compliance with potential for litigation	Contractual, legislative, or regulatory non-compliance with probable litigation, District or Environment Court	Contractual, legislative, or regulatory non-compliance with certain litigation, High Court or Criminal Action

Descriptor	Insignificant	Minor	Moderate	Major	Catastrophic
Level	**1**	**2**	**3**	**4**	**5**
Service delivery	No impact on quality of services delivered. Negligible performance impact. No impact on critical services. Unable to operate for less than 1 day	Minor impact on the delivery or quality of services. Substandard quality of delivery or operation of critical service or activity. Unable to operate for 1 day – 3 days	Some impact on the delivery or quality of services. Workarounds required to maintain operation of critical service or activity. Unable to operate for up to a fortnight	Considerable impact on the delivery or quality of services. Short term inability to deliver critical services or activites. Impedes or significantly delays achievement of key strategic objective, significant workarounds and impact to BAU. Unable to operate for up to 1 month	Major impact on the delivery or quality of service or operation. Sustained inability to deliver critical services or activites. Prevents achievement of key strategic objective major impact to Council. Unable to operate for >1 month
Image & Reputation	External Reputation not affected. No effort or expense required to recover. Customer complaint by	Local Media attention no more than 1 day. Negative association with SWDC brand for single stakeholder. Marginal drop in satisfaction survey results for one quarter.	Regional media attention 1-3 days, little effort or expense required to recover. Negative association with SWDC brand for multipule stakeholders. Potential medium term impacts seen satisfaction survey results for two quarters	Nationwide media attention, greater than 2 days. National headlines, variety of media. Requires effort or expense to recover and mitigate. Significant drop in satisfaction survey results for one year. Significant impacts to attractiveness as provider or partner of choice for multipule stakeholders	Sustained media attention, including international exposure. Significant damage to SWDC brand, requiring urgent effort or expense to recover. Involves unplanned Council time to address. Significant drop in satisfaction survey results for greater than one year.
Environmental	Negligible impact to the environment, and/or effects able to be fully mitigated within 1 week.	Material damage to the environment of local importance, and/or with prosecution possible, and/or effects able to be fully mitigated within 3 months.	Serious damage to the environment of local importance, and/or with prosecution probable, and/or effects able to be fully mitigated within 1 year.	Serious damage to the environment of national importance, and/or with prosecution expected, and/or effects able to be fully mitigated within 5 years.	Serious damage to the environment of national importance, and/or with prosecution certain, and/or effects not able to be fully mitigated.

Descriptor	Insignificant	Minor	Moderate	Major	Catastrophic
Level	**1**	**2**	**3**	**4**	**5**
Organisation Wellbeing	Minor staff morale impact resulting in minor dissention but managed over a short period of time.	Moderate staff morale problems resulting in some staff resignations but managed through minor restructuring.	Major staff morale or other organisational problems affecting performance and productivity may arise and could lead to loss of key staff skills, within one area of council, resulting in skills, knowledge and expertise deficits within this area of council.	Severe staff morale problems for up to 2 months and/or other organisational problems affecting performance and productivity may arise and could lead to loss of key staff within two or more areas of council, resulting in skills, knowledge and expertise deficits.	Long term severe staff morale problems may likely arise leading to loss of a significant number of key senior staff, impacting on skills, knowledge and expertise.
Corporate Information / Systems	Loss of low risk data / information or systems	Loss of moderate risk data / information or systems for a period < 7 days	Loss of moderate risk data / information or systems for a period > 7 days	Loss of high risk data / information or systems for a period < 24 days or	Loss of high risk data / information or systems for a period > 24 days or Unauthorised access to sensitive / private information
Project Delay	Insignificant delays, minimal impact on project timeline. No impact in overall ability to realise planned benefits.	Minor delays, minimal impact on project timeline. Minor impact in ability to realise planned benefits.	Critical tasks not completed on time. Likely downstream impacts to project timelines and delivery dates. Timeline is behind schedule. Moderate impact on ability to realise benefits. Additional effort and manual tasks required to achieve benefits.	Key milestones are missed and significant delay to the project delivery date. Timeline is behind schedule with a key date or critical missed. Major impact on ability to realise benefits. Significant additional work required to achieve benefits. Noticeable impact to intended outcomes.	Severe impact to schedule, and/or missed critical fixed delivery dates. Significantly behind schedule with multiple key dates/milestones have been missed. Critical benefits will not be realised by the project. Significantly reduced probability of attaining primary objectives . Variation and scope changes significantly erode expected benefits.

Appendix Four: Risk Level matrix

This matrix is used to map the likelihood and consequence levels of a risk and provide a pictorial representation of the relativity of strategic, operational and project risk across South Waikato District Council.

		CONSEQUENCE				
		Insignificant (1)	**Minor (2)**	**Moderate (3)**	**Major (4)**	**Catastrophic (5)**
LIKELIHOOD	Almost Certain (5)	Moderate 5	Significant 10	High 15	High 20	High 25
	Likely (4)	Low 4	Moderate 8	Significant 12	High 16	High 20
	Moderate (possible) (3)	Low 3	Moderate 6	Significant 9	Significant 12	High 15
	Unlikely (2)	Low 2	Low 4	Moderate 6	Moderate 8	Significant 10
	Rare (highly unlikely) (1)	Low 1	Low 2	Low 3	Low 4	Moderate 5

Appendix Five: Risk Treatment Matrix

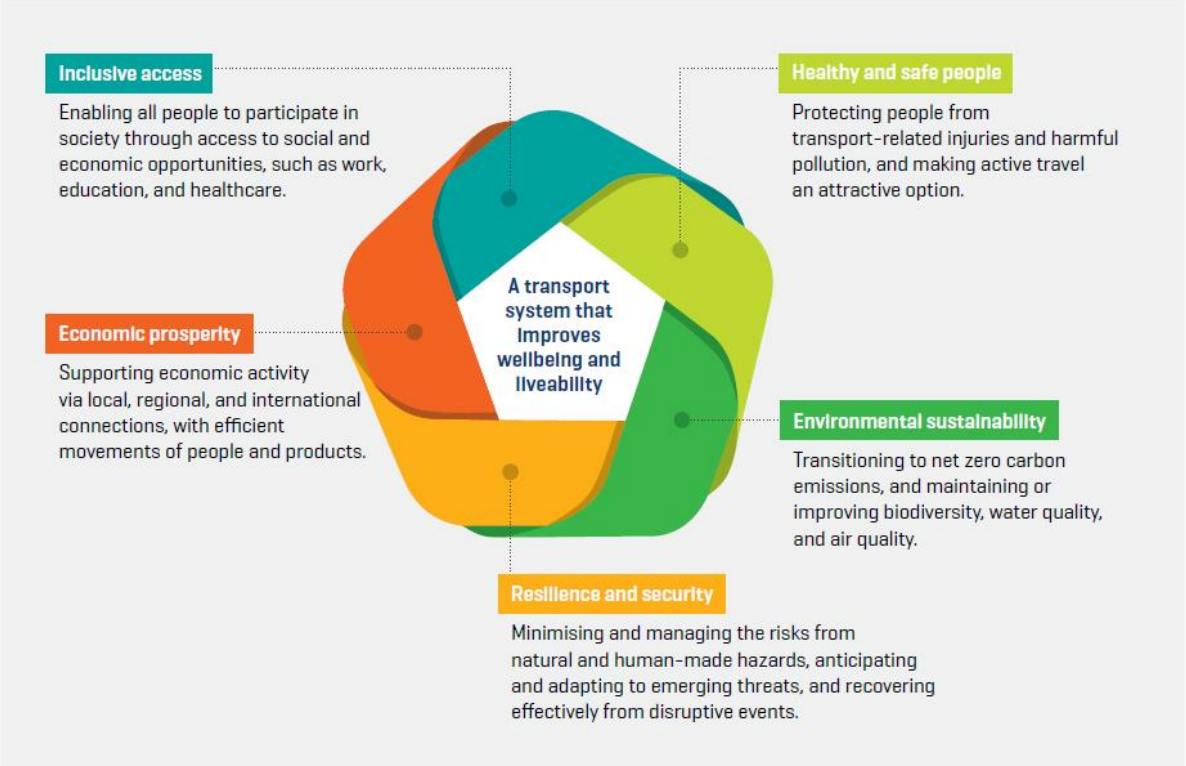
This table details the required actions based upon risk rating:

Risk Rating	Risk Acceptability	Accountability	Actions Required	Risk Treatment Requirements
High	Unacceptable	CE or Council	Urgent	• Immediate action required. Likely to prevent achievement of objectives • Treatment plans / controls require CE/Council input / sign-off • Risk owned by CE • Controls (cost/implementation) may not be viable leading to cessation of activity/programme • Regular monitoring & reporting to ET & FAR committee
Significant	Unacceptable	Executive Team	Important	• Advise Executive team. Action plans and management responsibility specified and scrutiny required (as agreed). May prevent achievement of objectives. • Treatment plans / controls require detailed planning & decision making by Executive team & implementation by project team • Risk owned by ET level • Control owner assigned to ensure risk treatment implementation is effective • Requires regular monitoring and monthly reporting to ET
	• Council will not accept >Significant level risks. Risk treatment strategies must be undertaken to modify the risk (by reducing the consequence or likelihood / transferring the risk / eliminating the risk or retaining the risk by informed)			
Moderate	Tolerable under certain situations	Department or General Manager	Operational	• Management ownership and controls identified and generally managed within normal budget parameters • Risk is regularly monitored to ensure risk exposure is managed effectively • Investigate feasibility of risk treatment strategies for any Moderate risks with controls identified as Fair or Poor • Risk may be shared / transferred i.e. insurers • Risk reported to ET on three monthly basis as part of normal risk reporting cycle
Low	Acceptable	Department Manager or Coordinator	Capture in risk register	• Accept the risk as it is as it is within acceptable risk tolerances. • Ensure risk is captured • Risk should be managed via routine procedures & internally reported

Appendix Six: Land transport

1. National Transport Outcomes

The Ministry of Transport's Transport Outcomes Framework states the key purpose of the national land transport system. The Transport Outcomes Framework is developed, which sets a purpose for the transport system cantered around the wellbeing of New Zealanders and the liveability of places (see *diagram below*).



Transport Outcomes Framework - Source Minister of Transport

2. National Strategies and Plans

2.1 Land Transport Management Act 2003

The Land Transport Management Act exists to contribute to central government's overall vision for transport, the aim of which is to achieve an affordable, integrated, safe, responsive and sustainable land transport system. This is set out in the New Zealand Transport Strategy. The vision is underpinned by the principles of affordability, sustainability, integration, safety and responsiveness.

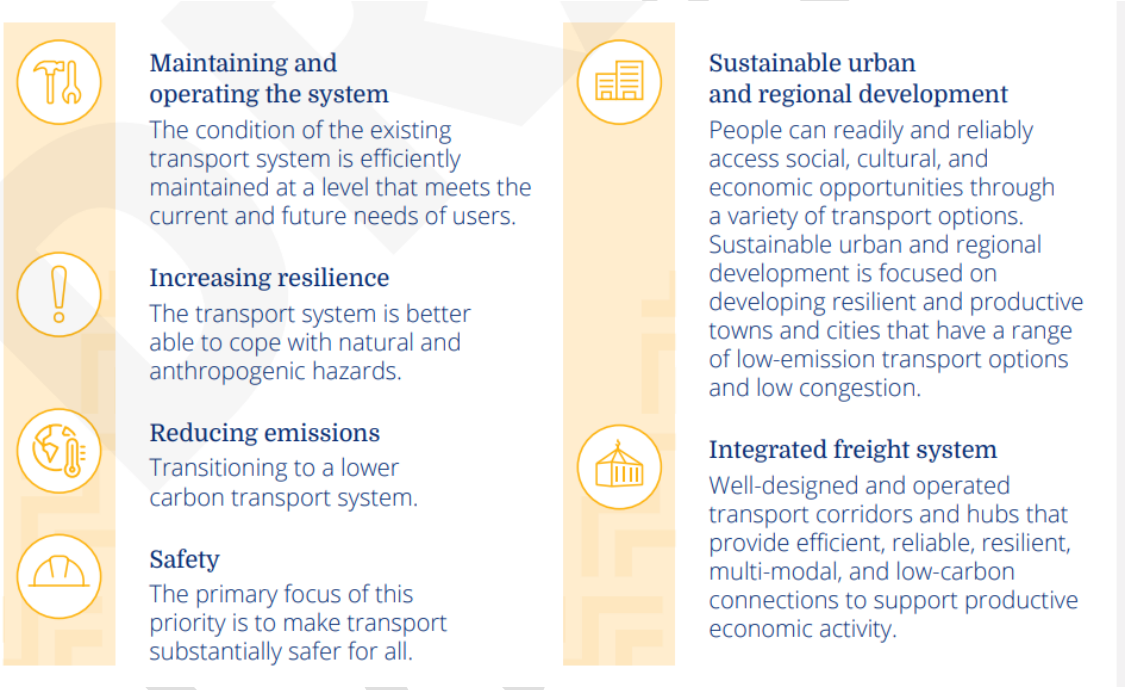
2.2 Government Policy Statement (GPS) on Land transportation 2024-34 (Draft)

The Government Policy Statement on land transport outlines the Government's strategy to guide land transport investment over the next 10 years. It also provides guidance to decision-makers about where the Government will focus resources. The Land Transport Management Act 2003 sets out the scope, and requirements for the GPS. This section will be updated once 2024 GPS has been finalised.

The policy influences decisions on how money from the National Land Transport Fund (the Fund) will be invested across activity classes, such as State highways and public transport. It also guides Waka Kotahi and local government on the type of activities that should be included in Regional Land Transport Plans and the National Land Transport Programme.

GPS 2024 (Draft) provides direction and guidance to those who are planning, assessing, and making decisions about land transport. There are six priorities for GPS 2024. These strategic priorities reflect the need to rebuild after recent weather events and strengthen the resilience of the entire transport system. These priorities must be supported by firm foundations, which is why GPS 2024 (Draft) includes as a priority maintaining and operating our existing transport system, including our roads and public transport services. Together, these priorities support environmental sustainability, resilience and security, economic prosperity, access, and healthy and safe people. These strategic priorities underpin the work of all government transport agencies. The priorities will guide investment decisions by Waka Kotahi (NZ Transport Agency) and its co-investment partners, including local authorities and KiwiRail.

The summarised GPS 2024 (Draft) priorities are given below.



Strategic Investment Priorities GPS 2024 (Draft)

2.3 National Land Transport Programme (2024-2027)

In line with the Government Policy Statement, the National Land Transport Programme (NLTP) is Waka Kotahi's key commitment with the sector for how the Transport Agency will use National Land Transport funding to provide a transport system that enables New Zealand to thrive.

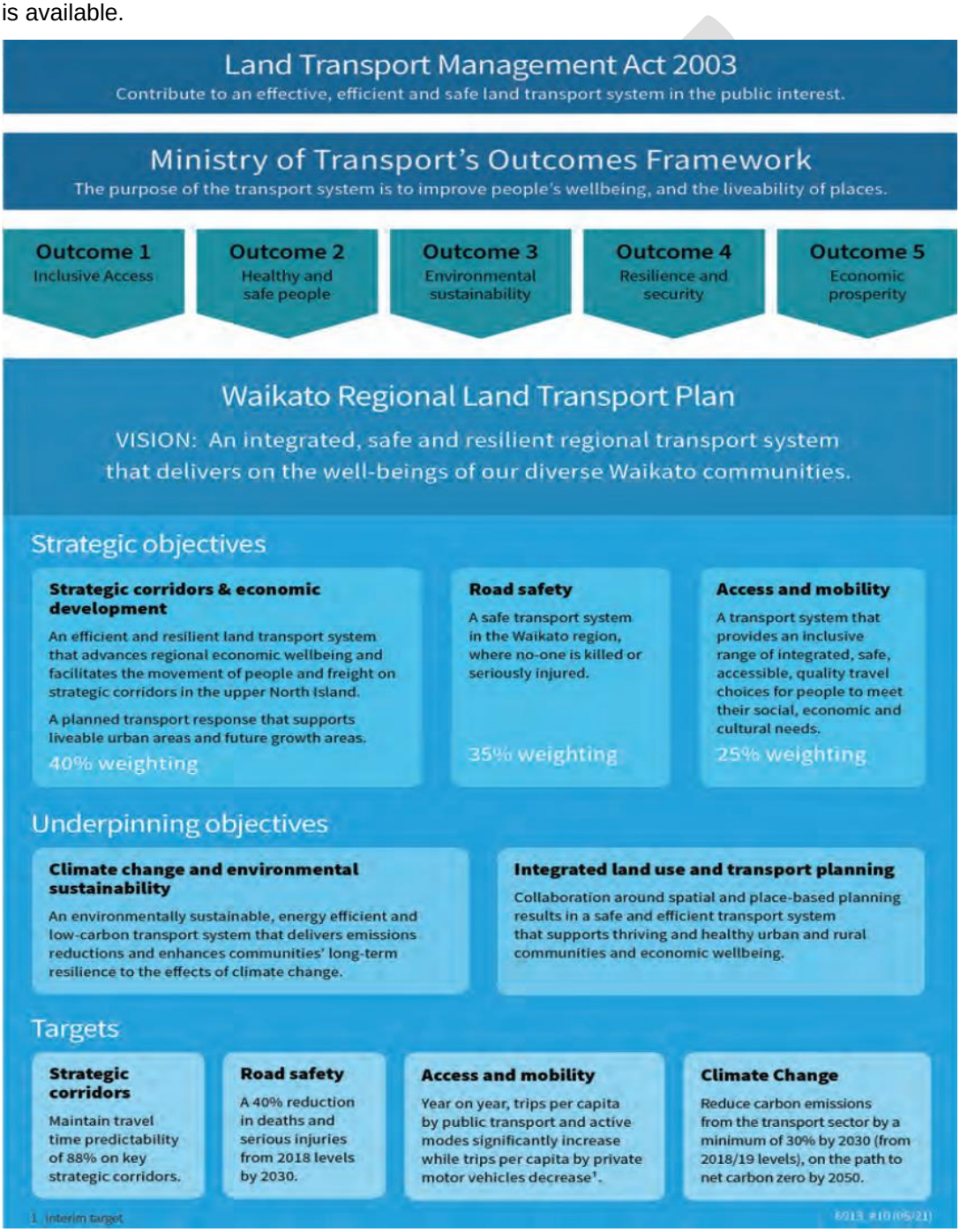
The National Land Transport Programme (NLTP) contains all the land transport activities, such as public transport services and road construction and maintenance, which are expected to receive funding from Waka Kotahi.

The NLTP is compiled from the proposed Regional Land Transport Programmes (RLTP) in accordance with available funding. The 2024-2027 RLTP is currently under preparation and will be published early 2024.

3. Regional Land Transport Plan (RLTP)

The operative Waikato Regional Land Transport Plan 2021-2051 (RLTP) provides the strategic context for the preparation of the region's 2024 AMPs. The RLTP sets out the strategic policy context for what the region is trying to achieve for its' regional land transport system over a 10-to-30-year planning horizon, as well as the six-year programme of transport activities and improvements that have been identified and prioritised for inclusion in the National Land Transport Programme for National Land Transport Fund funding.

The 2024-2034 RLTP is currently being developed. This section will be updated when the new RLTP is available.



Waikato RLTP

Summary of RLTP 10-year priorities

Summary of RLTP 10-year priorities
Strategic corridors • protecting and improving priority strategic corridors (road and rail) • improving network resilience, route reliability and safety on key strategic corridors • resolving rail constraints in the upper North Island • supporting the region's covid-19 recovery
Managing growth • providing multi-modal transport solutions to support housing and growth in high growth areas • future-proofing priority transport corridors to achieve urban growth outcomes
Road safety • implementing priorities in Road to Zero for the Waikato 2020 road safety strategy • planning and implementing safe and appropriate speeds and safe network improvements, particularly around schools
Access and mobility • shaping urban form that supports better multi-modal transport options • growing public transport and active mode share in urban and high growth areas • transition towards a public transport system with rapid and high frequency corridors in greater Hamilton • growing interconnected cycle, micro-mobility and pedestrian networks in urban areas • enhancing passenger rail and planning for expansion in the Hamilton to Auckland corridor • improving access and mobility for rural areas and the transport disadvantaged
Climate change • transforming to an environmentally sustainable, low carbon transport system
Maintaining what we have • maintaining existing transport assets • maximising efficiencies across the transport system
Integrated planning • advocating for the implementation of agreed regional priorities • implementing agreed planning outcomes

Note: This section will be updated once the RLTP 2024-34 is available.